



# Otter Tracks

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**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

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## Marty Illick Receives Silver Feather

### Mike Winslow Intrigues Audience with Champlain Water Quality History

For 24 years Otter Creek Audubon has given an annual award, the Silver Feather, to an individual “in honor of notable devotion, dedication and untiring effort on behalf of the preservation and appreciation of the birds, other wildlife, and natural communities of Addison County.” This year the Silver Feather was awarded to the retiring Lewis Creek Association executive director, Marty Illick. Illick has been the Lewis Creek Association’s director since the organization’s inception in 1990. The primary focus of the organization has been water quality of the Lewis Creek and LaPlatte River watersheds.

Marty and the Lewis Creek Association have provided exemplary leadership in many creative ways.

• In 1995 Marty, as its director, teamed up with David Brynn, then the Addison County forester, to sponsor a series of sustainable forestry workshops for family forest owners, out of which the organization Vermont Family Forests was born.

• Along with the Town of Monkton, Vermont Agency of Transportation and the federal government, Marty and the LCA planned and then raised funds for two wildlife and amphibian underpasses on the Monkton-Vergennes Road in Monkton. The underpasses have now allowed many mammals and hundreds of amphibians safe passage between upland forest overwintering sites and an important breeding wetland. Prior to the 2015 establishment of the underpasses amphibians crossing the road to breed suffered 50 percent mortality.

• Marty created the plan for “Ahead of the Storm”, using 14 demonstration sites for the LaPlatte River Watershed Partnership to showcase optimal conservation practices in a variety of landscape settings.

• Marty and the Lewis Creek Association were recipients of the GMP-Zetterstrom Environmental Award their decades-long



Marty Illick receives the 2017 Silver Feather from OCAS' Warren King

photo by Terry Dinnan

hard work to improve habitat, water quality and recreation opportunities for Lewis Creek. As Steve Costello, Green Mountain Power’s Vice President, said: “That kind of perseverance is uncommon and inspiring.”

• Marty has served on the Charlotte Selectboard and Planning Commission, the Charlotte Land Trust, the VT Natural Resources Council board, served for 17 years on the Chittenden County Regional Planning Commission, and has led Lewis Creek Association participation in the Addison County Riverwatch Cooperative since 1995.

Mike Winslow, former staff scientist for the Lake Champlain Committee and currently at St. Michael’s College, intrigued the audience with a carefully documented presentation on the history of multiple major phosphorus additions to Lake Champlain and its impact on water quality, including algae blooms. 🐾

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[Above right] A boat cleaning up plastic waste.

# The Great Pacific Garbage Patch

Editorial by  
Warren King



## VIEWPOINT



Just when you thought you had heard all the bad news, here's a new concern for you to ponder. It's been around for several decades, but we've only known about it for 20 years. It's called the Great Pacific Garbage Patch. It stretches from Japan to North America along the North Pacific Tropical Gyre, formed by the circular movement of four major Pacific currents. It takes a year for Asian plastic trash to enter the gyre;

debris from North America takes six years before being entrapped. Smaller semi-permanent areas of greater concentration occur toward the eastern and western ends of the gyre. There are similar but smaller gyres in the Northern and Southern Atlantic, the South Pacific, and the Indian Ocean.

One 2015 estimate is that eight million metric tons of plastic enter the world's oceans annually. Ninety percent of discarded plastic enters the oceans from ten major rivers, eight from Asia and two from Africa. The size of the area covered by the plastic varies. It is often below the surface, making it difficult to see. It can sometimes be seen from space, however. Seventy percent of the material that enters the gyres eventually sinks to the bottom. The remainder continues to float and to break down into smaller and smaller particles through photodegradation. Microplastic bits have been measured at 1.9 million bits per square mile of ocean in the North Pacific Gyre. A 2014 estimate is that there are 5.25 trillion pieces of plastic in the oceans.

The bulk of the microplastic comes from plastic fishing nets, plastic bags, bottle caps, water bottles and styrofoam cups. When the plastic nets are large they entangle marine mammals, reptiles, and fish in a process known as "ghost fishing". Plastic bags mimic jellyfish so sea turtles eat them regularly. Albatrosses eat plastic resin pellets, also known as nurdles, which look like fish eggs. They feed them to their young. Both adults and young albatrosses starve with their crops stuffed with resin pellets. Microplastic bits near the surface block sunlight needed by phytoplankton for photosynthesis, the basis of all oceanic food chains.

Microplastic bits continue to photodegrade to the nanoparticle stage, where they become too small to count, too small to filter, and small enough to pass through the cell walls of organisms, entering the cells. In the cells they can release chemicals they might be carrying. Among the chemicals found in microparticles are bisphenol A, PCBs, and DDE, any of which can be passed to the organism that ingests them.

In the United Kingdom one-third of commercially available fish, including cod, haddock, mackerel and shellfish, contain plastic fragments. Plastic-eating fish occur in supermarkets around the world, although at this point the amount of plastic is still very small.

The problem of microplastic pollution of the oceans is already "too big to solve." The use of plastic products, bags, pellets, microbeads and fibers has brought substantial convenience to the world. But we are turning our planet into a less habitable one as the years pass and the human population and our residues increase. It is hard to know where to turn for a solution. Phasing out use of plastic is an obvious step but one that is hard to imagine in today's world.

This editorial deals with the fate of used plastic in the oceans, where marine vertebrates are the likely recipients. But the problem extends onto the continents and the air we breathe as well, where microplastic contamination occurs in 83 percent of the world's tap water. Look for this subject in an upcoming editorial. Awareness is the first step toward a solution. 🐾

# Environmental Education Grants Update

By Carol Ramsayer,  
OCAS Education Committee chair

Eleven applications for environmental education grants were submitted to OCAS, potentially reaching 360 children of all ages. Teachers created a wide variety of proposals, all designed to enrich their students' outdoor learning. The Grants Committee members have a real challenge ahead as they make their funding decisions!

Here is a report from a recipient of one of OCAS' last year's grants to National Audubon's Hog Island Camp program.



## An Educator's Week at Hog Island

By Megan Sutton

In July, I was delighted to attend Sharing Nature: an Educator's Week, at the Hog Island Audubon Center in Maine, thanks to sponsorship from Otter Creek Audubon. I was anticipating growing my understanding of experiential science education for elementary students, and found myself immersed in a week of amazing learning opportunities with a very diverse cohort. I had no idea that the National Audubon

Society had a diversity mission as part of its work with educators. So, not only did I have the chance to learn more about intertidal zones and the complex ecosystems of bogs, I did that learning alongside educators from across the country, many of whom had never been to Maine, let alone spent time on the water. Together, we dove into resources to try to solve the Mystery of the Day, made nature journals, crawled through crevasses on Harbor Island, and in the evenings discussed our different professional journeys and our personal passions. The experiences I had on Hog Island far outweighed my expectations, and I haven't even mentioned the beautiful setting, the amazing staff, or the fantastic food. To put it simply, I have definitely grown as an educator, I have many ideas to bring to the natural space behind my school, and I have learned so much about this diverse country that we call home. 🐾



Megan Sutton and a tip-up on Hog Island  
photo by Megan Sutton

[above] Megan Sutton and Hog Island classmates photo by Megan Sutton



## Is the House Sparrow a Canary?

House Sparrows are native to Europe, central Asia and northernmost Africa. They were introduced to the U.S. in 1850 and several times subsequently. Their spread as an urban commensal is well documented. They now share the human landscape around most of the world and are equally at home in cities, suburbs and in rural landscapes. The global population is thought to be around 500 million pairs.

But starting about 1980 urban House Sparrows began to decline in some cities around the world. The decline in Great Britain, 71 percent between 1977 and 2008, has caused it to be red-listed there. Since 2009 the population has stabilized in parts of Britain with urban gardens, but in some areas the decline has even affected rural populations.

Proposed causes of decline include cat predation, shortage of nest sites, lack of insect food for nestlings due to persistent pesticides, and production of toxic methyl nitrite from unleaded gasoline and penetration of House Sparrow skulls and eggs by low frequency electromagnetic waves from cell phone towers, causing eggs to fail.

A recent study in Spain showed that House Sparrows were subject to oxidative stress from free radical damage in urban settings with poor air quality. Free radicals in humans can accelerate the aging of cells, which "has been linked to respiratory diseases such as asthma, as well as cardiovascular disorders and cancer" the researcher stated. Her report showed that sparrows in urban settings, already under stress from egg production, showed a reduced capacity to recover good health. "Even the leftovers that we throw in the bin at the park should encourage us to reflect on ourselves: more nuts and fruit and fewer chips and cookies would be better for humans as well as for birds." 🐾

# Songbird Response to Montane Climate Change

It stands to reason that as the effects of climate change strengthen, songbirds that occur in mountainside habitats will respond to the upward movement of those habitats by moving upward themselves. A research team from the University of Massachusetts has analyzed bird census data from New England mountains since 1993. The data were gathered twice annually from 768 locations. Of 16 low elevation songbirds nine species, including Hermit Thrushes, Ovenbirds and Black and White Warblers, moved their upper boundary uphill an average of 325 feet. These results are in accord with data from deciduous forests in the Andes and the Sierra Nevadas, but for upper elevation species like Swainson's Thrushes, Yellow-bellied Flycatchers and White-throated Sparrows the researchers were surprised to learn that 9

of 11 species moved their upper boundary downslope an average of 62 feet. Only one higher elevation species, Magnolia Warbler, moved upslope.

Climatological data from the Mount Washington Observatory indicate an increase in temperature from climate change at low- and mid-level elevations but no increase at high elevations. The authors speculate that something other than temperature is driving high-elevation birds lower. They point to a recent dieback of red spruce and an increase of balsam fir that has created a less hospitable area toward the lower end of the higher altitude habitat. This habitat shift may be responsible for the upper elevation species' counterintuitive movement downslope. ❧



## Why Did the Songbird Cross the Road?

From Brisbane, Australia, comes a study that has implications for songbird populations throughout the world wherever there are roads. The study shows that bird populations and the number of bird species are lower near roads than bird populations and species numbers 100 yards or more away from roads. Furthermore, some bird species, notably the smaller forest-dependent species, are less likely to fly across roads. Highly aggressive, territorial species are more likely to take advantage of lower bird densities near roads and cross more readily. Willingness to cross roads depends on the presence of forest on both sides of the road and it depends on the width of the road. Six-lane highways in the study had fewer birds and fewer species willing to cross than four-lane

highways or two-lane roads. Birds' reluctance to cross roads is possibly due to fear of predation and the creation of territorial boundaries from breaks in vegetation at road edges.

The solution to this problem of reduced bird populations near roads can partially be addressed by specially designed underpasses or overpasses, an expensive solution at best, and therefore not likely to happen, given our current values. We take for granted the positive role of birds in insect control, pollination and seed dispersal, all indispensable ecosystem services. Until we take into account the width of roads, the need for individual roads and the impacts roads have on a variety of species, we are not likely to come to grips with this problem. ❧

## 2017 Breeding Results for Vermont's Rare Birds

**Common Loon:** 97 pairs attempted to nest. 72 pairs were successful, producing 113 chicks and 93 fledged young. The previous record number of fledglings was 81. Competition for loon territories is on the increase. Ten nests were flooded but several pairs re-nested successfully. One chick was lost to eagle predation, less than feared from an expanding eagle population.

**Peregrine Falcon:** 51 cliff nest sites were occupied. 44 pairs nested, producing 63 young and at least 30 fledglings. Not all nest sites were monitored. Two new nest locations were occupied; two sites formerly occupied were reoccupied. A success rate of 75 percent was just above average. Locally, Bristol Cliff, Deer Leap and Elephant Mountain sites produced two or more young per nest. Mt Horrid and Rattlesnake Point sites were both suspected to have pairs, but not confirmed.

**Bald Eagle:** For the fifth straight year Bald Eagle nests and fledglings were above the threshold for delisting the species from endangered status, as required in the Bald Eagle Recovery Plan. In 2017 21 pairs in Vermont produced 36 young.

**Common Terns** fledged 71 young. Predation of nestlings and erratic weather depressed reproductive success.

**Black Tern:** A record high 166 pairs nested at Missisquoi National Wildlife Refuge.

## December 2017 – March 2018 OCAS Calendar of Events

### ADDISON COUNTY CHRISTMAS BIRD COUNTS

- SATURDAY, DECEMBER 16** FERRISBURGH CHRISTMAS BIRD COUNT. Call Mike Winslow at 877-6586 for details.
- SATURDAY, DECEMBER 16** MT. ABE CHRISTMAS BIRD COUNT. Call Randy or Cathy Durand at 453-4370 for details.
- SUNDAY, DECEMBER 17** MIDDLEBURY CHRISTMAS BIRD COUNT. Call Jim or Kris Andrews at 352-4734 for details.
- SATURDAY, JANUARY 6** HINESBURG CHRISTMAS BIRD COUNT: Call Paul Wieczorek at 434-4216 for details.

### TENTH ANNUAL CABIN FEVER LECTURE SERIES

(Second Thursdays in January and March; third Thursday in February)  
Downstairs at Ilsley Library, 75 Main Street, Middlebury

**THURSDAY, JANUARY 11, 7 PM**

**BRIDGET BUTLER: CROWS AND RAVENS**

They're considered harbingers of evil by some, and for others are an endless curiosity. Join Bird Diva Bridget Butler as she pulls back the shroud on these birds known as corvids. Find out how intelligent crows really are, the difference between crows and ravens, and their complex social structure. Learn how you can help unravel the mystery of "murders" of crows that form in the winter by participating in the Crows In Vermont project.

**THURSDAY, FEBRUARY 15\*, 7 PM**

**HANK KAESTNER: JEWELS OF ECUADOR**

Highlights of a trip to Ecuador made with Hank's brother, Peter, last April. He saw almost 400 bird species in one week, including 45 different hummingbirds! They are the jewels of Ecuador! He managed to add 75 new species to his life list on the trip, which was set up primarily as a "target" trip to see as many new birds as possible.

\*note the date!

**THURSDAY, MARCH 8, 7 PM**

**CHRIS BERNIER: MARTENS RETURN TO VERMONT**

The Fish and Wildlife Department fur-bearer biologist, who intrigued us with the story of Canada lynx in Vermont last winter, will review the history of martens in Vermont and clarify their difficult relationship with fishers.

### FIRST DAY BIRD HIKE

New Year's Day birding trips are a tradition held by many in the birdwatching world as they begin to fill their annual bird lists. This year we invite you to join us as we combine that tradition with the fairly new tradition of First Day Hikes held at State Parks across the country. Meet us at Button Bay State Park in Ferrisburgh at 9 AM on January 1 to walk the trails in search of overwintering birds.

### 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, DECEMBER 9, 8–10 AM**

**SATURDAY, JANUARY 13, 8–10 AM**

**SATURDAY, FEBRUARY 10, 8–10 AM**

### State of Mountain Birds

*continued from page 6*

by the 25 plan contributors representing a similar number of organizations or agencies from all the political entities visited by Bicknell's Thrushes in their annual travels.

Bicknell's Thrush is dwindling at an estimated annual rate of seven to nine percent. The current population is 71,618 with a 95 percent confidence limit of 56,788-90,219 based on data collected from 2011 to 2016. Bicknell's Thrush has among the smallest total populations of any North American breeding bird species. A VCE petition to add the species to the U.S. Endangered Species List was just recently rejected by the U.S. Fish and Wildlife Service.

Among the other species monitored by Mountain Birdwatch, Swainson's Thrush increased in the northeastern U.S. from 2011 to 2015 but declined throughout its North American range, according to the Breeding Bird Census. Black-capped Chickadee and Fox Sparrow are slightly more numerous now than in 2001. Yellow-bellied Flycatcher, Winter Wren, Hermit Thrush, and Boreal Chickadee were all stable in the northeastern U.S. and eastern Canada.

From Canadian, Alaskan and northeastern U.S. mountain breeding sites, Blackpoll Warbler migrates up to 1250 miles nonstop to wintering sites in South America east of the Andes. It declined from 2011 to 2015 in the northeastern U.S., leveling off at a lower population in 2016.

White-throated Sparrow has been stable since 2000 in the northeastern U.S., but has shown a steady decline elsewhere across the North American boreal forest, which may reflect a decline in early successional forest habitat which it requires, or the species' propensity to strike buildings on migration. 🐾

# The State of Mountain Birds

The Vermont Center for Ecostudies (VCE) began Mountain Birdwatch in 2001 to monitor systematically the distribution and abundance of mountain birds in New York, Vermont, New Hampshire, and Maine. The impetus for Mountain Birdwatch sprang from VCE's primary research and conservation focus on Bicknell's Thrush, which breeds only in the montane or coastal boreal forest of these four states plus Quebec, New Brunswick and Nova Scotia. VCE saw the need for clearer understanding of the influence of landscapes and habitat on the distribution and abundance of the birds that co-occur with Bicknell's Thrush. Starting in 2010, Mountain Birdwatch, is now a group of over 100 professional and citizen scientists, including representatives of Bird Studies Canada and the Canadian Wildlife Service. They monitor 137 routes and 759 survey points.

Bicknell's Thrush, Swainson's Thrush, Blackpoll Warbler, White-throated Sparrow and Winter Wren were monitored by Mountain Birdwatch from the beginning. In 2010 the group added Yellow-bellied Flycatcher, Boreal Chickadee, Black-capped Chickadee, Hermit Thrush and Fox Sparrow. The State of Mountain Birds, published in 2017 by VCE (find it by googling State of Mountain Birds), extends results reported in a major paper published in the journal *Biological Conservation* in 2015 entitled "Analysis of combined data sets yields trend estimates for

vulnerable spruce-fir birds in northern United States". The 2015 publication included trends for four additional species not covered by Mountain Birdwatch. The 2015 paper included data from Mountain Birdwatch through 2010, but excluded post-2010 data, now included in the 2017 *The State of Mountain Birds*.

Bicknell's Thrush continues to be the primary focus of this volunteer army. Work has extended to this species' wintering grounds on the Dominican Republic, where the bulk of the birds overwinter, but also Haiti, Cuba, Jamaica and Puerto Rico. To deal with the increasingly international aspects of research and conservation of Bicknell's Thrush. VCE has put together the International Bicknell's Thrush Conservation Group. A Comprehensive Action Plan for Bicknell's Thrush was initially released in 2011 and was revised and expanded in May 2017. It is authored



**Bicknell's Thrush**  
photo by Jeff Nadler  
<http://www.jnphoto.net>

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