

NH Audubon's Notes from the Field



Alice Bemis Thompson Wildlife Sanctuary in Sandwich where a fully accessible ADA boardwalk and trail were completed in 2016. Drone photo.

From the President

What does success mean at NH Audubon? There are many ways to measure success, but a clear measure of success is engaging in relevant projects that advance our knowledge of wildlife and habitats in a changing world. The stories in these pages demonstrate a clear focus on doing projects that our state and world need to make good decisions about the environment. Our science guides our policies and land management, and strives to answer questions that will help partners, other scientists, and policy leaders to solve problems, and make informed decisions.

For example, focusing on pollinators, Purple Martins, phenology, and Rusty Blackbirds will tell us more about our changing climate. We study bats with partners, researchers, and volunteer citizen scientists because we want to know if and how bats are recovering from white-nose syndrome. Our Bird-friendly Buildings project is an example of how we implement specific changes to human structures to protect birds, because we want to inform decisions on how people and wildlife coexist.

Our sanctuaries are special places that allow people to experience our natural world and we're proud of the handicapped accessible trail that we just completed on the Thompson Sanctuary, with help from many partners. We're also bringing together science, education and management on our properties through projects such as the enhancement of bird habitat on the Kensan-Devan Sanctuary, with field trips for the community and bird surveys to measure the results. Good decisions based on science with results that benefit wildlife – part of what NH Audubon is all about.

I hope you enjoy this edition of *Notes from the Field*. The diversity of our work reflects the diversity of wildlife-based questions that need answering and actions we are taking, to ensure we live in a state with healthy ecosystems.

Douglas A. Bechtel

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to Joanne and Kevin Jones
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NH AUDUBON
Protecting our environment since 1914

Protecting New Hampshire's
Natural Environment
for Wildlife and for People
www.nh Audubon.org

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From the Conservation Department Director

There is an anonymous quote that says, "Knowledge has no value unless you use and share it." Within the Conservation Department our staff has been expanding and using our knowledge of the natural world at New Hampshire Audubon for more than 175 years combined! This includes a forty-year tenure by Carol Foss, our Senior Advisor for Science and Policy.

I am pleased to share this knowledge with you through our report on the 2016 activities of New Hampshire Audubon's Conservation Department. As always, it is the support and help of our dedicated volunteers that allows the Conservation Department to further New Hampshire Audubon's mission to protect New Hampshire's environment for wildlife and for people. We thank everyone who has supported the Conservation Department in this way, along with our many partners, donors and grant funders.

Thank you for being a part of the New Hampshire conservation community.



Vanessa Jones, Director of Conservation

Project Nighthawk

by Rebecca Suomala



A female Common Nighthawk trying to lure me away from her nest with two eggs which the author accidentally stumbled upon in Concord, NH. Photo by Rebecca Suomala.

Monitoring Common Nighthawks can be filled with joyful moments and great frustration, both of which we experienced in 2016. After setting up cameras on two rooftop nest sites from 2015, the birds nested at different sites where we couldn't use cameras! On the plus side, there were five

confirmed nests in 2016. The Harris Center for Conservation Education confirmed a successful rooftop nest in downtown Keene – only the second confirmed nest there since 2007. They also found nesting behavior on a Keene State College rooftop, then discovered the roof was scheduled to be replaced in a week. We assisted in a thorough search of the roof and confirmed no nest was present before construction started.

New this year were two mountain-top nests, one on Bayle Mt. in Ossipee and the other found by Tin Mountain Conservation Center on their property in East Conway. Unfortunately numbers are down at traditional sites in the Ossipee pine barrens. One of two Concord nests was on the ground where volunteers were able to monitor the progress daily. We had the rare opportunity to watch the one chick learning to fly while still being fed by its parents.

Project Nighthawk was funded by donations and a grant from the Blake-Nuttall Fund and the Gertrude Couch Trust. For the full 2016 summary, check the Project Nighthawk web page.

Carol Foss – 40th Anniversary!



Carol Foss presenting the Bountiful Birdathon Beaver Bonus Award to Bruce Hamblett of the Lakes Region Chapter for the most money raised during the 1984 Birdathon. Photo by Mary Carr.

NH Audubon has something wonderful to celebrate in 2017! Carol Foss has been with the organization for forty years since joining it as a full time employee. Carol's journey began as the Resident Naturalist at Paradise Point Nature Center in Hebron in 1975, and in 1977 she became the full time Education Director. Over many years and many positions, Carol has worked tirelessly at the forefront of wildlife research and conservation in New Hampshire.

You can Prevent Bird-window Collisions!



Nearly one billion birds die from collisions with glass each year in the US, making this one of the greatest sources of bird mortality. Nicole Murphy photographed this imprint of a Mourning Dove strike. Songbirds are the most common victims, especially during migration. Tall glass-clad skyscrapers claim many birds each, but account for just one percent of mortality – 99% of birds die hitting windows and doors of homes and smaller buildings. NH Audubon is working to promote the American Bird Conservancy's Bird-friendly Building Guidelines, which provide solutions for buildings and structures of all sizes. You can make your home safer for birds by covering windows, doors, and other glass with screens, film, or bird tape. For more information, please visit the website (www.abc.org) collisions page, or contact Laura Deming. The birds will thank you!

Carol is a pioneer in wildlife protection. She initiated the installation of predator guards on Osprey nests which doubled the number of young produced. She developed techniques for monitoring Peregrine Falcons, raptors and other species. She was the driving force behind the NH Breeding Bird Atlas, a monumental project. Her commitment to sound science is a foundation of NH Audubon's work and it has allowed her to bring people together to achieve significant conservation successes including the state's first Threatened and Endangered Species list in the 1970s and the establishment of NH Fish & Game Department's Nongame Program in the 1980s.

For many, their connection to Carol is a personal one, often from shared experiences in the field. Osprey weekend volunteers, following instructions possibly written on the back of a used envelope with a small pencil, remember trying to find numbered paper plates on telephone poles marking their observation point. Bob Quinn remembers thrashing through four feet of snow with Carol to find Bohemian Waxwings. But the following stories may best illustrate Carol's connection to both people and conservation.

Betsy Janeway, Honorary Trustee and former NH Audubon Board Chair:

"If I had not signed up for Carol's hawk identification course about 35 years ago, I might never have become involved with NH Audubon. I always trusted Carol completely and would follow her anywhere, even to my death by drowning! One fall Carol decided it would be a great idea to locate the Bald Eagles' favorite White Pine perching trees along the Merrimack River. On a cold November day, she had three canoes out planning to paddle miles down the river and I paddled stern in one of them. Carol neglected to take into account several previous days of hard rain, and so none of us made it through the falls below Manchester, near the sewage treatment plant. We survived very cold swimming, holding onto swamped canoes, and an abrupt change of plans. I never knew if the eagle perching trees ever were located. The point was to ask their landowners not to cut them down, please.

Carol has tried to kill me several times, actually, and I wondered if she was hoping I was leaving a large bequest to NH Audubon. She had me climbing mountains and counting birds at specific points along trails, but I never could locate her points, so after swearing a lot, I just made up my own points and handed in my report on the altitudinal distribution of birds of the White Mountains.

Oh that Carol, you just have to love her, even while swearing at her peculiar descriptions of stops along a survey route: "the oak tree" didn't work for me; nor did "the trail bend." But she hasn't killed me yet and I'm very happy about that."

continued on page 12

Purple Martin Breeding Season Summary

by Pamela Hunt



This subadult female martin was banded in Connecticut in 2015, and spent part of the summer visiting the new colony in Rye. She also appeared in New Castle, where Steve Mirick photographed her in June.



Dennis Skillman poses by the newly-erected Purple Martin gourds at Hampton. Photo by Warren Trested.

It was a mixed bag for Purple Martins in the summer of 2016. In the Lakes Region, the long-standing colony at the Funspot (Weirs Beach) failed and the one in Wakefield suffered an unknown fate. As recently as 2000 there were nearly ten colonies in this region, with the Funspot supporting up to 20 pairs. In an effort to reverse this decline, and with support from the Samuel P. Pardoe Foundation, we started an attempt to replicate our Seacoast success in Laconia. We planned to improve housing at the Funspot while also providing alternate housing nearby to hopefully initiate a second colony. In early June, volunteers joined me to install a gourd rack at the Prescott Farm Environmental Education Center, two miles from the Funspot. No martins were seen, but the Funspot colony may need to recover significantly before emigrants discover Prescott Farm. Discussions with the Funspot management were productive and we are hoping to install a gourd rack here and develop a monitoring and management plan.

Things couldn't be more different along the coast. Now in its fourth year, the Seabrook colony was at full capacity with 12 pairs, and produced an estimated 58 fledglings. We installed a second gourd rack about a mile north in Hampton and were excited when a pair of martins took up residence and fledged three young. Farther north, a Rye homeowner was inspired to put up a rack of his own, and was overjoyed when a pair took up residence and fledged four young. This site also saw regular visits by several subadult martins, including a female banded in Connecticut! A volunteer at the Portsmouth Country Club (Greenland), took it upon himself to repair and maintain the martin houses at this historic colony location, and his efforts attracted some subadult martins in early June, although they did not attempt to nest. It's hard to believe that in 2013 there was only a single pair at a single site along the coast! Work on the Seacoast was supported by a grant from the Fuller Foundation.

A significant amount of the work on Purple Martins is conducted by volunteers, and I'd be remiss if I didn't mention Dennis Skillman and Warren Trested who are the brains and brawn behind the outreach, housing and monitoring in Seabrook and Hampton. In honor of their significant contributions, they received NH Audubon's 2016 "John Thalheimer Volunteer of the Year Award" at September's annual meeting. Congratulations to Dennis and Warren and many thanks to all the other volunteers who are helping our Purple Martins.

Rusty Blackbird Project 2016

by Carol Foss

Whether it was the drought in New Hampshire, the severe winter in the South, or a continuation of the species' general population decline, Rusty Blackbird pairs were difficult to find during the 2016 breeding season. After monitoring 47 and 50 nests in 2014 and 2015, the research team worked very hard to come up with 33 nests in 2016.

Our 2016 study area was the Androscoggin watershed of northern New Hampshire and several towns in Maine. A second crew conducted surveys in the Blueberry Swamp (NH), Nulhegan Basin (VT), and the Pondicherry (NH) divisions of the Silvio O. Conte National Wildlife Refuge. Of 23 pairs with known outcomes, 15 fledged young – a 65% success rate. This is considerably lower than recent years: 82.0% in 2015 and 83% in 2014. The team banded 83 nestlings from 21 nests.

In 2015 we discovered larvae of the bird blowfly *Protocalliphora shannoni* parasitizing Rusty Blackbird nestlings. Bird blowflies had been documented in other blackbird species, but never in Rusty Blackbird nests. Bird blowfly larvae are blood-sucking parasites of nestling birds that may cause anemia or mortality at high levels of

infestation. Analysis of 39 Rusty Blackbird nests from our study area in 2015 by blowfly specialist Dr. Terry Whitworth documented parasitism in 69%, with puparium numbers ranging from one to 77 in parasitized nests. In 2016 we installed cameras at Rusty Blackbird nests in the three territories with high parasitism levels in 2015 and determined that female flies apparently enter the nesting material to lay their eggs during incubation. After fledging we placed the three nests in insect rearing cages and documented adult fly emergence from 27 June – 14 July. Dr. Whitworth's analysis of 25 nests from the 2016 breeding season documented puparia from two blowfly species in 17 (68%) nests. Puparium numbers ranged from one to 32 per nest.

The 2016 field crew included Carol Foss, Patti Wohner, Shannon Luepold, Charlotte Harding, and Cassandra Lavoie working in the Androscoggin watershed and Grace Mitchum and Katrina Fenton working on the Silvio O. Conte National Wildlife Refuge. The Blake-Nuttall Fund, the Conservation Biology Research Fund at the NH Charitable Foundation; the US Fish and Wildlife Service Northern Forest Land Management, Research, and Demonstration Program; and Wagner Forest Management, Ltd. supported the 2016 field season.

Pollinator Day

June 26, 2016 was Pollinator Day at NH Audubon's Silk Farm Wildlife Sanctuary in Concord. It was part of our effort to educate people about our native pollinators and how to help them. There were presentations, crafts, games, field explorations to look for pollinators, and conservation activities such as planting for pollinators and making "bee hotels" to provide habitat for native solitary bees. Photos by Dyanna Smith.



Raptor Monitoring and Management

by Chris Martin

Bald Eagles



An adult Bald Eagle with two fledged young from the Ossipee Lake nest in August 2016. Photo by Jack Dorsey.

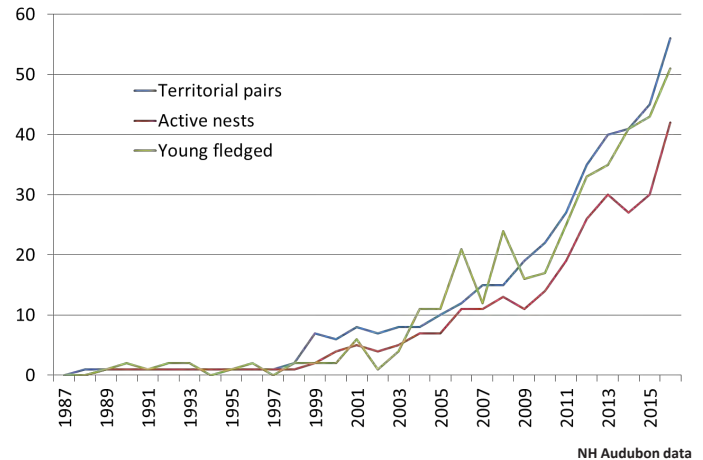
NH Audubon monitors and manages the state-threatened Bald Eagle in collaboration with the NH Fish & Game Department's Nongame Program. Each year, volunteers recruited, trained, and deployed by the Conservation Department observe eagle nesting attempts and conduct an annual mid-winter count. The state's Bald Eagles continue to make dramatic progress towards full population recovery. So good, in fact, that NH Fish & Game has formally proposed them for state delisting sometime in 2017.

We documented 56 territorial Bald Eagle pairs in 2016, up 24% compared with 2015. A total of 51 young eagles fledged, up almost 19% from 43 fledglings in 2015. And we tallied 31 productive nests, up from 25 successful nests the previous year. Each of these parameters exceeds previous state highs since the post-DDT era eagle recovery began in the 1980s.

Our 37th annual NH Mid-winter Bald Eagle Survey, completed in January 2017, found a record-high 95 individual eagles on count day. This year's total of 100 volunteer participants counted 24 eagles in the Lakes Region, 22 in the Merrimack River valley, 19 in the Connecticut River valley, 19 in the Great Bay/Coastal area, eight along the Androscoggin River, and three elsewhere in the state. This survey is part of a nationwide count coordinated by the US Geological Survey.

In 2016 we wrapped up a multi-year cross-border collaboration with Vermont Fish & Wildlife that was funded for five consecutive years by a generous grant from TransCanada. The Connecticut River, which links our two states, now has a thriving Bald Eagle population. Both states benefitted considerably from TransCanada's support for eagle restoration efforts. Additional support for NH Bald Eagle monitoring and management in 2016 came from a federal State Wildlife Grant to the NH Fish & Game Department, by a grant from the American Eagle Fund, and from NH Audubon donors and volunteers.

New Hampshire Bald Eagle Productivity, 1987-2016



NH Audubon data

Peregrine Falcons

NH Audubon staff and dedicated volunteers confirmed 21 Peregrine Falcon breeding territories in 2016, up by one site from 2015, but still down a bit from the record-high 23 territories in 2014. We confirmed a new high of 20 pairs (95%) incubating eggs, and 14 pairs successfully fledged at least one young, matching the high total for successful pairs set in 2014. Overall, 32 young



The 3-year old male Peregrine Falcon "black/green 11/BD" shows his band at the new Rt. 293/Rt. 101 bridge territory in May 2016. Photo by Mark Timmerman.

Citizen Science Bird Data

New Hampshire Bird Records, NHeBird, and the Backyard Winter Bird Survey

by Rebecca Suomala



*BRI field technician Chris Persico carefully fits a transmitter on Rumney's female Peregrine Falcon in April 2016.
Photo by Chris Martin.*

Peregrines fledged in 2016, at a rate very close to the state's 35-year average of 1.66 young fledged/nesting pair.

For the second year in a row, more than 30% of the state's Peregrine Falcon fledglings came from urban nest sites. In addition to four young fledged from the Brady-Sullivan Tower in Manchester, there were two fledglings from a quarry in Concord, two from a bridge in Portsmouth, and two from an as-yet-to-be identified nesting ledge in Nashua. We also documented a newly-established territorial pair on the Rt. 293/Rt. 101 bridge over the Merrimack River in Bedford. The color-banded male at this bridge in 2016 is a 2013 offspring of a Lawrence, MA pair. And the Lawrence male himself fledged from the Manchester nest box back in 2001.

Collaborating with colleagues from Biodiversity Research Institute (BRI) and Stantec Consulting, we used solar-powered satellite transmitters to monitor daily movements of two female Peregrines nesting at cliffs located on either side of the wind facility in Groton, NH. We learned that these two neighboring females, with nest sites roughly nine miles apart in Hebron and Rumney, also overwintered in nearly adjacent areas roughly 70 mi apart in southeastern Pennsylvania. We hope to expand our satellite tracking project to several additional sites in 2017.

Thanks to all those who continue to support ongoing efforts to fully recover this amazing raptor, including natural resource managers, private landowners, volunteer observers, and rock climbers. Management activity at breeding sites is supported by the NH Fish & Game Department through a federal State Wildlife Grant. Monitoring support for two breeding sites located near the Groton Wind facility was provided by Iberdrola Renewables and a research grant from Stantec. We also received a generous grant from the Blake-Nuttall Fund, for satellite tracking work in 2017.

NH Audubon's annual Backyard Winter Bird Survey celebrated 30 years of collecting data on the state's wintering birds. It's actually 50 years when you include the earliest surveys for just cardinals and Tufted Titmice. We've watched southern species expand and seen Evening Grosbeaks decline. Survey data also show the periodic ups and downs of northern visitors such as Common Redpolls. Thousands of volunteers make this survey possible through their observations and financial support.

NHeBird is the primary source for bird occurrence data in the state, whether for birders, researchers, planners, or conservationists. It was used in the recent revision of the state's list of threatened and endangered species. *New Hampshire Bird Records* volunteers provide the vital quality control as well as contributing to this quarterly publication all about birds and birding in New Hampshire. Funding is provided by private donations, NH Audubon's Milne Fund, and the New Hampshire Bird Records Endowment Fund.

Thanks to many volunteer hours, we uploaded to eBird more than half of the 180,000 bird sightings submitted to NH Audubon from 1986 through 2009, making them publicly accessible, available for download, and viewable on a map. Thanks to a grant from the Blake-Nuttall Fund we are now working on Coos County.



The Twitchers in the Rye birding team in the Superbowl of Birding raise money to support NHeBird and New Hampshire Bird Records, (left to right): Andrea Robbins, Jeanne-Marie Maher, Becky Suomala, and captain Pam Hunt.

Revision of the New Hampshire Threatened and Endangered Species List

by Pamela Hunt

Roughly every ten years, the NH Fish & Game Department is required to revise the state's list of threatened and endangered species. The revision of the Wildlife Action Plan in 2015 set the stage for the most recent revision.

After compiling data on over 150 species and convening several groups of species experts, we settled on a proposed list of 50 species, up from 40 in 2008. Five birds were added to the threatened list, including Red Knot, which, while irregular here, was added because it also appears on the *Federal* endangered species list. The other four species occur with some regularity, but continued declines warranted shifting them from "Special Concern" to "Threatened." These are the Purple Martin, Cliff Swallow, Cerulean Warbler, and Eastern Meadowlark. Cerulean Warbler is particularly worrisome since it has apparently disappeared from its former stronghold in



Cliff Swallows are one of four species proposed to be added to the state "Threatened" list. Photo by Len Medlock.

Pawtuckaway State Park, and I may be undertaking targeted surveys for this species in 2017.

Three species were removed from the list. Sedge Wren and

American Three-toed Woodpecker were taken off because a reevaluation of their status suggested that their occurrence in the state is highly sporadic and thus were not regular members of New Hampshire's avifauna. Sedge Wrens only appear during the breeding season every 5-10 years and haven't been known to breed for decades, and the last verified sighting of the woodpecker was in 2000. The third species to be removed is a true success story. From a single pair in the late 1980s, the

state's nesting population of Bald Eagles has grown to almost 60 pairs, and shows no sign of slowing down any time soon. The proposed list revision was submitted to the legislature for approval and had not been finalized at the time of this writing.

Olive-sided Flycatcher Survey Wraps Up, with Sobering Results

by Pamela Hunt

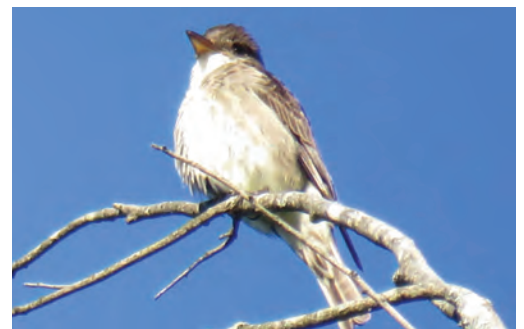
Olive-sided Flycatchers in the Northeast have declined by over 80% since 1966, and the species is considered "Special Concern" in New Hampshire. We conducted surveys in the northern and western parts of the state from 2014 to 2016 to determine the extent of the decline. In the end, 25 volunteers searched appropriate habitat (bogs, beaver ponds, and timber harvests) in 86 survey "quads" in pursuit of this elusive species of the boreal forest. The surveys were set up to allow comparison to data collected during the Breeding Bird Atlas in the early 1980s.

In the southwestern part of the state, 17 survey quads received at least two visits, but no flycatchers were found. If eBird data since 2000 are added, there were still only three sites in the southwest that supported this species in the last 15 years, compared to 14 during the Breeding Bird Atlas in the early 1980s. The picture was a little better in central New Hampshire, where roughly 30% of surveyed quads were occupied. After adding eBird data, the actual range decline is much smaller: from 39 to 35 quads, although there appears to be a greater loss in Belknap and southern Grafton counties. In the North Country the range didn't change at all, holding steady at 28-30 quads, but even there a few places that supported the species in the 1980s failed to contain them

now.

These data show that Olive-sided Flycatchers have retracted their range north over the last 20-30 years. They remain locally common north of the White Mountains, and occur in scattered locations just to the south, but they have essentially disappeared from areas south of Grafton County. This pattern mirrors that seen in other northeastern states. Reasons for the decline are still not well understood, but may include climate change, habitat or prey losses, and even events in the northern Andes of South America where "our" flycatchers spend the winter.

Funding for the Olive-sided Flycatcher surveys came from the Blake-Nuttall Fund and the Davis Conservation Foundation.



Charlie Nims found this Olive-sided Flycatcher in Bartlett in July, 2016.

Mittersill Bicknell's Thrush 2016 Survey

by Laura Deming

This past summer, NH Audubon biologists surveyed a recently protected 82-acre area on Cannon Mountain that expands the original 86 acres at the top of the former Mittersill ski slopes that was protected in 2009. This new area was added as mitigation for habitat that will be impacted by trail widening in another high elevation area of Mittersill. The annual surveys assess how ski area management on Cannon Mountain may be impacting Bicknell's Thrush and other birds that breed in montane spruce-fir forests. Surveys on the old Mittersill ski area were initiated in 2009 as part of an agreement between Cannon Mountain, the US Forest Service, NH Fish & Game Department and NH Audubon. This agreement also limited trail management to the narrow footprint of the original Mittersill slopes.

In the newly protected area, we counted a total of five Bicknell's Thrushes, as well as seven of 10 Focal Species identified by the Northeast Coordinated Bird Monitoring Program, including Blackpoll Warbler, Swainson's Thrush, Winter Wren, and Yellow-bellied Flycatcher. Two weeks later we turned up three Bicknell's Thrushes and eight of the 10 Focal Species on the original protected area. Over the past eight years, Mittersill surveys have yielded Bicknell's Thrushes ranging from one bird in 2011 to eight in 2015.

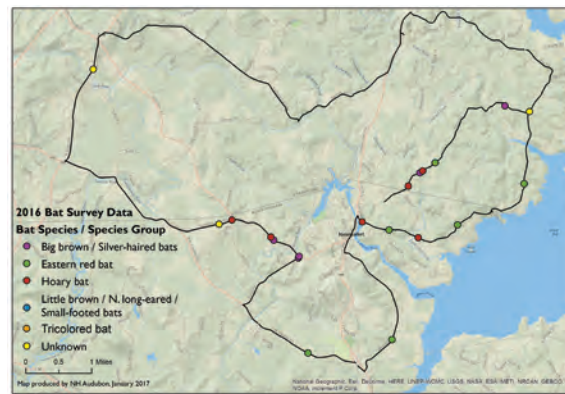
Vegetation management associated with race venue development and regular ski trail maintenance has not altered the availability or condition of breeding habitat for Bicknell's Thrush or other high elevation birds. Management of glades within the new mitigation area may prove somewhat challenging – they have traditionally been used by skiers, but sharp ski edges cause damage to regenerating trees growing above the snowpack, thereby degrading the habitat for Bicknell's Thrush and other high elevation birds. The partnership agreement mentioned above will help guide management of ski trails that will protect the ecological integrity of these high elevation habitats.



Area recently added to the Bicknell's Thrush Protected Area at the top of the former Mittersill slopes, now part of Cannon Mt. Ski Area. Photo by Laura Deming.

2016 Bat Surveys

by Laura Deming



Acoustic survey route in Durham and Newmarket, 6/1/16. Map by NH Audubon.

The New Hampshire Bat Survey Team logged a fifth summer of documenting bat activity along driving routes and at maternity colonies. A group of 24 volunteers conducted acoustic surveys to record foraging bats along back roads in central and southern New Hampshire and central Vermont. About half of these routes were surveyed once, while others were surveyed two to five times, providing additional information on bat activity throughout the season.

Nearly all species recorded along these routes are Big Brown Bats and the three migratory tree bats: Eastern Red Bat, Silver-haired Bat, and Hoary Bat. The smaller species (Little Brown, Northern Long-eared, Small-footed, and Tricolored bats) account for just 1-6% of all species detected. The scarcity of the smaller species is to be expected, not only because they are very difficult to record using mobile units, but also because populations of these cave-hibernators have been devastated by White-nose Syndrome.

Another team of volunteers counted bats emerging from maternity colonies at barns and other buildings. Females of both Little and Big Brown Bats form communal roosts in warm, dark spaces to give birth and raise their pups. At dusk, females leave these colonies to hunt for insects, and this is when volunteers count them. Once the most common species in most of its range, the Little Brown Bat has declined by nearly 99% in New Hampshire. Remaining breeding colonies are small, but critically important to the species' recovery. Volunteers surveyed bats at five colonies that ranged from 33 to 130 bats.

Homeowners and building managers can help bats by allowing maternity colonies to remain in place. For more information on bats, please visit the NH Fish & Game website: <http://www.wildlife.state.nh.us/nongame/bats-nh.html>. The NH Bat Survey Project is a partnership with NH Audubon, the NH Fish & Game Department, the US Fish & Wildlife Service, and North East Ecological Services. Funding for this project came from NH Audubon's Milne Fund.

Phenology: Our Observations are Important

by Diane De Luca



June 6, 2016

The trail opens up just off the edge of the pond, with a thick ground cover of bunchberry and partridgeberry. Lichens and moss carpet the edge of the trail, and the gnarled roots of hemlock extend from a graying trunk. The sun gets into this spot. It glints off the gossamer wings. A quick count and I estimate more than one hundred Chalk-fronted Corporal dragonflies. The majority are males but a few dark grayish brown females are seen in the mix. They perch along the downed wood, gnarled trunk, moss and lichen. My movement spurs their movement, as they shift in waves ahead of me.

June 16, 2016

The Common Milkweed is blooming. Many of the large spherical flower clusters are in full bloom with numerous tiny purplish flowers open. Some of the clusters are covered with ants, seemingly one for each flower. The wind is blowing across the pond and setting the flowers in motion, but the ants contribute to this movement.



After five years of phenology observations, I have come to expect this gathering of Chalk-fronted Corporal dragonflies in sunny openings and have been fortunate to witness the full scale pollination event of the Common Milkweed. These are just two of the connections made through careful and consistent observation in the same area. Scientists and naturalists throughout history, like Henry David Thoreau and Lewis and Clark, have made phenology observations and documented change.

Since 2012, biologists at NH Audubon have partnered with the USA National Phenology Network (USA-NPN) to track phenology: the recurring plant and animal life-cycle stages such as leafing and flowering, emergence of insects, and migration of birds. The information collected provides a baseline for species found on NH Audubon's wildlife sanctuaries, and contributes to a national database managed by the USA-NPN.

The power of the NPN database is that it is a species rich long term data set collected across large areas. It is through collection of long term data that trends can be identified. The NPN database is important to researchers trying to determine which species are most vulnerable to climate change, and how these changes can impact ecosystems. The data will also help to inform management in a way that promotes resilience to climate change.

The NPN data collection is done primarily by citizen scientists who spend time observing in their backyards, local parks or as a participant with local phenology trails. We encourage you to get involved: contact me or visit www.usanpn.org.

We are grateful to an anonymous donor who makes this project possible.



Chalk-fronted Corporal dragonflies; Common Milkweed flowers covered with ants and in seed. Photos by Diane De Luca on the Black Fox Pond Trail, Deering Wildlife Sanctuary.

Thank You

Conservation Department Funding

by Vanessa Jones

Our projects depend on funding from contracts, grants, and donations from people like you. Here at NH Audubon we believe that collaborations and partnerships strengthen the work that we do. In 2016, we worked with or received funding and contracts from many private and public sources, including:

Audubon Vermont
Biodiversity Research Institute
Blake-Nuttall Fund
Cannon Mountain
Cornell Lab of Ornithology
Dr. Margery J. Milne and Dr. Lorus J. Milne
Biological Science Research Fund
Gertrude Couch Trust
Iberdrola Renewables
Lite Enterprises Inc.
Moosewood Ecological LLC
New Hampshire Bird Records Endowment Fund
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NH Department of Resources and Economic
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NH Charitable Foundation's Bruce M. and
Sarah T. Schwaegler Fund
NH Charitable Foundation's Conservation Biology
Research Fund

NH Charitable Foundation's Quill Fund
NH Fish & Game's Nongame and Endangered
Wildlife Program
North East Ecological Services
Parker Nelson Foundation
Robin Colson Memorial Foundation
Samuel P. Pardoe Foundation
Squam Lakes Natural Science Center
Stantec Consulting Services Inc.
The Fuller Foundation, Inc.
The Loon Preservation Committee
US Fish and Wildlife Service
US Forest Service
USA National Phenology Network
Wagner Forest Management, Ltd.
White Mountain National Forest

Often our partners and funders can only support a portion of our research projects, and that is when we depend on your donations to help fill the gap. We're sorry we cannot list every donor to the Conservation Department and its projects, but *all* gifts are important and we appreciate each one. We especially thank the following individuals who gave generously to support the Conservation Department in 2016, including:

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George Clark
David Donsker
Carol Foss & Flip Nevers
Irving Handelsman
Richard Hughes

Betsy Janeway
Joanne & Kevin Jones
Arthur & Dawn Stavros
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Phillip Wallingford
Mary Wright

There are several ways to fund the work of the Conservation Department. To support the department overall or a specific research project you can visit our website at <http://www.nh Audubon.org/join-donate/research-support/>. For more information or to learn about contributing to the Conservation Department endowment please call Vanessa Jones at 224-9909 ext. 327. You can also join us for our Birdathon/Bloomathon event on May 20. Lastly, you can buy Conservation Department products online or in our Nature Store at the McLane Center in Concord.

Thank you for your support!

by Carol Foss

Senior Advisor for Science and Policy

Members of NH Audubon's Environmental Policy Committee kept busy during the 2016 legislative session. Committee members provided testimony on four bills, all of which became law. These bills pertained to transportation of exotic aquatic species, wildlife corridors, the definition of and criteria for instream flow protection, and the rivers management and protection program. In addition, we supported 15 bills by signing in: seven of these were adopted and eight were voted inexpedient to legislate. We also opposed eight bills by signing in: one was adopted with an amendment that removed the objectionable section, two were sent to interim study, four were voted inexpedient to legislate, and one was vetoed by the Governor. Two were energy bills; three pertained to federal land acquisition; one repealed LCHIP (Land & Community Heritage Investment Program); one dealt with NH Fish & Game Department governance.

NH Audubon played an active role in the Site Evaluation Committee (SEC) hearings on the Antrim Wind Energy

Project. The Board of Trustees had voted to intervene in opposition to this project, based on the 2012 SEC decision to deny the application based in part on visual impacts at the dePierrefeu-Willard Pond Wildlife Sanctuary. While the SEC ultimately approved the project, we played a role in strengthening protection for any Common Nighthawks that may nest on the site during construction, operation, and decommissioning of the facility.

At the Federal level, we provided written comments on plans to amend the Atlantic Menhaden Fisheries Management Plan. The menhaden is a keystone species in Atlantic marine ecosystems, playing an important role in maintaining water quality and providing prey for larger fish, eagles, Osprey, loons, whales, and porpoises.

Support was received from BCM Environmental & Land Law for the legal issues related to the Antrim Wind Energy Project.



The view of Wapack Ridge from Bald Mountain at NH Audubon's Willard Pond Wildlife Sanctuary. Photo by Phil Brown.

Carol Foss – 40th Anniversary - continued

Dick Hughes, long time volunteer:

"Early on when talking with Carol, I began to recognize that whenever she looked at me contemplatively and uttered one of the phrases "Hypothetically speaking," "Supposing that," or "What if," then the slight chill I felt run down my back indicated that Carol had some plan in mind in which she was pondering my participation. The result was always interesting.

In the early 1990s, NH Audubon conducted a Wetlands Protection Project, the leaders for which included, of course, Carol Foss. This is a small example of Carol's forward looking approach to problems.

After our training I was informed that Carol had something different in mind for me. What now???? Carol thought that since I was already wandering the woods and wetlands of Newmarket and Durham monitoring our early Osprey population, a natural extension of that activity would be to expand my observations to make a fauna inventory of the wetlands between

Route 108, Bay Road in Newmarket and Durham Point Road in Durham.

So, I diligently performed my dual duties throughout the spring and summer. Then one day I asked Carol what was the purpose of my inventorying efforts. She immediately responded that one day she hoped to see this area protected. To me that sounded like very wishful thinking, and I accordingly responded, "Riiiiight."

My efforts in the project ended, but the Osprey activity expanded and I continued monitoring them. It seemed that

each year I'd revisit those areas to find that more of them, including many of those wetlands, had been marked as protected or conservation lands. Obviously my response to Carol's future goals was the proper word, but with an improper inflection. My response should have been "RIGHT!!"

NH Audubon is grateful that Carol has been with us for so long and made such a difference to the organization and to wildlife conservation in the state. Congratulations, Carol!



Carol Foss at the 1984 annual meeting (left to right: Scott Sutcliffe, Carol Foss, Les Corey, Carolyn Baldwin).

From the Director of Land Management

Our wildlife sanctuaries are many things to the wildlife and people who inhabit or pass through them. They truly embody the NH Audubon mission “to protect New Hampshire’s natural environment for wildlife and people.” These places contain some of the finest natural treasures our state offers, from boreal bogs to tidal shorelines, and everything in between. Diverse and complex relationships exist in both the human and wildlife networks on our lands. Volunteer Sanctuary Stewards have deep connections to these landscapes, and their work expands our mission by providing access, interpretation, and a positive experience. We use nature’s guiding hand to model our management of both wildlife habitat and recreation access, whether through forest management for wildlife species or through sensitively restoring public access to a wetland system where we humans are the guests.

On the following pages, I’m pleased to share with you stories from the exciting projects on our wildlife sanctuaries in 2016. NH Audubon completed a multiple-year public access improvement project at our Thompson Sanctuary in Sandwich, building a fully-accessible ADA trail, the first of its kind on any NH Audubon wildlife sanctuary. We also dedicated Wendy’s Loop, a new trail at the Silk Farm Sanctuary that incorporates the McLane Center and other educational features outside our headquarters in Concord including new resources for visitors such as trail guides, interpretive signs, a bird checklist, and more.

NH Audubon uses science, monitoring and research as we plan the future for our landscapes and wildlife inhabitants. Last year, we implemented forest management with a variety of objectives at the Silk Farm Sanctuary in Concord, Deering Sanctuary in Deering, and Kensan-Devan Sanctuary in Marlborough – where we partnered with Antioch University on a graduate student project to inventory birds both before and after management occurred.

NH Audubon provides opportunities to learn, sharing our expertise and lands with the public through dozens of sanctuary field trips reaching hundreds of visitors throughout the year. Read about my “Sanctuary Extravaganza” Birdathon day, which highlights the bounty of spring bird migration across our lands.

Thank you to the many partners, donors, Sanctuary Stewards, volunteers, and finally, visitors and supporters of NH Audubon’s wildlife sanctuaries. I look forward to working for you in 2017 as there are exciting projects in the works, and I hope our paths cross in the field.



Phil Brown
NH Audubon Director of Land Management
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Phil Brown and young naturalists at Ponemah Bog Wildlife Sanctuary. Photo by Julie Brown.



This Black Gum swamp, a unique natural feature of our forested landscape, was explored on a February 2017 field trip to the Deering Wildlife Sanctuary. Because of its location and a limited market for the wood, this small stand of about 50 trees has escaped the saw for many generations. Black Gum trees are the longest-lived species in New Hampshire, some aged at upwards of 600 years old! Photo by Phil Brown.

Volunteers Make the World Go Round...at least on the Silk Farm Sanctuary

by Phil Brown



St. Paul's School student volunteers planting American Chestnut trees bred for improved resistance from the American Chestnut Foundation. Photo by Phil Brown.

Set foot on the trails outside the McLane Center in Concord this spring, and you'll notice a few changes. The Silk Farm Sanctuary has undergone several improvements to trails and visitor services, as well as a transformation along its trails. During the winter of 2015-16, forester Swift Corwin and NH Audubon staff orchestrated a timber harvest focused on removal of many declining pines along the sanctuary's beloved trails. This was intended to be a once-in-a-generation harvest. The safety of visitors, as well as future forest health and wildlife habitat needs, were the drivers behind it. With advanced notice and field trips for people to learn about the harvest, NH Audubon was able to address concerns raised about this large-scale change to a treasured place. We also explained the need for early successional forest restoration, a target of this management, to help declining wildlife species dependent upon this disappearing habitat. Thanks to the hard work of Sanctuary Steward, Kevin Jones, and several volunteer groups, access to the most popular trails was restored soon after the harvest.

Later in the spring, NH Audubon teamed up with its neighbor, St. Paul's School, on its "Sparks" alumni group Day of Action. Alumni came together for an intensive, but fun, day that included the construction of a welcoming and attractive trailhead kiosk and putting final touches on a new trail, Wendy's Loop (named in memory of former NH Audubon educator, Wendy Schorr). The trail, which was formally dedicated in the summer, brings visitors in contact with educational features and has become a favorite for

families and those with mobility challenges because of its short distance and less challenging terrain.

Another exciting highlight of the year was the establishment of six backcrossed (mostly pure) American Chestnut saplings with the help of the American Chestnut Foundation and St. Paul's School student volunteers. These specimens should have better resistance to the chestnut blight, the disease which eliminated chestnuts over the past century, and with appropriate placement and care, may grow to become future seed trees. Interpretive signage provided by volunteer, Bill Coder, is also a new feature that complements the plantings.

Thanks to volunteers, Joanne Jones and Kathryn Frieden, the Sanctuary now has both a new and improved trail guide **and** informative bird species checklist! Be sure to pick up these free resources at the front desk. **Join me on a Silk Farm Sanctuary bird walk on Monday mornings this May 1, 8, 15, and 22, from 7-8:30 am! See the *Spring Afield* newsletter for more details.**

The Sanctuary and its trails are now featured on *Trail Finder*, a new web-based resource that helps people get out, get active, and explore. See the link at <https://www.trailfinder.info/trails/trail/silk-farm-wildlife-sanctuary-nh-audubon>.



The new trailhead kiosk at the Silk Farm Wildlife Sanctuary. Photo by Phil Brown.

Kensan-Devan Sanctuary Forest Management is For the Birds

by Chad Witko and Phil Brown

The Kensan-Devan Wildlife Sanctuary in Marlborough contains nearly 600 acres of fairly remote woodlands and wetland types in the shadow of Mt. Monadnock. In August of 2015, based on previous assessments, NH Audubon initiated a forest management planning process with consulting forester, Jeremy Turner, of Meadowsend Timberlands. Together with field visits from UNH Cooperative Extension staff members, our team of land experts prepared a plan that prioritized management for a select group of bird species, some of which are considered species of greatest conservation need according to the NH Wildlife Action Plan. These included Black-throated Blue Warbler, Black-throated Green Warbler, Blue-headed Vireo, Canada Warbler, Eastern Towhee, Eastern Wood-Pewee, and Scarlet Tanager. In particular, management was guided by the following forestry objectives: *"Maintain, protect, enhance and create bird habitat, especially; Protect interior forest habitat, create early successional habitat, protect interior forest wetlands."*

We partnered with Chad Witko, an Antioch University graduate student, to carry out a pre-harvest breeding bird

survey and habitat assessment of the sanctuary. This created a baseline for future conservation and management decisions, and a starting point for measuring the response of target species to this management. Chad's work assessed not only the diversity of species, but also species association to different habitat types across points, utilizing the "Foresters for the Birds" protocol developed by Vermont Audubon to inventory habitat types.

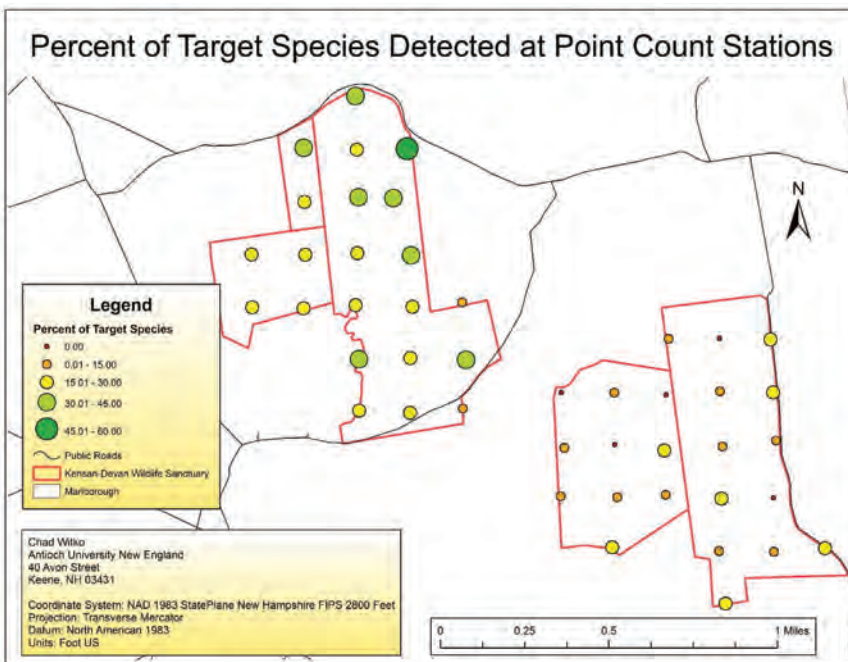
During 12 visits to the Kensan-Devan Sanctuary during the months of June and July, Chad recorded 54 species of birds, the most common of which were neotropical migrants including Ovenbird and Red-eyed Vireo and resident species like Black-capped Chickadee and Blue Jay. Interestingly, target conservation species occurred more frequently in the western portion of the property, perhaps a factor of the forest type and other associated features. This is the portion of the property where the forest management work was planned.

The management work was carried out in the winter of 2016-17. In addition to wildlife habitat improvement, other objectives included improving recreation access (hiking trails),

forest health and regeneration of target tree species, and deriving a sustainable source of revenue.

Literature and anecdotal evidence suggests that the response of bird species to habitat management after only one season will be limited. It will likely take several years before the habitat responds fully to the recent forest management. Once these habitat changes mature to a state of more structural diversity across the understory and mid-story, there will be more significant changes in bird community structure, particularly for those target species that rely on more dense understories (e.g., Black-throated Blue Warbler).

NH Audubon plans to survey bird responses over time and measure the response in a similar fashion to the breeding bird survey that Chad conducted. A "forestry for the birds" tour is being planned at the sanctuary for this summer.



Above: Bird point count maps at Kensan-Devan Wildlife Sanctuary created by Chad Witko for his research.

Below: A modified shelterwood cut at the Kensan-Devan Wildlife Sanctuary. Photo by Jeremy Turner.



Wildlife Sanctuaries Birdathon Team Successful on Many Levels

by Phil Brown

The Sanctuary Bog Suckers, consisting of Phil Brown, Katrina Fenton, and Henry Walters again participated in NH Audubon's Birdathon/Bloomathon in 2016. Our goals this year were to find 150 species of birds and as many blooms as we could identify through visiting ten NH Audubon wildlife sanctuaries scattered across the state, and to raise \$2,500 for NH Audubon's wildlife sanctuaries.

We enjoyed a beautiful day with some excellent birds in many of the special landscapes of the state, visiting wildlife sanctuaries between North Conway and North Hampton. We started our morning at 3:00 am with American Woodcock, American Bittern, Barred Owl, and a surprise whip-poor-will in Sandwich before listening for nocturnal birds along the new boardwalk at the Thompson Sanctuary. Here we added Sora, Virginia Rail, Common Loon, and a chorus of gurgling Marsh Wrens among 20 other species. Next stop was the Watts Sanctuary in Effingham, where we witnessed an incredible dawn chorus with breeding and migrant birds – 48 species of birds including 18 species of warblers! Among them were Bay-breasted and Blackpoll (non-breeders), Palm, many Canada Warblers, and several Northern Waterthrushes, as well as Olive-sided Flycatcher and two Red Crossbills.



Hermit Thrush, one of the 148 bird species tallied by the Sanctuary Bog Suckers on Birdathon.
Photo by Jen Esten.

Nearby at the Hoyt Sanctuary in Madison, things were a little quieter but we managed to add Hooded Merganser and Spotted Sandpiper. On the Dahl Sanctuary, we were treated to an extension of the fine dawn chorus with a third Blackpoll Warbler, nesting Bank Swallows along the Saco River, a Blue-gray Gnatcatcher, a Brown Thrasher (carrying nesting material!), and Osprey.

Things slowed down as they often do in late morning until we hit the Seacoast, where we added many more species limited to salt marsh or ocean habitats. A few more sanctuaries, including the Bellamy River and Follett's Brook

Sanctuaries added Bald Eagle, Northern Harrier, American Kestrel, and Blue-winged Warbler to our lists, and the Little River Saltmarsh Sanctuary gave us some new shorebirds before the day's end.

We ended with 148 total bird species, 110 of which were found on NH Audubon's wildlife sanctuaries alone. We also identified 33 species of blooming plants and trees. We surpassed our fundraising goal, thanks to 36 individual donors who contributed over \$2,500! The 2017 Birdathon will occur on May 20. Check the NH Audubon web site (www.nhaidubon.org) for how to participate or support a team.

Scotland Brook Sanctuary Work Day



Dave Govatski instructing volunteers on how to peel cedar logs for construction of bog bridges at the Scotland Brook Wildlife Sanctuary work day. Photo by Phil Brown.

Sanctuary Steward, Joanne Jones, described the day:

On Saturday, April 23, 2016 the students in the Panther Adventure and Wilderness Society (PAWS) group at Lisbon Regional High School and their advisor, Greg Superchi, volunteered to spend the day at NH Audubon's Scotland Brook Wildlife Sanctuary in Landaff. The students carried in the lumber for eight new bog bridges at the sanctuary and then helped to build the bridges along one of the trails there. The NH Audubon staff and volunteers who worked with the group were very impressed with the enthusiasm and hard work of the students and really enjoyed working with them. Thanks to PAWS, we got some much-needed bog bridges built at the sanctuary, which will make it easier for people walking the trails there.

Thompson Sanctuary Boardwalk Completed

by Phil Brown



Viewing opportunities at the new observation platform at Alice Bemis Thompson Wildlife Sanctuary.
Photo by Phil Brown.

In 2016, NH Audubon completed public access improvements on the Alice Bemis Thompson Wildlife Sanctuary in Sandwich, restoring foot travel along a fully accessible trail and boardwalk. The results of three seasons of work by the Student Conservation Association-NH Corps is a highly attractive and functional four-hundred foot boardwalk and terminal observation platform in the middle of a “forever wild” conservation easement held by the Northeast Wilderness Trust. Wildlife viewing opportunities have already been realized as school groups, bird-watching tours, and many individuals, including those with disabilities, have enjoyed the walkway. Moose, otter, and an impressive number of bird species can be enjoyed from the trail and boardwalk, and the Sanctuary includes 80 acres of the highest-ranked wildlife habitat in New Hampshire, according to the NH Wildlife Action Plan. The backdrop of the White Mountains to the north and Ossipee Mountains to the south only enhance the experience.

As part of mitigation enabling the boardwalk project, abutters to the north, Dr. Robert and Mrs. Peg Ridgely, donated a conservation easement on an important 10-acre parcel of wetland. Another component of re-establishing responsible public access to parts of this sanctuary included a new official trail through conserved lands owned by abutters to the south, David and CC White. This upland access to the sanctuary is an option for those looking for a longer hike. More information is available on NH Audubon’s website and on the main kiosk.

Many other private donors, businesses, and foundations (see Thank You section) also provided support for this multi-year project. A dedication is planned for the spring, and a “Big Sit” bird-watching event will occur in early October.

Thank You

We wish to thank all our donors, grantors, and volunteers for their support, in particular:

Alfred Quimby Fund – Thompson Wildlife Sanctuary, Sandwich

Davis Conservation Foundation – Thompson Wildlife Sanctuary, Sandwich

USDA’s Natural Resources Conservation Service – wildlife habitat restoration and stewardship

Student Conservation Association/NH AmeriCorps – Thompson Wildlife Sanctuary, Sandwich

Town of Sandwich – Thompson Wildlife Sanctuary, Sandwich

Francie Von Mertens – Willard Pond Wildlife Sanctuary, Antrim

Joanne & Kevin Jones – Scotland Brook Wildlife Sanctuary, Landaff

Bill Coder – Silk Farm Wildlife Sanctuary, Concord

In kind gifts in support of the Thompson Wildlife Sanctuary boardwalk project:

Ambrose Brothers

BCM Environmental & Land Law

Ecosystem Management Consultants

A&B Lumber

Chick Lumber

Many generous individuals contributing to Birdathon/Bloomathon, specific sanctuary projects, memorials, and in-kind gifts

Sanctuary stewards, partner organizations, and many individuals who have volunteered their time in helping NH Audubon manage wildlife sanctuaries, monitor wildlife, or educate the public

Bear Mountain Wildlife Sanctuary, Hebron. Photo by Phil Brown.

Educational Opportunities on Wildlife Sanctuaries

by Phil Brown

Both informal and formal educational opportunities abound on NH Audubon's wildlife sanctuaries. New kiosk signage and interpretive trail guides provide visitors with direction on what to look for, and some sanctuaries have interpretive signage or markers along their trails. But many visitors are looking for something more, a greater understanding of a place and its natural inhabitants that only an expert-guided experience can provide. Throughout the year, NH Audubon offers such programs that feature such opportunities. Field trips, ranging from formal birding classes to more casual spring bird walks, are offered this spring on the grounds of the Silk Farm Sanctuary in Concord.



Participants on NH Audubon's annual Tudor Richards Memorial Field Trip on International Migratory Bird Day at Pondicherry Wildlife Refuge in May of 2016. Photo by Phil Brown.

A popular field trip series at Ponemah Bog Sanctuary in Amherst is a great way to explore topics from bog formation and carnivorous plants to dragonfly copulation and breeding birds. Several area university classes visit the sanctuaries each

year to learn about wildlife management on conserved lands, and timber harvest tours are another component of sanctuary offerings. There are also more hands-on stewardship opportunities that provide students with new skills that they acquire through helping NH Audubon manage its sanctuaries, whether through trail clearing, invasive species removal, tree and shrub planting, or maintaining and monitoring nest boxes.

North Country Nature Tour: Boreal Birds & Wildlife of Northern New Hampshire – June 11-15, 2017

Leaders: Phil Brown (NHA's Director of Land Management) and Bob Quinn (Merlin Wildlife Tours)



Spruce Grouse by Bob Quinn.

This June marks the return of an in-depth exploration of the birds and natural areas of New Hampshire's "Great North Woods" region – the fourth annual North Country Nature Tour. This five-day van tour, which starts and ends in Concord, visits many of the iconic wildlife-viewing and scenic locations that New Hampshire is famous for – Mt. Washington (sunset auto tour), Lake Umbagog, Pondicherry Refuge, and the northernmost town of Pittsburg, where the group will spend three nights. This guided learning opportunity will focus on birds and other wildlife, botany, and natural places, as well as highlight some of NH Audubon's conservation research projects and the stewardship of its natural areas. Space is limited, so call or e-mail Phil Brown to inquire about availability and to reserve your space with a deposit.

By popular demand, a second nature tour is being planned for late August – please inquire with Phil about this opportunity!

by Phil Brown

Raptor Observatory Coordinator



The Little Harbor Elementary School from Portsmouth visited Carter Hill Raptor Observatory as part of NH Audubon's raptor migration unit, a partnership funded by the US Fish & Wildlife Service to connect kids to the great outdoors. Photo by Juan Camilo Carranza Merchan.

“Why do we count them? Manning a hawk watch each spring or fall allows us to quantify raptor migration over a set point and over time, and consistent data collection helps researchers monitor raptor population trends. Is it the science that brings people back year after year? The spectacle of witnessing hundreds of Broad-winged Hawks lifting out of the valley with others who enjoy hawks? Is it the anticipation that any day could hold something memorable: Merlins in a three-way dogfight lasting most of an afternoon, a Golden Eagle sailing through at eye-level, an American Kestrel flying for her life to stay out of the reach of a hungry Northern Goshawk?”

– Katrina Fenton,
Pack Monadnock Raptor Observatory naturalist

Some 10,000 people bore witness to over 20,000 migrant raptors in the fall of 2016 at NH Audubon's Pack Monadnock (Peterborough) and Carter Hill (Concord) Raptor Observatories. Staff naturalists and volunteers spent over 1,000 cumulative hours on the lookout for these transients, which were represented by 15 different species including rare Rough-legged Hawks and Golden Eagles. Broad-winged Hawks were, as always, the stars of the show, representing 77% of total migrants and accounting for the bulk of each of the memorable days when the count soared to over 1,000. It was a fairly average year for both sites with a few season records set including that of Turkey Vulture (322) and Bald Eagle (135) at Pack Monadnock, and Carter Hill tying a record of Golden Eagles (3). Sharp-shinned Hawks lagged at both sites, particularly at Carter Hill (551 represented less than half last season's count of this typically stable migrant).

Low numbers of Red-tailed Hawks and

Golden Eagles at Pack Monadnock seemed indicative of the lack of strong cold fronts in the second half of the season. NH Audubon's observatories are only two points across a vast landscape of migration, and the real value in helping to assess raptor populations is only realized when analyzing these trends along with a network of other monitoring sites. The Hawk Migration Association of North America, a partner with NH Audubon, is the repository of hawk migration data, which can be viewed at www.hawkcount.org.

The Raptor Observatories were supported by individual donors, grants, and donations from

Ed Reilly Subaru – Carter Hill

Gilbert Verney Foundation – Pack Monadnock

Nature's Green Grocer – Pack Monadnock

Thanks also to our host sites, Miller State Park and Carter Hill Orchard.



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SPOTLIGHT ON A YOUNG HAWK WATCHER



Paul Bourgault prepares to release a rehabilitated Broad-winged Hawk from Wings of the Dawn at Carter Hill Observatory's Raptor Release Day in September of 2016. Photo by Jen Esten.

Paul Bourgault, of Concord, has been watching hawks for several years, and he's a regular at NH Audubon's Carter Hill Raptor Observatory. Paul started hawk watching at Carter Hill when his 4th grade class took a school trip to the orchard, specifically to visit NH Audubon's hawk watching site. On that September day, Paul rotated through various activities in an annual event facilitated by NH Audubon and Project SEE educators appropriately called "Raptor Day." Along with hundreds of other students, he had a brief opportunity to set foot on the hawk watch platform and learn how to use binoculars. Paul was transformed by this experience – he wanted to come back every day and watch migrating raptors. His supportive parents, Mike and Patricia, enabled this newfound fascination.

The following is an interview with Paul Bourgault by Phil Brown:

What was it about that first visit to Carter Hill? Was there some type of spectacle?

My school first visited Carter Hill at the height of the Broad-winged Hawk migration, and just seeing hundreds of raptors at once was amazing to me.

Why hang around with a bunch of older people when you could be participating in usual kid activities?

Because all of the older people share the same interests as I do.

Do your friends find it interesting that you're interested in birds and hawks?

Not really.

What was the coolest experience you recall from your time at Carter Hill?

Spotting a Golden Eagle, for sure!

What are you still hoping to see there?

Swainson's Hawk, or maybe a Rough-legged.

What are your professional interests at this point in your life?

I want to become a pilot, but if that fails, I would want to become an ornithologist.

What would you say to a young person who doesn't know anything about raptors and hawk watching?

I would tell them to keep coming to Carter Hill, and keep watching birds, and you will get familiar with them pretty quickly.