

NH Audubon Conservation Notes

Conservation Department Summary



Conservation Department staff (l to r), back: Chris Martin, Laura Deming, Pam Hunt; front: Becky Suomala, Vanessa Jones, Carol Foss, Diane De Luca.

From the Conservation Department Director

As you may have already heard, New Hampshire Audubon's Conservation Department has recently undergone an exciting transition! After many years as Director of Conservation, Dr. Carol Foss has decided to focus her work as the organization's Senior Advisor for Science and Policy. I am thrilled to be able to work with Carol as I step into the role of Director of Conservation.

I am pleased to share this report on the Conservation Department's activities. The following pages provide details on the Department's projects in the past year (4/1/14 – 3/31/15), from coordinating bat surveys to studying the effects of LED lights on wildlife.

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 donors and grant funders. Conservation programs also receive funding from contracts with partner agencies, organizations, and corporations.

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

Vanessa Jones
Director of Conservation

See also, pages 13-20 for
Sanctuary Notes



Inside Conservation Notes

Highlights from all the
Department's projects:

Raptors

Citizen Science

Aerial Insectivores

Phenology

Bats

... and More!



NH AUDUBON
Protecting our environment since 1914

Protecting New Hampshire's
Natural Environment
for Wildlife and for People

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Olive-sided Flycatcher Surveys

by Pam Hunt

Singing “quick three beers” from a tall snag in a bog, the Olive-sided Flycatcher is something of a symbol of remote boreal areas. Like the Rusty Blackbird that sometimes shares its habitat, this species is in steep decline. Its population trend in New Hampshire is -7% per year, and the species appears to be slowly disappearing from the southern edge of its range in the Northeast.

To better understand Olive-sided Flycatcher distribution in New Hampshire, the Conservation Department initiated a two-year survey in 2014. We divided the state into over 100 survey “quads,” and prioritized these based on existing data on Olive-sided Flycatchers. The highest priority quads were those where flycatchers occurred in the early 1980s, but which hadn't been reported from since.

During June and July 2014, volunteers conducted surveys in 35 quads, but found flycatchers in only 11 of them. Most of the detections were north of



Olive-sided Flycatcher by David Forsyth.

the White Mountains, and only one was in southwestern New Hampshire (where 16 quads were visited). This near disappearance from the southern portion of the species' range in the state supports the overall decline. Once the 2014 and 2015 data are analyzed, we hope to identify a few core areas where more in-depth research can take place – and help us learn more about this declining species.

Funding for the Olive-sided Flycatcher surveys has come from the Davis Conservation Foundation.



Bicknell's Thrush survey at the Mittersill Tract on Cannon Mountain in Franconia, NH. See page 11 for more on this study. Photo by Laura Deming.

Phenology Update

by Diane De Luca

Phenology refers to recurring plant and animal life-cycle stages such as leafing and flowering, emergence of insects, and migration of birds. The Intergovernmental Panel on Climate Change stated that “phenology is perhaps the simplest process in which to track changes in the ecology of species in response to climate change.”

Since 2012, Conservation Department biologists have collected phenology data on NH Audubon’s sanctuaries that are also contributed to a national database managed by the USA National Phenology Network. This database is critical to researchers trying to determine which species are most vulnerable to climate change, and how these changes can impact other species and entire ecosystems. Tracking phenology also represents an opportunity to utilize NH Audubon sanctuaries in a long term research project for which they are uniquely suited because of their protection, public accessibility, and potential to involve volunteers.

Permanent monitoring sites have been set up with individually marked plants and established areas in which to observe fauna. Three years of data collection is not enough to establish any long term trends for our properties, but has allowed for some interesting observations. Spring of 2012 was one of the warmest on record with 2013 and 2014 temperatures averaging closer to “normal.” Our data at the Deering Wildlife Sanctuary captured the short term response to this temperature variation. Trees showed the most dramatic response with Red Maples flowering on March 27 in 2012, April 24 in 2013 and May 4 in 2014 (Figure 1). Ground flora also reflected this same trend with first emergents documented 7-10 days later in the two years following 2012 (Figure 2).



Two phenophases of the Pink Ladyslipper, growth (left) and flowering.

Figure 1. Red Maple Bloom Date by Year

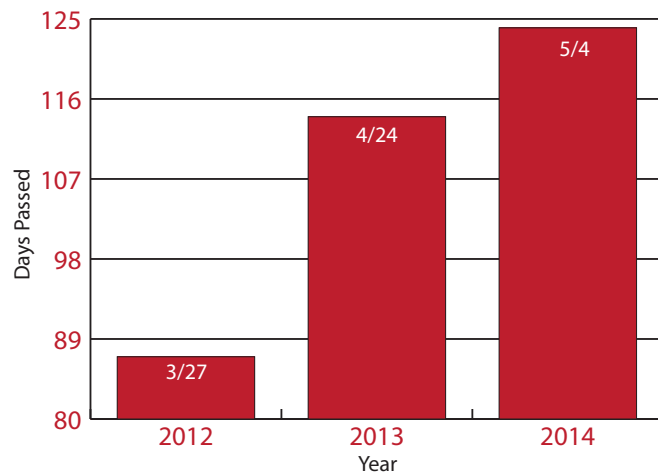
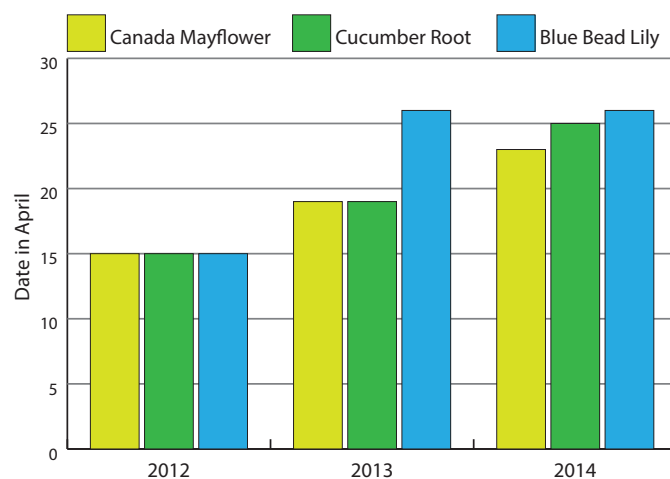


Figure 2. Ground Flora Emergence by Year



A sincere thank you to an anonymous donor who has generously supported the phenology project since it began in 2011.

Purple Martin Management

by Pam Hunt

The summer of 2014 was a good year for Purple Martins in Seabrook, NH. Thanks to the dedicated efforts of several volunteers, we erected a “gourd rack” in Seabrook in the hopes of attracting more martins to this site, which has hosted a single pair in a bird house. Five pairs eventually nested here (including the one in the box), and successfully raised at least eight young to fledging.

But all is not well elsewhere. The large colony at the Fun Spot in Laconia dwindled to only two pairs last year, despite ongoing (although minimal) management. One goal in 2015 is to reach out to the Fun Spot to see if there’s a way of growing this colony before it disappears. The final colony in the state is another tiny one: two pairs on a lake in Wakefield. Given that all of New Hampshire’s colonies are



*Newly hatched Purple Martin chicks from one of the gourds in Seabrook, NH.
Photo by Pam Hunt.*

small, there could be others out there undetected. If you find one, please let us know!

The Purple Martin project is funded by private donations.



Volunteer Dennis Skillman checking the Purple Martin gourds in Seabrook, NH, 6/18/14. Photo by Pam Hunt.

Rusty Blackbird Summary 2014

by Carol Foss

The intrepid Rusty Blackbird team forded streams, crossed beaver dams, and penetrated swamps during the 2014 breeding season to locate and monitor a record 47 nests, of which 37 (79%) were successful. Nest locations included seven townships in northern Coos County and one in adjacent Oxford County, ME. Incubation at the earliest nests began during the second week of May, and the first fledglings were observed on June 3. The team banded 19 adult females, 16 adult males, and 125 nestlings. We also attached light level geolocators to 11 adults.

The geolocators are miniature data loggers that continuously record the

date and time and the level of light to which they are exposed. Analysis of this data makes it possible to identify a bird's location at any given time within about a 100 km radius. This provides an approximate route of travel during southward and northward migrations and general location of the wintering area. In order to access this data, the birds must be recaptured in a subsequent year and the devices removed and downloaded. The geolocator study is a collaborative effort with colleagues in Alaska to study migration and wintering patterns of breeding populations at the eastern and western sides of the range.



Carol Foss and Grace Mitchum with Rusty Blackbird geolocators ready for calibration.

Project Nighthawk 2014 Summary

by Rebecca Suomala

The 2014 Common Nighthawk season was a vast improvement over 2013 when no nests were confirmed and nighthawk numbers were lower than usual. Project volunteers were busy monitoring in Concord, Ossipee, and Keene (in partnership with AVEO, a project of the Harris Center). We confirmed three nests in Concord and were fairly certain of two others. Two chicks fledged from one nest but at least one rooftop nest failed for unknown reasons. In Keene, Brett Thelen and the AVEO volunteers recorded a similar number of birds as in previous years but no confirmed nesting.

Late season at the Ossipee Pine Barrens was especially intense. At one watch we had nine adult birds at one site which is unheard of in New Hampshire in recent years. Five of those birds were males and at least one pair appeared to be feeding chicks. In 2013 we could confirm only six males in the entire pine barrens and no females.



Common Nighthawk fledglings from the nest in the Broken Ground area of Concord, NH, 7/26/14. Photo by Rebecca Suomala.

Nighthawk nests are difficult to find and it takes multiple observations for even our most experienced volunteers to figure out where a nest might be. There are still very few successful nests in New

Hampshire for this state-endangered species.

Project Nighthawk is funded by private donations.

NH Peregrine Falcon 2014 Breeding Season

by Chris Martin

Spring 2014 marked the 34th breeding season in the post-DDT recovery era for New Hampshire's Peregrine Falcons. NH Audubon staff and volunteer falcon observers confirmed 23 occupied territories (22 sites with pairs), a new state record-high for the post-DDT era. We documented incubation by 17 (77%) of the state's 22 pairs, with successful fledging by 14 pairs – a new post-DDT era record high. A total of 33 young fledged in 2014, an average of 1.94 young fledged per nesting pair, which exceeded the state's 34-year average of 1.64 fledged per nesting pair. Holts Ledge in Lyme fledged five young in 2014, only the second case in New Hampshire of five chicks fledging from a single nest in 323 known nesting attempts over 34 years. The only other instance occurred in Manchester in 2010. At opposite ends of the state, we documented the first successful Peregrine fledging from Dartmouth Grant's Diamond Peaks and downtown Nashua.

Collaborating with Stantec and BioDiversity Research Institute, we fitted solar-powered satellite transmitters on two adult female Peregrines (Bear Mountain in Hebron, Rattlesnake Mountain in Rumney) to learn more about their home ranges and how they might interact with nearby ridgetop wind turbines. We also installed a new falcon nest box at the Christian Science Church in downtown Concord, which has not yet been occupied.

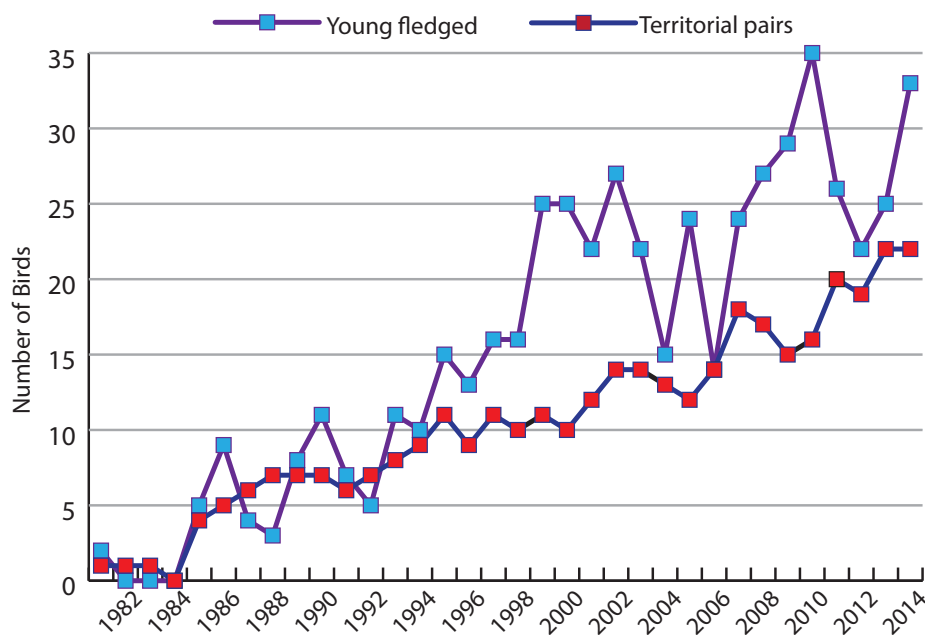
Ongoing banding studies of New Hampshire's breeding Peregrines confirmed the banding status of 29 (63%) out of 46 known individuals. Of the 350 fledgling Peregrines color-banded at New Hampshire nests since the early 1990s, a total of 85 (over 24%) have eventually been re-sighted (either alive or dead).

Sincere thanks to supporters of Peregrine Falcon recovery work in New Hampshire, including public resource managers and private land owners, volunteer observers and rock climbing partners. We appreciate the generous support of NH Audubon members and other individuals. Management activity was supported by a federal State Wildlife Grant to the NH Fish & Game Department. Monitoring activity was funded in part by an anonymous gift from the NH Charitable Foundation. Additional monitoring support for two breeding sites was provided under a contract with Stantec.



Photo of the banded Peregrine Falcon pair in Nashua, NH, 12/14/14, by Deanne Fortnam.

Peregrine Falcon Population Count by Year



NH Bald Eagle 2014 Breeding Season

by Chris Martin

Over the past decade, New Hampshire's Bald Eagle breeding population has been doubling roughly every five years: 10 territorial pairs in 2005, 22 territorial pairs in 2010, and 41 territorial pairs in 2014 (a new state record-high)!

NH Audubon staff and volunteer eagle observers confirmed incubation by 27 (66%) of the state's 41 pairs. One-third of these pairs were not seen incubating, which may have been due to several factors, including early nest abandonment in ill-timed snow events, and new or inexperienced pairs that formed during the 2014 season. The 24 successful nests and 41 young fledged set new post-DDT era highs for New Hampshire.

Bald Eagles now nest in all three far-flung corners of the state – from Pittsburg to New Castle to Hinsdale. Perhaps nowhere is growth of the state's eagle population more obvious than in the Lakes Region, where 11 territorial pairs are scattered from Newfound Lake in Hebron to Province Lake in Wakefield. The Lakes Region hosted only one known nest a decade ago. In



Bald Eagle pair in Canterbury, NH, 3/2/14. Photo by Debra LaValley.

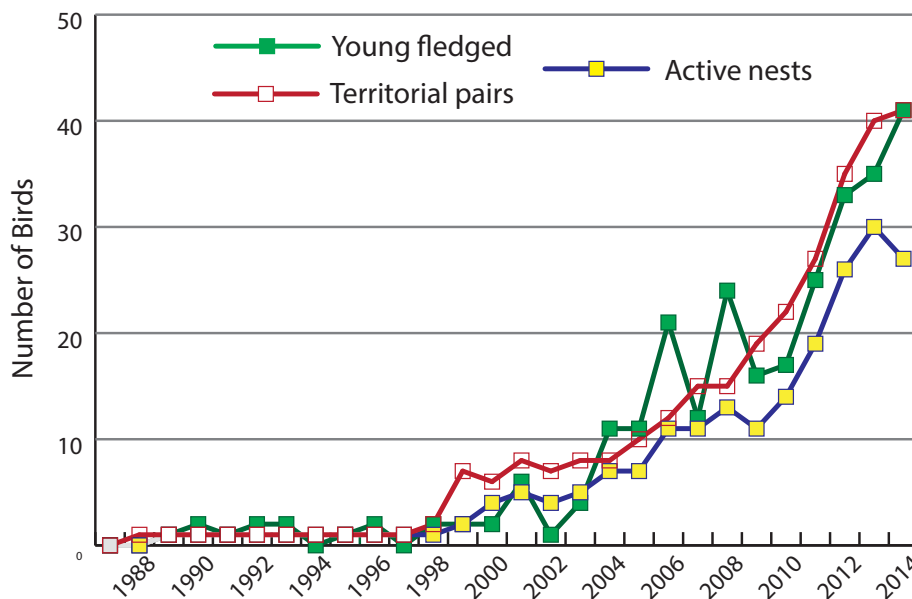
2014, two of the Lakes Region's eagle pairs each fledged three young, the only such instances of trios fledging in the state in 2014.

Our field efforts are now focused on identifying banded adults on territories to gather useful data on dispersal, longevity, and recolonization

of breeding sites. New Hampshire's breeding eagles in 2014 included 83 known individuals, with banded status confirmed on 49 birds (59%). Natal origin of the state's breeding eagles in 2014 included 10 from MA, six from ME, four from NH, one from NY, and one undetermined state origin.

Sincere thanks to supporters of Bald Eagle recovery in New Hampshire, including natural resource managers, private land owners, lake associations, volunteer observers, and others. Monitoring and management activity at breeding sites is supported by a federal State Wildlife Grant to the NH Fish & Game Department. We are particularly grateful to TransCanada for major multi-year grant support to promote eagle recovery in the Connecticut River watershed. We received additional support from the American Eagle Foundation. We also appreciate the generous contributions of time and funds by NH Audubon members, donors, and others.

NH Eagle Census by Year



New Bird Deterrent Technology

by Carol Foss

Lite Enterprises, a small business in Nashua, NH, has contracted with NH Audubon's Conservation Department to assist with pilot field tests of newly developed wildlife deterrence devices. These devices use high-brightness light-emitting diodes (LEDs) of various wavelengths to discourage birds from approaching specific areas. Field tests in 2014 included Common Eiders at a mussel farm in Casco Bay, ME, Ospreys at an uncovered trout rearing pond at the Milford Fish Hatchery, NH and Red-tailed Hawks at a raptor banding station in Cape May, NJ. While these tests were necessarily brief (one to four weeks), each of the target species reacted

to the lights with statistically significant results.

Unlike lasers, LEDs cause no eye damage to humans or other animals, offering opportunities for use in a wide variety of settings. Potential applications include reducing sea duck predation at aquaculture operations, bird strikes at airports, raptor mortality at wind and solar energy facilities, and water bird mortality at toxic tailings ponds and other contaminated sites. Funding for the development and field testing of these devices has been provided by National Science Foundation grants to Lite Enterprises.



*LED blue light deterrent in operation.
Photo by Carol Foss.*

Conservation Department Contract Services

by Vanessa Jones

In 2014, NH Audubon's Conservation Department continued its long history of providing contracted services to state and federal agencies, municipalities, corporations, and individuals in need of natural resource information. Some of our larger projects are mentioned elsewhere in this newsletter, including our continued work with the Nongame and Endangered Wildlife Program of the NH Fish and Game Department. Bird and insect surveys were completed at the NH Army National Guard Training Site in Strafford at the request of NH's Adjutant General's Department. The purpose was to identify breeding birds, dragonflies, damselflies and butterflies, with a focus on rare species. A highlight of this work was the discovery of a new population of Ringed Boghaunters, a state-endangered dragonfly. In Epping, Wildlife Biologist Laura Deming performed fall migratory waterfowl surveys in support of land conservation work with Moosewood Ecological LLC.

We also conducted a natural resources inventory of a wetland in Nashua owned by Pennichuck Water Works, which hopes to develop an "outdoor classroom" there in partnership with NH Audubon and the Nashua School

District. Please visit the Professional Services page of the Conservation section of our website at nhaudubon.org to learn more about the services we offer.



Ringed Boghaunter found during surveys at a National Guard training site in Strafford, NH, 5/21/14. Photo by Pam Hunt.

Chimney Swift Roost Counts

by Pam Hunt

Although a familiar site over New Hampshire's cities and towns, the Chimney Swift is a species of increasing conservation concern. Population trends across most of its range are strongly negative, including a rate of -2.8% per year in New Hampshire since 1966. At this rate, which actually seems to have accelerated since 2003, there are now only a quarter as many swifts in the state as 50 years ago. Biologists are still trying to figure out what may be causing the declines, but hypotheses include loss of nest sites, changes in food supply, and factors during the non-breeding season (swifts spend the winter in South America).

One other factor may relate to changes in structures used by swifts for roosting, especially during migration. These are almost always in chimneys, and some roosts can contain hundreds of birds. In an attempt to learn more about swift roosts in New Hampshire, we started finding and monitoring roosts in Concord in the fall of 2013. In 2014 we expanded the project to the Upper Valley.

From May through August, over a dozen volunteers found 33 roosts,



Volunteers at a Chimney Swift roost watch in Lebanon, 5/20/14. Photo by Pam Hunt.

and monitored each one at least once. They ranged in size from small roosts of 4-6 birds to 225 at a spring roost in Lebanon. Volunteers observed some interesting behaviors, including a pair of roosts at Kimball Union Academy in Meriden. During the spring and summer, one chimney regularly hosted

up to 90 birds, while a nearby one only had 2-6 birds. But at the end of July, birds started using the second chimney (100+ swifts), while only a handful remained in the first.

Support for the Chimney Swift project comes from a private donation.

Wildlife Action Plan Revision

by Pam Hunt

NH Audubon played an important role in creating NH Fish and Game's first "Wildlife Action Plan" (WAP) in 2005. All states need to revise their WAPs by the fall of 2015, and we are again heavily involved in the process. Between myself and other NH Audubon biologists, we are responsible for writing species profiles for 51 species of birds and 15 insects, as well as assisting in writing other sections of the final

plan. I serve on the "Wildlife Action Plan Implementation Team," where I provide ornithological expertise and also help with broad thinking about the plan's development. Since the original WAP was completed in 2005, the New Hampshire conservation community has implemented many of the strategies it contained: everything from land conservation and management to new surveys for poorly-studied taxa like

dragonflies and some fish. Many species have recovered thanks to these and earlier efforts, but new threats and new information have added several others to our lists of conservation concern. The 2015 WAP will help position NH Fish & Game, NH Audubon, and all our partners for another decade of conservation to benefit our nongame wildlife and their habitats.

New Hampshire 2014 Bat Survey

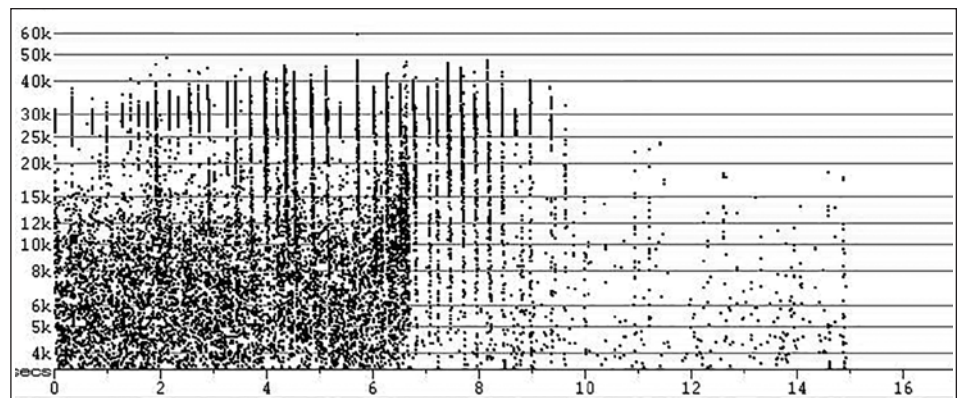
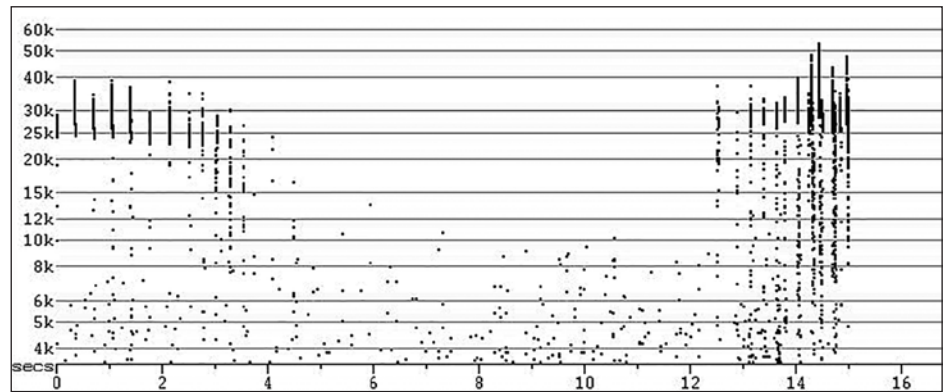
by Laura Deming

What has four wheels, a microphone, and chases bats? A NH Bat Survey volunteer (in a car, with an Anabat, of course). In 2014, 18 intrepid volunteers drove for miles along back roads throughout the state to record vocalizations of night-foraging bats. Data from these surveys is helping bat researchers and managers better understand the distribution and relative abundance of New Hampshire's eight bat species. This information has become critically important since the 2006 discovery of White-nose Syndrome (WNS) and subsequent loss of more than 90% of the region's bats.

Throughout each survey, sensitive equipment records high-frequency vocalizations, which are later analyzed and "assigned" to a species (or species group) based on various characteristics. A Global Positioning System (GPS) logs locations and times along each route, providing a map of each bat vocalization along the route.

Preliminary results from 2014 show that the most commonly detected species are Big Brown Bats, Eastern Red Bats, Silver-haired Bats, and Hoary Bats.

Volunteers also assisted with surveys of maternity roosts or "colonies" of Little Brown Bats. This species, once the most



Sonograms showing vocalizations of two "tree," or migratory bats, the Hoary Bat (top) and the Silver-haired Bat (bottom).

abundant in the state, has declined by an estimated 99% due to the effects of WNS. Female Little Brown Bats gather in dry, warm places, such as attics, barns, and church steeples, to give

birth and raise pups, often returning to these sites year after year. Locating and protecting remaining colonies is critical to this species' survival. In 2014, volunteers helped find and survey about 25 colonies, mainly in the southwest part of the state. Homeowners and building managers can help by allowing colonies to remain in place and allowing the bats a chance to reproduce, and perhaps one day recover.

The New Hampshire Bat Survey Project is a partnership with NH Audubon, the NH Fish & Game Department, the U.S. Fish & Wildlife Service, and Northeast Ecological Services.



Little Brown Bats. Photo by Susie von Oettingen.

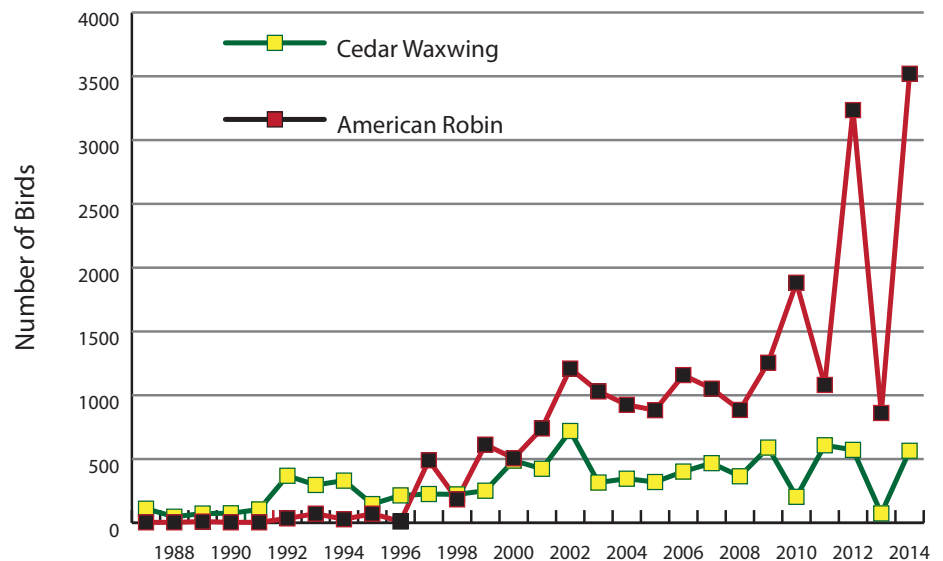
Citizen Science Bird Data

New Hampshire Bird Records, NH eBird, and the Backyard Winter Bird Survey

by Rebecca Suomala

The bird sighting data from Citizen Scientists is an incredibly valuable contribution to our knowledge of birds. Sightings entered in NH eBird form the basis of *New Hampshire Bird Records*, a quarterly publication all about birds and birding in New Hampshire, and provide data for many conservation projects. *New Hampshire Bird Records* coordinates quality review of eBird data with the help of many volunteers. The publication, NH eBird, and all the associated efforts are supported by private donations (including sponsors of the Twitchers in the Rye birding team), the Milne Fund, and the New Hampshire Bird Records Endowment Fund, which has doubled since its inception in 2012. We are grateful for donors to both of these efforts.

Volunteers are continuing to upload historic *New Hampshire Bird Records* data into eBird. This bird sighting data was computerized by NH Audubon from 1986 through 2009 until NH eBird was established. We have now completed 62 towns with more than 60,000 bird sighting records! The



Numbers of American Robins and Cedar Waxwings on NH Audubon's Backyard Winter Bird Survey (1987-2014).

seacoast region is nearly complete thanks to a grant from the Fuller Foundation, and we are beginning Concord area towns with a grant from the Couch Trusts.

The annual Backyard Winter Bird Survey gathers data on long term population trends in resident and wintering birds. Each year 1,500

volunteers report the birds in their backyard on the second weekend in February. This data allows us to see changes in occurrence, such as the increase in wintering American Robins and Cedar Waxwings as shown on the graph. The Survey is supported entirely by private donations.

Mittersill Bicknell's Thrush Surveys

by Laura Deming

In 2014 we conducted the sixth annual survey for Bicknell's Thrush on the Mittersill tract at Cannon Mountain. Part of a formal agreement between the State of New Hampshire and the US Forest Service, these surveys track this sensitive high-elevation species as Cannon Mountain (owned by the state of NH) reclaims Mittersill's long-abandoned trails.

The survey yielded a total of eight Bicknell's Thrush, the most recorded

in any year. Although most birds were identified by sound only, a few approached to within a few feet, providing close but very brief views. In addition to Bicknell's Thrush, we observed eight of the Mountain Bird Working Group's 10 Focal Species, including Black-capped Chickadee, Blackpoll Warbler, Hermit Thrush, Swainson's Thrush, Winter Wren, White-throated Sparrow, and Yellow-bellied Flycatcher.

Because these surveys are done according to a regional protocol developed by the International Bicknell's Thrush Working Group, they contribute to an extensive monitoring program designed to detect changes in the species' breeding population. Continued careful management of the Mittersill tract will help to keep this valuable site an integral part of the surrounding high elevation ecosystem.

Thank You

Donations and grants to the Conservation Department and its specific projects are critical to the support of our work. New Hampshire Audubon's Annual Appeal also provides support to Department programs. Thank you to everyone who contributes to these efforts. We are grateful for donations of all sizes, and we are sorry we cannot list all donors to the Department and its projects.

Conservation Department programs are supported by funds from NH Audubon's Dr. Margery J. Milne and Dr. Lorus J. Milne Biological Science Research Fund. Conservation programs also receive funding from contracts with partner agencies, organizations, and corporations.

A special thank you to Mary Malan and those who donated

to the Conservation Department in appreciation of her service to NH Audubon. Thank you also to the Conservation Department's Birdathon fundraising team.

Funding for wildlife projects received from NH Fish & Game Department contracts comes primarily from State Wildlife Grants, a federal program to assist states with efforts to protect at-risk wildlife species.

Volunteers contribute invaluable time and talent to the Conservation Department, working on all aspects of our many projects, from field surveys to office assistance. Their support is essential to what we do. We cannot list all of their names here but we are very grateful for their dedication and generous support.

Conservation Department Supporters (\$500+)

- Anonymous (2)
- Clara Butler
- George Clark
- Bruce and Sarah Schwaegler
- Arthur and Dawn Stavros
- Plum Creek Corporation
- Betsy Janeway
- Ross Heald
- Tracy Holmes
- Richard Hughes
- Mary Wright

Conservation Department grant support:

- Blake-Nuttall Fund for Olive-sided Flycatcher Surveys
- The Couch Trusts for eBird Data Conversion
- The Cricket Foundation for Butterfly Surveys
- The Davis Foundation for Olive-sided Flycatcher Surveys
- The Dorr Foundation for Bat Surveys
- The Max and Victoria Dreyfus Foundation, Inc. for Bat Surveys
- The Fuller Foundation for eBird Data Conversion
- The NHCf Conservation Research Fund for Rusty Blackbird Research
- The Norcross Wildlife Foundation for Bat Survey Equipment
- The Parker Nelson Foundation for Bat Survey Equipment
- TransCanada for Bald Eagle Restoration



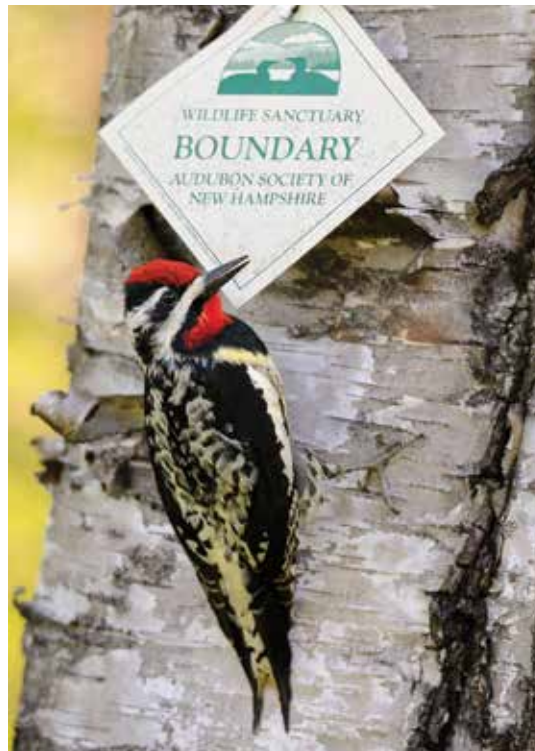
Photo of Chris Martin by Vanessa Jones

NH Audubon Sanctuary Notes

A Summary of Happenings on New Hampshire Audubon's Wildlife Sanctuaries

From the Director of Land Management

Stories from the field abounded from New Hampshire Audubon's statewide system of wildlife sanctuaries last year (4/1/14 to 3/31/15). Staff and volunteers continued their commitments towards stewarding the organization's 7,500 acres on 39 wildlife sanctuaries which range from Pittsburg in the north to Nashua in the south. Our sanctuaries continue to serve as outdoor classrooms for nature camps, classes, and field trips for adults and children alike. With ownership in virtually every part of the state and limited staffing, management of our sanctuaries is accomplished most effectively with partners and through the use of volunteers.



*Yellow-bellied Sapsucker checking out one of NH Audubon's sanctuary boundary signs.
NH Audubon photo.*

The USDA's Natural Resources

Conservation Service is one such partner through whom NH Audubon has benefited tremendously, most notably through contract funding for focused conservation projects. Our work to restore populations of the state-endangered New England cottontail on the Bellamy River Wildlife Sanctuary in Dover and the Smith Sisters Wildlife Sanctuary in Newmarket and Durham are examples of this work in action. Other wildlife-focused projects are focused on bats, bluebirds, Bobolinks, and bumblebees!

Forestry is another habitat management tool NH Audubon uses to enhance the wildlife value of some of its properties. Although the year saw a respite from this activity, the organization is in the midst of planning additional forest stewardship activities that will benefit shrubland wildlife species including many

Inside Sanctuary Notes

Emerald Ash Borer at Silk Farm

Thompson Wildlife Sanctuary
Boardwalk

Pondicherry Field Trip

Birdathon/Bloomathon Fundraising

North Country Nature Tour

Conservation Programs and
Management Planning

Volunteer Projects

See Also, Raptor Observatory
Notes



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of our familiar, but declining, songbirds. Trail enhancement and maintenance to benefit low-impact recreation and outdoor learning is another focus area of NH Audubon's sanctuaries. The Student Conservation Associations' programs helped NH Audubon achieve several accomplishments, restoring and maintaining miles of our sanctuary's trail systems (we manage over 70 miles in all), most notably the Thompson Sanctuary in Sandwich, where an attractive new boardwalk was constructed to once again provide visitors with an exceptional wildlife viewing experience. Additionally, sanctuary stewards, Eagle scouts, students, and others helped the organization maintain its holdings for both wildlife and people. Still, NH Audubon needs stewards who are willing to be our "eyes and ears" on the ground, roll up their sleeves, and get working for wildlife! The following pages highlight a few representative projects and notable accomplishments from the past fiscal year.

A handwritten signature in black ink, appearing to read "Phil Brown".

Phil Brown
Director of Land Management

Emerald Ash Borer found at Silk Farm Wildlife Sanctuary in Concord

by Phil Brown



Emerald Ash Borer "blonding" (light colored patches) and larval tunnels.
Photo by Molly Heuss.

The invasive insect pest, the emerald ash borer (EAB), was discovered in Concord during the spring of 2013. Since then this pest, which is lethal

to ash trees, has spread around the Concord vicinity, and the list of infested towns continues to grow. EAB is now present on the Silk Farm Wildlife Sanctuary at NH Audubon's McLane Center, ironically first located there by biologists during a June 2014 workshop that focused on training birders and other outdoor enthusiasts how to detect its presence. In just one year, many of the ash trees on the Sanctuary have developed signs of infestation. This evidence is easily seen in the so-called "blonding" of the trees – light colored patches on individual trees revealed by woodpeckers that pry away tree bark to eat the larvae. NH Audubon plans to remove trees that are a safety hazard in the Center's parking lot and along trails. While not all ash trees will be cut, another management scenario on the Sanctuary will include a biomass

harvest in conjunction with abutter St. Paul's School next winter, in which ash and other target species will be cut and chipped in accordance with best management practices developed specific to the EAB infestation. Although managers have not yet found a way to stop the spread of EAB, NH Audubon is doing its part to educate the public about the pest. I, along with staff from both UNH Cooperative Extension and NH Division of Forests and Lands, and volunteers, have been presenting a program to NH Audubon Centers and Chapters around the state focused on EAB sign and field identification. There is also an interesting connection to woodpecker populations that some researchers have observed that will be detailed in an article to be published in next winter's NH Bird Records journal. For more information about EAB, please visit nhbugs.org.

Thompson Wildlife Sanctuary Trailhead Restoration and Boardwalk Project, Sandwich

by Phil Brown

In 2014, NH Audubon was awarded a Recreational Trails Program grant through NH Department of Resources and Economic Development that covered the costs of a 10-day conservation crew from Student Conservation Association NH AmeriCorps (NHCC) to restore low-impact recreation access on the Thompson Wildlife Sanctuary in Sandwich. The crew worked swiftly and effectively during September to complete a 160 foot-long cedar boardwalk which provides improved viewing of the extensive marsh system that is home to a great diversity of birds and other wildlife species. The Sanctuary, which is protected through a “forever wild” conservation easement held by the Northeast Wilderness Trust, has an allowance for trails and an observation platform defined within a special management area. During the 10 days, the six-person crew of young adults worked closely with me and supervisors from the Corps in restoring foot access to the all but abandoned stretch of trail. The crew also built an attractive trailhead kiosk and made

physical improvements to the parking area and other sections of trail, making it once again a great place to observe wildlife and enjoy the tremendous views of the White Mountains and Ossipees. Generous businesses, donors and neighbors lent a hand to the project, and NH Audubon was especially fortunate to have the support of A & B Lumber Company, Ambrose Bros.

Inc., David & CC White, The Alfred Quimby Fund, and friends and family of Charles Kolias who made a memorial gift in his honor to support the kiosk and signage. NH Audubon plans to extend the boardwalk further into the marsh during the fall of 2015 thanks to The Alfred Quimby Fund and supporting partners.



*A view of the Sandwich Range from the future location of the Thompson Sanctuary platform.
Photo by Phil Brown.*



*Student Conservation Association NH AmeriCorps members building the Thompson Sanctuary kiosk and boardwalk in Sandwich, NH, September 2014.
Photos by Phil Brown.*

Hikers enjoy the new boardwalk at Thompson Wildlife Sanctuary.

Pondicherry International Migratory Bird Day Field Trip a Perennial Success

by Phil Brown



Birders on the Tudor Richards Platform at Pondicherry Wildlife Refuge during the International Migratory Bird Day field trip on May 10, 2014. Photo by Sheridan Brown.

Below is a recap of just one of the many exciting field trips to NH Audubon sanctuaries throughout the year. I chose this one because it highlights a particularly special annual tradition.

Thirty-five participants braved a rainy morning on May 10, 2014 to participate in International Migratory Bird Day (IMBD) at the Pondicherry Wildlife Refuge in Jefferson and Whitefield, NH. This annual field trip, which I co-lead with Dave Govatski and other leaders, is also a tribute to Tudor Richards, NH Audubon's first President and the "Father of Pondicherry," one of the organization's first wildlife sanctuaries. Pondicherry (then less than 200 acres) has since grown to over 5,000 acres, the

bulk of which is owned and managed by the US Fish and Wildlife Service.

Birders had an amazing day highlighted by a "fallout" of 21 warbler species, primarily at Waumbek Junction at the outlet of Cherry Pond. After a rainy start at 5:30 am, we enjoyed clearing skies and warm temperatures the rest of the day. The group had clear views of eight warbler species, including male Cape May and Chestnut-sided Warblers from the Tudor Richards Viewing Platform at Cherry Pond, and over a dozen others along the Shore Path, including a single male Bay-breasted Warbler along with a bright red Scarlet Tanager in the next tree. The number of Yellow-rumped Warblers was well

over 300, and they were actively feeding for insects. The Cape May, Wilson's and Bay-breasted Warblers, and a male Black-backed Woodpecker on the Little Cherry Pond Trail were life birds for several participants. Tudor once said that his idea of heaven was 'all the warblers singing together in his favorite place' - he would have been delighted this day. Some memorable observations included sighting a pair of Northern Harriers doing a food exchange, a Brown Creeper building a nest, and the astonishing warbler spectacle from the shore of Cherry Pond.

The 101 species observed on the 2014 trip was the second highest in the 14 years of IMBD field trips at Pondicherry (with 103 being the all-time high). In addition to birds and increasing visibility of the still snow-capped Presidential Range, we enjoyed sightings of otter on Little Cherry Pond, Beaver, Muskrat, Snowshoe Hare, and several Red Squirrels. Painted Turtles were seen sunning and we also tallied Spring Peepers, a Garter Snake, and Green, Pickerel and Bull Frogs. After an Ammonoosuc Chapter program on Bird Watching in New Hampshire by Eric Masterson, we finished IMBD with a singing woodcock and a whip-poor-will (first of the year) heard from the vicinity of the Mud Pond.

Thanks to Dave Govatski for help with this summary.

Birdathon/Bloomathon Raises Funds for Wildlife Sanctuaries

by Phil Brown

New Hampshire Audubon's Centennial Birdathon/Bloomathon on May 17, 2014 saw a revived interest from participants and fundraisers alike. Nearly 130 participants on 25 different teams spread out across the state in

search of birds and blooms, tallying 186 bird species and upwards of 50 blooming plants, and raising over \$13,000 in support of NH Audubon's programs, centers, and chapters. Three fundraising/birding teams and dozens of

donors helped the Wildlife Sanctuaries team bring in over \$2,000 for the event – the most of any team. Thank you to all sponsors for your support!

North Country Nature Tour 2014 and August Tour Announcement

by Phil Brown

Nine participants joined NH Audubon in late August for a special nature tour of New Hampshire's North Country. I joined Bob Quinn, volunteer and proprietor of Merlin Wildlife Tours, to lead the three-day bird and wildlife watching expedition that featured some of the special places NH Audubon has had a role in protecting and stewarding over the decades. Participants enjoyed excellent bird and wildlife sightings, stunning scenery, and splendid accommodations and dining on Pittsburg's Back Lake.

The tour started with a half-day exploration of Pondicherry Wildlife Refuge, one of NH Audubon's first sanctuaries, where we were joined by NH Audubon volunteer, Dave Govatski. Several participants enjoyed their first visit to Cherry Pond and first looks at a Cape May Warbler, as well as distant looks at the trip's first Northern Harrier and a flying Pied-billed Grebe. Day Two included stops at such diverse locations as the East Colebrook grasslands (to successfully view breeding harriers and American Kestrels), and Scott Bog in Pittsburg, a wetland surrounded by boreal forest near the Canadian border. Stunning looks at a perched Merlin and a cryptically camouflaged Ring-necked



North Country tour participants in Pittsburg, August, 2014. Photo by Phil Brown.

Duck on a beaver pond were other highlights.

The final day of the tour, however, yielded the most spectacular treat for many – a half-day pontoon boat tour of Lake Umbagog. Captain Flip Nevers guided our group through history and the remote, wild backwaters of the Androscoggin and Magalloway Rivers into wild wetlands, Sweat and Harper's Meadows, and out onto the

open water of Lake Umbagog. It was here where we came across one of the trip's real surprises, a group of three Bonaparte's Gulls, a rare inland treat! Breathtakingly close views of Common Loons, Bald Eagles, and Ospreys, as well as a swimming red squirrel (another surprise), were other memorable moments of this special boat tour.



The North Country Tour returns **this August (2015)** with Phil and Bob, and we've added an extra day! Don't miss this special opportunity to travel with NH Audubon and explore some additional locations in the Upper Connecticut River valley – contact Phil today at (603) 224-9909x334 or pbrown@nhaudubon.org if interested.

Cape May Warbler. Photo by Lloyd Alexander.

NRCS Funding for Conservation Programs and Management Planning

by Phil Brown

NH Audubon continues to benefit from USDA Farm Bill programs that have generated funding for wildlife species restoration and habitat management across the state. Several cost-share funding contracts acquired through the USDA's Natural Resources Conservation Service (NRCS) have enabled the organization to manage lands for shrubland wildlife species. Management is accomplished through installing "patch cuts" on marginal second-growth forest and through planting fields and other open areas with native shrub species. The state-

endangered New England Cottontail has been a driver of this management work at several of NH Audubon's Seacoast-area wildlife sanctuaries including the Follett's Brook properties (Newmarket) and Bellamy River (Dover). Other shrubland-dependent wildlife species, from warblers to woodcocks, and black racer snakes, also stand to benefit from broad-scale shrubland management projects. NRCS cost-share funds are also being used to create a forest management plan for the Kensan-Devan Wildlife Sanctuary in Marlborough. This plan will help

determine where opportunities exist to manage for a wide diversity of wildlife species and recreation opportunities, and will also focus on designating "forever wild" acreage that will protect a suite of plants, wildlife, and other values. Other cost-share funding will permit NH Audubon to plant pollinator and shrubland species and control invasive plant species at the Silk Farm Wildlife Sanctuary in Concord. Volunteers are always welcome to assist us! Contact me at pbrown@nhaudubon.org for more details or to get involved.

Volunteer Project Briefs

by Phil Brown



*Stoney Brook Wildlife Sanctuary trail-building volunteers, October 2014.
NH Audubon photo.*

Sanctuary stewards, school and scout groups, and other organized groups of individuals came together to help NH Audubon accomplish several key recreation improvements of trails and trailhead facilities during the year. One such partner is the Student Conservation Association NH AmeriCorps (NHCC). NH Audubon and NHCC teamed up to celebrate National Trails Day through a day of service focused on public access

improvements to the Silk Farm Wildlife Sanctuary in Concord on June 7, 2014. Nearly 40 volunteers participated from both the adult and high school programs. By day's end, the volunteers had completed a new footbridge over a creek on the Great Turkey Pond Loop trail, re-pointed and stabilized a bog boardwalk and observation platform on Great Turkey Pond, placed a recycled footbridge over a wet crossing along the Old Orchard Trail, secured large stepping stones across a muddy stretch of trail, closed unauthorized spur trails near the parking lot, and brushed back an overgrown section of the Old Orchard Trail! No wonder they so quickly devoured the 15 pizzas that were generously donated by Vinnie's Pizzeria, Brookside House of Pizza, and Constantly Pizza in Concord. Thanks to the work of these volunteers, visitors will be able to enjoy these improvements for many years to come. NH Audubon looks forward to continuing this new partnership with another service project on National Trails Day 2015.

Other key volunteer projects included trail building on a newly-acquired parcel of the Stoney Brook Wildlife Sanctuary in Newbury (pictured), where partner organizations Sunapee-Ragged-Kearsarge Greenway and the Ausbon-Sargent Land Preservation Trust joined NH Audubon in creating a spur off of the Greenway Trail to an attractive old cellar hole site. Volunteer sanctuary stewards continued wildlife management and/or visitor service improvement projects at a number of wildlife sanctuaries including: Scotland Brook (Landaff), Dahl (North Conway), Thompson (Sandwich), Kwaks (Newmarket), Bellamy River (Dover), Massabesic (Auburn), Hebron Marsh (Hebron), Pondicherry (Jefferson), Ponemah Bog (Amherst), and Popple Island (Epsom).

NH Audubon currently has a need for sanctuary stewards – contact me if you are interested!

Raptor Observatories a Soaring Success in 2014

by Phil Brown

NH Audubon's two raptor observatories, Pack Monadnock in Peterborough, and Carter Hill in Concord, had a successful 2014 hawkwatch season. At each site, a NH Audubon seasonal naturalist and a team of volunteers collected hourly migration data almost daily for two and one-half months (over 1,000 hours between the two sites), continuing to add to the growing database of raptor migration information in both New Hampshire and well beyond the state's boundaries. We reached many thousands of visitors during the fall months through numerous school visits, formal education programs for kids and adults, and the constant, casual learning opportunities that the observatories afford. The relationships between NH Audubon and our hosts, Miller State Park in Peterborough and Carter Hill Orchard in Concord, continue to strengthen and grow, and the level of community support has increased with new corporate partners playing a greater role in 2014. In particular, we wish to recognize Ed Reilly Subaru of Concord, for key support.



A rehabilitated Broad-winged Hawk takes flight from the Carter Hill Raptor Observatory platform, September 2014. Photo by Jen Esten.

With each passing fall season, the bigger picture of raptor migration trends becomes a little clearer as a growing dataset means a larger sample size from which to draw conclusions. The 2014 season yielded (as always) some stark



A busy day at the Carter Hill Hawkwatch platform in Concord, 9/14/14. Photo by Steve Bennett.

differences between our two sites, as well as some striking similarities. The most notable and obvious difference was the number of Broad-winged Hawks, for which Pack Monadnock tallied over 7,000 more than Carter Hill! As the Broad-winged numbers always represent 60-80% of our total raptor flight for the season, this accounted for the greatest difference in overall numbers. Aside from this species, the season was fairly similar between the two locations. In general, the overall numbers of almost every other species were similar or lower than in past seasons. Records set in 2014 included Bald Eagle at Pack Monadnock (119) and Northern Harrier at Carter Hill (87). September 29 was a day for the record books as single-day high counts were tallied for American Kestrel (56) and Northern Harrier (24) at Carter Hill, and for Peregrine Falcon at Pack Monadnock (12). A single Rough-legged Hawk at Pack Monadnock, only the third record for the site, was the season's most unusual raptor migrant.

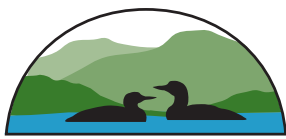
Pack Monadnock celebrated the milestone of reaching the tenth full season of coverage in 2014, enabling its data to be utilized by the Raptor Population Index (RPI), a tool that helps determine continent-wide raptor population estimates. RPI utilizes raptor data from the HawkCount.org

database made available by the Hawk Migration Association of North America (HMANA), a project partner.

The Pack Monadnock hawkwatching community is as good at celebrating successes as any group of volunteers out there – save for the Carter Hill regulars, maybe – and both did so throughout the season with birds, friends, food, and fun. The annual “Big Soup” and “Core Wars” culinary events add spice and celebration to the growing cadres of raptor enthusiasts at these hawk watches. Commemorative t-shirts and hooded sweatshirts were designed (by naturalist Katrina Fenton) and made available to NH Audubon, thanks to the generosity of The Mountain Corporation of Keene. A big round of thanks to all of the volunteers, donors, supporters, and visitors who continue to make NH Audubon's raptor migration monitoring efforts successful year after year!

Thank you to the following sponsors: Ed Reilly Subaru, Hawk Migration Association of North America, The Mountain Corporation, Stokes Nature Company, Nature's Green Grocer, sustaining donors and many individuals.

For more information or to see final season reports from each site, visit nhaudubon.org/get-outside/raptor-observatories/.



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- Charles Kolias Memorial Gift – support of Thompson Wildlife Sanctuary, Sandwich
- Joanne and Kevin Jones – support of Scotland Brook Wildlife Sanctuary, Landaff
- Fabulous Finds Thrift Shop – support of Bellamy River Wildlife Sanctuary, Dover
- Many generous individuals contributing through Birdathon/Bloomathon, specific sanctuary projects and memorials, and through in-kind gifts.
- Sanctuary stewards, and many individuals and groups who have volunteered their time in helping NH Audubon manage wildlife sanctuaries, monitor wildlife, or educate the public.

