

New Hampshire Dragonfly Survey Sets New Records

by Pam Hunt

By all measures, 2010 was a phenomenal year for the New Hampshire Dragonfly Survey (NHDS). Training sessions in the spring attracted 86 people, volunteers put in over 1,800 hours, data were collected from 158 towns, and 150 species were reported – including two never before recorded in the State. We finally managed to expand coverage significantly in northern New Hampshire, through a combination of surveys by individual volunteers and two multi-day “Coos OdoBlitzes” that focused on the Town of Pittsburg in the northern tip of New Hampshire. Not to be outdone, volunteers near the coast continued to add new species records for several towns.

During the first four years of the NHDS the number of towns with 50 or more species documented increased from 35 in 2006 to 75 towns at the end of 2010. The number of towns with at least 75 species (roughly half the total number of species recorded in the State as a whole) went from eight to 21 in the same period. There is still room for improvement in northern New Hampshire, along the Connecticut River, and along the Massachusetts border in the extreme southeast, and these areas will be targeted in 2011.

So what did we find in 2010? Topping the list was a first state record of Striped Saddlebags, in Chichester. This is a tropical species that occasionally wanders north, but was never really considered a possibility in New Hampshire. Much more expected was Carolina Saddlebags, which occurs regularly in eastern Massachusetts but hadn't been documented in New Hampshire until July of 2010, when it was found at several locations near the Seacoast. Also in the southern part of the State, we found two new locations for the endangered Ringed Boghaunter, now known from ten sites. In central New Hampshire, there were two captures of the rare Subarctic Darner (Washington and Moultonborough) in August, representing only the second and third times this species has been documented in the State.

Moving north, extensive coverage of the western White Mountains netted us (pun intended) Sedge Darner and both Lake and Ringed Emeralds. The darner was the first record since 1973, and the Ringed Emerald is known from only a handful of ponds above 1,500 feet. And far to the north, an “NHDS Posse” found the third state record of Incurvate Emerald at South Bay Bog in Pittsburg. Throughout the State, it was a great year for both Northern and Southern Pygmy Clubtails (found at roughly a dozen sites), Lake Darners (at practically every lake in the north and west!), and many other equally fascinating insects.

It is thus with some sadness that volunteers prepare to enter the fifth and final field season for the NHDS. Although the project will be officially over, we will likely develop a mechanism by which people can continue to contribute data and improve our understanding of dragonfly and damselfly distributions across New Hampshire. The NHDS is funded by the NH Fish and Game Department and private donations.



THE INCURVATE EMERALD CAUGHT IN PITTSBURG AND THE “NHDS POSSE” RESPONSIBLE FOR ITS DISCOVERY. PHOTOS BY PAM HUNT.

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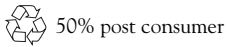
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Banner photo by Pam Hunt



Letter from the Director

I am delighted to share this report on the 2010 activities of New Hampshire Audubon's Conservation Department. We had a busy and productive year both in the field and in the office, continuing long-term monitoring efforts, participating in regional conservation partnerships, initiating new field projects, and addressing land use policy issues.

Highlights of the year included radio telemetry studies of Eastern Whip-poor-wills, Rusty Blackbirds, and fledgling Bald Eagles, and the pilot field season for our new Swallow CORE initiative. The following pages provide details on these and the many other Department projects.

With your support and the help of our dedicated volunteers, the Conservation Department is hard at work furthering New Hampshire Audubon's mission to protect and enhance New Hampshire's environment for wildlife and for people.

You are an important member of New Hampshire's conservation community, and we appreciate your partnership.

Carol R. Foss

From the President

The Conservation Department continues to take on vital conservation work in New Hampshire, and your support is a critical component of our success. Many of our wildlife projects are also supported by funding from State Wildlife Grants (through the US Fish and Wildlife Service and the NH Fish and Game Department). Since its inception in 2000, the State Wildlife Grants program has provided critical funds for wildlife conservation projects, including NH Audubon's work with Bald Eagle and Peregrine Falcon recovery and NH Fish and Game's work on white-nose syndrome in bats. Unfortunately this and other federal funding programs for important conservation work are in jeopardy in the federal budgeting process. Please let your federal representatives know that you support funding for conservation programs such as State Wildlife Grants and those that protect endangered species, wetlands, and working forests.

We deeply appreciate your support of New Hampshire Audubon, and look forward to updating you on our 2011 activities.

~ Mike Bartlett



NH AUDUBON BOARD MEMBER, DAVIE RIES HOLDING A PEREGRINE FALCON CHICK FOR BANDING AS CHRIS MARTIN (LEFT) LOOKS ON. THE CHICK WAS ONE OF FIVE (A NH RECORD) FROM THE NEST IN DOWNTOWN MANCHESTER, SEE PAGE 8. PHOTO BY SARAH GATZKE.

Staff News

Rebecca Suomala finally published the first paper from her master's degree research on songbird habitat use during migration stopover. Long time NH Audubon members will remember reading about her bird banding on Star Island in 1999 and 2000. The paper appears in the December 2010 *Wilson Journal of Ornithology*, Vol. 122.

Pamela Hunt published a summary of dragonfly records from along the Connecticut River in the June issue of *Northeastern Naturalist* (Vol. 17). In addition, her photograph of an emerging dragonfly graced the cover of that issue of the journal.

We are proud to report that Chris Martin was identified by The Hippo as one of the Ten Big Players in 2010. That's an honor that biologists don't usually expect to receive!

Regional Bird Conservation

by Pam Hunt

In March 2010, NH Audubon and NH Fish and Game released New Hampshire's first "State of the Birds" report, which provided an overview of bird population trends and conservation issues for all of New Hampshire's breeding species. In the year since, we have been involved in several projects with the goal of implementing some of the recommendations in the report, a few of which are summarized below.

The entire global range of the Saltmarsh Sparrow fits into the narrow strip of coast between Portland, Maine and Chesapeake Bay. Within this range, salt marsh habitat has been heavily degraded by a long history of human activity such as ditching and filling. Salt marshes are also highly vulnerable to climate change, since rising sea levels are likely to force the habitat to migrate inland – where it quickly comes up against heavily developed areas such as the Route 1 corridor. The Saltmarsh Sparrow is often considered an indicator of healthy salt marsh ecosystems, and reaches higher densities in larger and more pristine areas of habitat. Efforts to conserve Saltmarsh Sparrows got a major boost when several partners received a \$700,000 grant to conduct a range-wide study of the species, including measurements of abundance and reproductive success. Although New Hampshire is not among the recipients of the grant, and despite our relatively small coastline, we are moving forward to help implement the larger Regional project here in the Granite State. Working with UNH, the Great Bay National Estuarine Research Reserve, and the University of Maine, NH Audubon will be helping ensure that our share of salt marsh is effectively monitored for Saltmarsh Sparrows. Results of field work in 2011-2012 will inform how this habitat is monitored in the long term, and also identify areas of salt marsh that are most critical from a conservation perspective.

The high elevation conifer forests of the White Mountains are about as far away as you can get (both ecologically and geographically!) from our coastal salt marshes, and here we find another species of regional conservation concern – the Bicknell's Thrush (see also the article on monitoring at Mittersill, elsewhere in this newsletter). The high ridges where these thrushes are found are also prime sites for wind farms, thus ensuring the occasional conflict between bird conservation and the need for clean energy. Working with the International Bicknell's Thrush Conservation Group, NH Audubon is leading an effort to pro-actively identify areas within the range of Bicknell's Thrush (New York through Nova Scotia) that are at greatest potential risk from wind farm development. A second component of this initiative would also develop tools to standardize habitat assessment at sites identified for such development. Both these efforts are in their very early stages, but hopefully will make some significant progress in the next year as we try to line up funding and identify key players in the analyses.



SALTMARSH SPARROW BY JASON LAMBERT.

Among the most rapidly declining groups of birds identified in the "State of the Birds" were those of early successional habitats: shrublands and grasslands. NH Audubon remains very active in regional working groups for these two habitats, and in October of 2010 helped organize meetings of both groups at a regional bird conservation conference in Plymouth, MA. Important goals of both groups include the need to set population (or habitat) goals against which we can evaluate future progress. And for such progress to occur, we also need to identify the sorts of management practices that have the greatest potential to help these species on the ground. Coordinating such activity across the entire Northeast (13 states!) won't happen quickly, but New Hampshire is committed to being at the table for the future benefit of these declining species.

Another group showing rapid declines is the aerial insectivores. Please see the separate article on our new project: "Swallow CORE," elsewhere in this newsletter. Work on regional bird conservation is funded through a contract with the NH Fish and Game Department. Some salt marsh work is also funded through a previous grant from the Davis Conservation Foundation.

Coming Soon!

The State of New Hampshire's Birds – A Conservation Guide

Another outgrowth of "The State of New Hampshire's Birds" report is an upcoming NH Audubon publication that puts the report's technical information in a more general context. The idea is to make this important material more accessible to conservation commissions, planning boards, and other interested conservationists. The Guide is in the publication phase as this newsletter is being written, and will be available both in print and online when completed. So check the NH Audubon website or subscribe to our electronic newsletter to get updates on its status. Funding for development of this publication was received from the Biber Foundation.

Rusty Blackbird Research Diversifies

by Carol Foss

Conservation Department staff and volunteers continued to document Rusty Blackbird distribution in northern New Hampshire during the 2010 breeding season. Surveys at 105 locations yielded 32 active territories. Field staff monitored 11 nest sites through the nesting period, documenting two that failed and nine that successfully fledged young. Collaborating researcher Patricia Newell (University of Georgia) banded and tissue sampled 29 adult and 32 young-of-the-year Rusty Blackbirds, and attached radio transmitters to six adult males, five adult females, and eight young. Four of the adults were recaptures of individuals banded on the same territories in 2009.

Field staff braved blackflies, mosquitoes, mud, and dense vegetation to follow the radio-bearing birds, and collected the first information about this species' post-fledging behavior in the northeast.

After leaving the immediate vicinity of the nest, most pairs moved their young to a densely vegetated, forested wetland nearby. The young remained hidden there while the adults traveled back and forth to foraging areas. Numerous families congregated in these wetlands, which made it a challenge to keep track of which fledglings belonged to which adults. We also observed unbanded adults and fledglings in these congregations, so we know there are more breeding territories that we haven't yet located.

Once the young were able to fly well, families and groups of families traveled together. We observed individuals or families visiting other pair's breeding territories after the young had fledged, a phenomenon known as prospecting. Families ultimately concentrated in riparian areas along a stream, where they moved among various wetland and upland habitats to forage.

These areas bustled with foraging birds, and kept observers scrambling trying to observe color bands. These attempts frequently paid off, enabling us to document many of the individuals using the various foraging areas. The most exciting discovery was a family whose nesting territory was 10 miles away!

I have joined the International Rusty Blackbird Working Group Steering Committee, and am coordinating the development of a new Rusty Blackbird Conservation Plan to guide research and monitoring efforts for the next five years. Plans are already underway for the 2011 field season, and we look forward to more exciting discoveries about this enigmatic species in the months ahead.

This work would not have been possible without an outstanding team effort: Rachel Rabinovitz, Eian Prohl, Hope Batcheller, and Jon Nelson were outstanding field technicians; Patti Newell, Sean Hribal, and Sam Edmonds applied bands and radios; Laura Deming assisted with radio tracking; Vanessa Jones prepared numerous GIS maps; Harold Nevers provided field housing; Lighthawk provided an aerial telemetry survey; the Errol Motel provided internet access; Sara Kimball provided data entry support; Sarah Koval assisted with field season preparations; Dartmouth College, Lorraine Turner, and the Umbagog National Wildlife Refuge provided logistical support; the Charles Blake Fund of the Nuttall Ornithological Club, the Conservation Biology Fund at the New Hampshire Charitable Foundation, NH Audubon's Milne Fund, Wagner Forest Management, the William P. Wharton Trust, and anonymous donors provided financial support.

"Collateral Discovery" of Rare Butterfly in Kingston

by Pam Hunt

On May 7, 2010, I joined two of my dragonfly volunteers (Dennis Skillman and Robert Shea) in a search for the State Endangered Ringed Boghaunter in southeastern New Hampshire. After finding none at the Webster Wildlife Area in Kingston, we were about to leave when a butterfly landed in the road in front of us. Not wanting to pass up such an opportunity, we all started taking pictures, and that's when Dennis (viewing the insect through his telephoto) commented "what a neat shade of green." At that point my brain came to attention, since there are really only two green butterflies in the northeast. One of them is Hessel's Hairstreak, a rare specialist on Atlantic White Cedar – a tree that happened to be all around us. However, I had no idea how to tell a Hessel's from the more common Juniper Hairstreak (which I also didn't even know the name of at the time!), so it wasn't until later in the afternoon (and after finding boghaunters elsewhere) that we stopped by Dennis's house to get a butterfly field guide and compared our photos to the book. The unob-

trusive butterfly that just happened to land in front of us was indeed a Hessel's Hairstreak! It also turned out to be only the second record ever for New Hampshire (the first was from nearby Hampstead more than 20 years ago). In other words, this insect was so rare that we weren't even sure it still existed in the state, and as a result it wasn't even on our conservation radar. Dennis coined the term "collateral discovery" to reflect the pure and wondrous coincidence of this significant find. And the moral of the story is that you never really know what you'll find when you're outside looking at the natural world.



THE HESSEL'S HAIRSTREAK.
PHOTO BY ROBERT SHEA.

Bald Eagle 2010 Breeding Season

by Chris Martin

The 2010 New Hampshire Bald Eagle breeding season was exciting and ground-breaking in several respects. Working with support and cooperation from federal and state agencies, corporate partners, and local landowners, Conservation Department biologists and volunteer observers located more territorial Bald Eagle pairs and confirmed identities of more individual eagles than ever before, and also used satellite technology for the first time to begin tracking a few of New Hampshire's fledgling eagles after they left their nests.

The 22 territorial pairs and 14 incubating pairs documented in the Granite State this year are both record highs for the post-DDT era. But despite more pairs and more nesting attempts, productivity lagged in 2010; one late April snowfall event in northern New Hampshire was largely responsible. Happening right at hatch time, the heavy snow contributed to three simultaneous nest failures north of the White Mountains. Overall, nine of the state's 14 incubating pairs fledged young this year, 25% fewer successful nests and 30% fewer fledglings than in 2008's record-setting year.

The state gained three territorial eagle pairs compared with 2009, adding four pairs in Auburn, Boscawen, New Durham, and Northumberland, but losing one previously present on Lake Umbagog. And New Hampshire's statewide totals do not include seven additional border-nesting pairs (five in Vermont on the Connecticut River, and two in Maine on Lake Umbagog) because their nest trees are actually located within these neighboring states. New Hampshire's shared 275-mile border with Vermont along the Connecticut River now supports a total of 10 nesting eagle pairs (five in NH, five in VT), whereas a decade ago only one pair was known on the river. NH Audubon biologists have been able to share expertise and work closely with Vermont Fish & Wildlife regional biologists to better monitor and manage this shared population thanks to continued support provided by TransCanada's Community Investment Program.

After a long wait, it now appears that the Merrimack River corridor is attracting the attention of several prospecting eagle pairs. However, locating their nests (if they actually exist) has been a challenge. In 2010 we documented three new breeding age pairs, on Massabesic Lake, on the Merrimack in Boscawen, and above Franklin on the Pemigewasset River, which is a major tributary to the Merrimack.

A grand total of 140 Bald Eagle chicks have fledged from nests in the state since this state-threatened bird began nesting here nearly 25 years ago after an absence of several decades. Fully two-thirds of all the state's eagle fledglings (post-DDT era) have been produced in just the past five breeding seasons, during which time 90 young eagles have fledged from New Hampshire nests.

Working with cooperators from the US Fish & Wildlife Service and BioDiversity Research Institute, we banded 30% of the state's nestling eagles in 2010, including two chicks each at



BALD EAGLE CHICK AT THE NEST ON BLUEBERRY ISLAND IN MOULTONBOROUGH RECEIVING A SATELLITE TRANSMITTER, 6-17-10. PHOTO BY NORM LESSER.

nests on the Connecticut River in Plainfield and on Lake Winnepesaukee in Moultonborough, and one chick at Merrymeeting Marsh in New Durham. Additionally, thanks to an ongoing grant from the National Fish & Wildlife Foundation, three juvenile eagles from two nests in Moultonborough and New Durham were fitted with backpack-style satellite transmitters that have enabled us to track their dispersal patterns regardless of where they roam and learn more about the challenges and hazards they face during their first migration.

NH Audubon's Bald Eagle monitoring and management work is supported by a federally-funded contract with the NH Fish & Game Department, by grants from TransCanada Corporation and the National Fish & Wildlife Foundation, and by NH Audubon donors and volunteers. Thanks for your interest and partnership, and for your continued support!



JUVENILE BALD EAGLE WITH SATELLITE TRANSMITTER, 9-6-10, NEAR BLUEBERRY ISLAND ON LAKE WINNIPESAUKEE. PHOTO BY LAUREN GOLDSMITH.

NH Audubon Collaboration with Lakes Regional Planning Commission Benefits Gilmanton

by Carol Foss

Local land use decisions play a critical role in determining the future of New Hampshire's natural resources. Whether by enacting zoning regulations or encouraging voluntary practices, municipal planning boards help shape the changing faces of our cities and towns. The documents that govern local land use – master plans, zoning ordinances, and subdivision and site plan review regulations – can be important tools for protecting natural resources for future generations.

NH Audubon's Conservation Department participated in a recent collaboration with the Lakes Regional Planning Commission to produce a "Coordinated Review of Land Use Planning Documents with Respect to Wildlife Habitat, Natural Resources, and Smart Growth Principles" for the town of Gilmanton. Our contribution to this assessment involved three components. We reviewed the Town's land use planning documents with respect to 18 topics from agricultural lands to wildlife habitat, and provided suggestions and sample language for possible revisions to strengthen natural resource protection. We compared the distribution of important natural resources with the local zoning map, and evaluated how well each zoning district protects these resources. We also used the New Hampshire Wildlife Connectivity Model to identify potential routes for wildlife movement between protected lands within the Town and in the surrounding region. Funded by the Samuel P. Pardoe Foundation, the Gilmanton project followed previous Lakes Region assessments for Bristol, Franklin, and Laconia.

Communities interested in further information about these assessments may contact me for more information.

Whip-poor-will Project Update

by Pam Hunt

Study of secretive nocturnal birds is never easy, and in 2010 there was good news and bad news for NH Audubon's ongoing research project on Eastern Whip-poor-wills*. There was lots of good news, including much better weather than in 2009, a great field crew, and some interesting findings (stay tuned!). The bad news is that these critters remain quite a challenge to catch, and we were only able to attach two radio transmitters last summer. Another bit of good news though: neither of the transmitters fell off the next day (as happened in 2009) and we were able to get more than a month of data for each bird.

An important addition to "Team Nightjar" is Kyle Parent, a graduate student at Plymouth State University, and the lead when it comes to the radio telemetry work. Kyle hopes to learn more about detailed habitat use by this species, including

things like the selection of roost sites, and why some parts of territories are used more than others. Using radio-transmitter data and not having to rely on calling birds to determine their locations will obviously be a great help to such endeavors. At this writing, however, Kyle is still working on the 2010 telemetry data, so we aren't able to draw any clear conclusions yet.

In between trying to catch whip-poor-wills and tracking the birds with radios, we continued to map singing males at Mast Yard State Forest in Concord and Hopkinton. The basic pattern of territory selection remains unchanged from 2008-09, with birds preferring open areas of forest or forest edges. As mentioned in the March, 2010 issue of Conservation Notes, however, a private landowner selectively harvested 50 acres of pine just north of the state forest late in the summer of 2009. We were particularly interested in whether birds would settle in this area in 2010, and were not disappointed: three males managed to fill up most of the cut, whereas there were no birds there pre-harvest in 2008-09. This is a particularly noteworthy finding, since it suggests that whip-poor-wills can respond quite rapidly to habitat management. We'll have a second chance to test this hypothesis in 2011, since over the winter another harvest is taking place at Mast Yard, this time in the state forest and again in an area where we have not detected whip-poor-wills activity to date. Will there be a few more birds to follow when the first full moon of the season rises in mid-May? You can guarantee that our dedicated cadre of nocturnal ornithologists will be there to find out!

The Whip-poor-will project is funded by the NH Fish and Game Department and private donations. Volunteers play an important role in helping with field work.

* The reason we're calling them "Eastern Whip-poor-wills" now is because the American Ornithologists' Union recently determined that the whip-poor-wills in the southwest are a different species: the Mexican Whip-poor-will. The two species have distinctly different calls, and also differ in their genetics. Their official names have been changed to reflect the new species status.



WHIP-POOR-WILL WITH RADIO TRANSMITTER AT MAST YARD STATE FOREST, NH. PHOTO BY KYLE PARENT.

Mittersill Bicknell's Thrush Surveys

by Laura Deming

For the past two summers, NH Audubon biologists have conducted surveys for Bicknell's Thrush (*Catharus bicknellii*) on the old Mittersill ski area located along the northern ridge of Cannon Mountain in Franconia, NH. Bicknell's Thrush breed in high elevation and coastal spruce-fir forests of the Northeast and Canadian Maritimes, and winter in the Caribbean islands. This species has suffered dramatic population declines over the past several decades, and is considered a Nearctic-Neotropical migrant of highest conservation concern in the Northeast, a globally "Vulnerable" species by the International Union for the Conservation of Nature, and a Regional Forester Sensitive Species on the White Mountain National Forest.

Concern for Bicknell's Thrushes that breed in the high elevation forests of Cannon Mountain led to an agreement between the US Forest Service and the State of New Hampshire that outlined criteria for a land exchange. In March 2009, the Forest Service transferred to the State a 100-acre parcel adjacent to the Cannon Mountain Ski Area in exchange for the 244-acre Sentinel Mountain Forest in Warren, which was added to the White Mountain National Forest. The State's objective in acquiring the Mittersill Tract was to be able to rehabilitate and manage the old ski area as part of Cannon Mountain.

The Agreement, which also involved the NH Fish and Game Department and NH Audubon, stipulated that management of the old ski area above 2500 feet would be limited to the 1989 footprint of trails and lift lines. This was to ensure minimal impact to Bicknell's Thrushes breeding in the high elevation spruce-fir habitat of the Mittersill Tract. In addition, the State agreed to fund an annual survey of the Mittersill parcel to document the presence of Bicknell's Thrush and track population changes over time.

Surveys in 2009 and 2010 confirmed Bicknell's Thrush on the Mittersill Tract above 3000 feet. Forest cover surrounding these points was typical of the species' breeding habitat, with stunted balsam fir, scattered standing dead trees, and patchy openings created by wind and ice damage. Suitable breeding habitat for Bicknell's Thrush is fairly abundant throughout the White Mountains and other high elevation areas of the Northeast, yet this species has disappeared from much of its original breeding range as populations have declined. Known and potential factors affecting this species include habitat loss and degradation on both breeding and wintering grounds, climate change, acid precipitation, atmospheric deposition of heavy metals and other toxins, predation by natural and introduced predators, impacts of recreation, and development of energy and communication facilities.

For many years, research and management have focused mainly on the breeding grounds, but more recent efforts have concentrated on the wintering grounds, where Bicknell's Thrushes and other neotropical migrants spend 9 to 10 months of the year. The entire global population of Bicknell's Thrush

winters on the islands of Hispaniola, Cuba, Jamaica, and Puerto Rico, where logging and subsistence farming have severely reduced native forest cover. Less than 10% of native forests remain in the Dominican Republic, where the majority of Bicknell's Thrushes overwinter, and Haiti retains less than 2% of native forests.

The combination of highly critical natural resources in countries with scant financial or regulatory support highlights the critical need for support from countries that have greater resources. The International Bicknell's Thrush Conservation Group, a coalition of more than 40 researchers and managers from over 25 organizations, has recently published a plan to address threats to the Bicknell's Thrush throughout its life cycle. One of the strategies identified in this plan is to expand the Bicknell's Thrush Habitat Protection Fund, which supports research and conservation activities in the Caribbean. North Americans concerned about the future of the Bicknell's Thrush can make a significant contribution to its conservation by donating to this critical funding source. The plan is available at the group's website: www.bicknellsthrush.org.



NH AUDUBON BIOLOGISTS HONORED AT THE NEW HAMPSHIRE GOVERNOR AND COUNCIL MEETING MAY 12, 2010 WERE, FRONT LEFT, CAROL FOSS AND PAMELA HUNT. NOT PICTURED WAS HONOREE LAURA DEMING. GOV. JOHN LYNCH IS ON THE RIGHT.

In recognition of the work that went into the Mittersill land exchange and resultant monitoring work by New Hampshire Audubon, all four partners in the effort (NH Audubon, NH Fish & Game, Department of Resources and Economic Development, and the White Mountain National Forest) received a "Wings Across the Americas" award from the US Forest Service. Receiving the award from NH Audubon were Carol Foss, Pamela Hunt, and Laura Deming. The awards were announced and given at a meeting in Wisconsin in March, but most of the New Hampshire partners were unable to attend. Instead, a special awarding ceremony was held in the Governor's office in May when Carol and Pam were able to attend and accept their awards on behalf of NH Audubon.

Project Nighthawk 2010 Field Season

by Rebecca Suomala

Project Nighthawk began in 2007 as an experiment to test the potential for restoring urban-nesting nighthawks by placing simple gravel nest patches on flat rooftops. During the past four years the Project has expanded to include locating and monitoring active nests in the Concord area.

We observed males displaying over several nest patches in 2010 but found no evidence of nesting. There was excitement when Havenwood Health Center building manager, Mark Jenks, flushed a female Common Nighthawk from their peastone roof (there's a patch on the adjacent stone roof) but despite consistent activity there was no sign of nesting. We also experimented with adding calcium (in three different forms) to three patches in the Concord area. Research suggests that calcium may be a limiting factor in nighthawk reproduction, but there was no increase in nighthawk activity at those sites.

We continued coordinated watches in Concord, locating all displaying males and checking the rooftops at display sites for



VOLUNTEER JANE KOLIAS, AND PROJECT COORDINATOR, BECKY SUOMALA, ADD CALCIUM (CRUMBLED CONCRETE) TO THE NEST PATCH ON THE CONCORD PUBLIC LIBRARY. PHOTO BY ROBERT VALLIERES.

nesting, but without success. We were dismayed when the nighthawk pair failed to return to the Concord site where they nested for the past three years. With diligent searching and the great observation skills of volunteer Stephanie Parkinson, we re-located what may have been the same pair across the river in a Pembroke gravel pit. With the help of dedicated vol-

unteers we observed the parents defending the nest, feeding the chick, and chasing other nighthawks that intruded on their territory. The adults and one fledged chick were last observed in the nest area on August 26, 2010.

Volunteers have logged many hours of observation at nighthawk nests and other display sites. They have recorded several hundred hours of nighthawk behavior, some of which may be new to science. Data collected thus far is being analyzed with an aim to publish observations about nesting behavior. We will also monitor the patches for at least one more year, so that we will have five years of data on this experiment.

We very much appreciate the private donations that have enabled us to continue Project Nighthawk and the volunteers that help each year. The project is also supported by grants from the Robin Colson Memorial Foundation and the Benjamin Couch Trust. To volunteer, contribute, or receive a 2010 summary, contact me or visit the Project's web site.

Volunteer Jane Koliyas has produced an informative presentation about Project Nighthawk. If your group would like to book this presentation, please contact me.

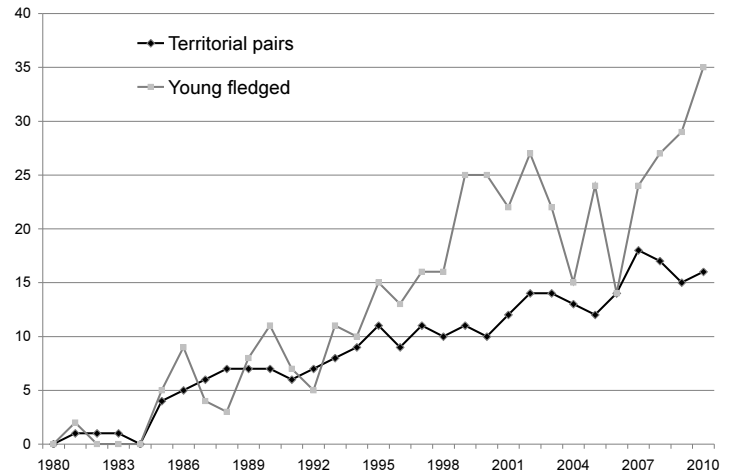
Peregrine Falcon 2010 Breeding Season

by Chris Martin

This past year we celebrated the 30th breeding season since the state's first post-DDT era Peregrine Falcon pair was found nesting in Franconia Notch. New Hampshire's state-threatened peregrines posted an impressive new benchmark for number of young fledged in 2010. This past season's statewide total of 35 young fledged sets a new state record-high, surpassing the previous high of 29 young fledged by over 20%. And the State's most well-watched pair in Manchester fledged five young, the first time any New Hampshire peregrine pair has accomplished that in the 30-year history of peregrine nest site monitoring in the Granite State.



VOLUNTEER MIKE THOMPSON RETRIEVES A PEREGRINE FALCON CHICK FOR BANDING AT HOLTS LEDGE IN LYME, 6-2-10. PHOTO BY CHRIS MARTIN.



PEREGRINE FALCON BREEDING SUCCESS IN NH, 1980-2010

In 2010, Conservation Department biologists and volunteers tallied a record-high 19 breeding territories in the State that were occupied by at least one resident peregrine. Sixteen of those 19 sites hosted territorial pairs, while three other sites (Rattlesnake Hill in Concord, Vernon Dam in Hinsdale, and Mount Willard in Harts Location) produced only multiple observations of single individuals. Other breeding season highlights included the Portsmouth Harbor Interstate 95 pair, which fledged three young while using a gravel-filled tray that was originally installed under the roadway in Spring 2007. Also of note was the successful release of Manchester female fledgling black/green C/E, who was reunited with her parents and four male siblings after spending a week in recovery care at Wings of Dawn Rehabilitation Center.

Observers reported incubation behavior by 15 of the State's 16 territorial pairs in 2010, up just slightly from 2009, but still below record highs set in 2007. Of this past year's 15 incubat-

ing pairs, 13 hatched at least one egg and successfully fledged young, matching the state record-high of 13 successful pairs set in 2008. The 2.33 young fledged/active nest in 2010 raised the State's overall 30-year productivity rate to 1.67 young fledged/active nest.

New Hampshire biologists and cooperators banded a total of 18 young at six Granite State peregrine eyries in 2010. Two unhatched peregrine eggs and two partial broken shell samples were recovered from three New Hampshire eyries.

Additionally, I travelled to Portland, ME to assist a Maine Department of Inland Fisheries & Wildlife biologist in the banding of four chicks parented by black/green B/S, an adult male falcon that was himself raised in Manchester, NH in 2005. Overall, a total of 72 (21.6%) of 333 Peregrine Falcon fledglings that have been color-banded at New Hampshire nest sites since the early 1990s have later been encountered (alive or dead) and reported to us.

Management of the state's Peregrine Falcons is supported through a NH Fish and Game State Wildlife Grant and by generous donors and volunteers.

Asian Long-horned Beetle and Emerald Ash Borer

by Laura Deming

Conservation Department biologists have been working with state and federal agencies over the past two years to raise awareness of two invasive insects – the Asian Long-horned Beetle and the Emerald Ash Borer. Both originally from Asia, these two beetles were accidentally introduced to North America in untreated wood packing materials, and have spread to many states, mainly through the transportation of firewood and other wood products. Although neither species has been found in New Hampshire, both are nearby, and pose a serious threat to the lumber, maple syrup, nursery, commercial fruit, and tourism industries.

The Asian Longhorned Beetle (ALB) and Emerald Ash Borer (EAB) are both wood-boring insects, whose larvae feed on the interior of hardwood trees. ALB attacks many species of hardwoods, particularly maples, boxelder, willow, horse chestnut, elm, birch, sycamore, and occasionally ash, mountain ash, and poplar. EAB also attacks hardwood trees, but focuses on species of ash. Host trees may live for years with beetle infestations, but eventually become weakened and die.

First discovered in Brooklyn, NY in 1996, ALB has spread to New Jersey, Chicago, Toronto (Canada), Worcester (MA), and in July, 2010, Boston, MA. The two infestations in Massachusetts are fairly close to New Hampshire, but the Boston site was discovered when just six trees were affected, and appears to be contained. In Worcester, the infestation went unnoticed for many years, enabling ALB to spread within the city and to neighboring towns. So far, several thousand trees have been cut and destroyed (the only known method of eradicating the beetle). Authorities have established a 94-

square mile quarantine zone around Worcester and other towns, and prohibit the transport of firewood and untreated wood products in or out of the quarantined area.

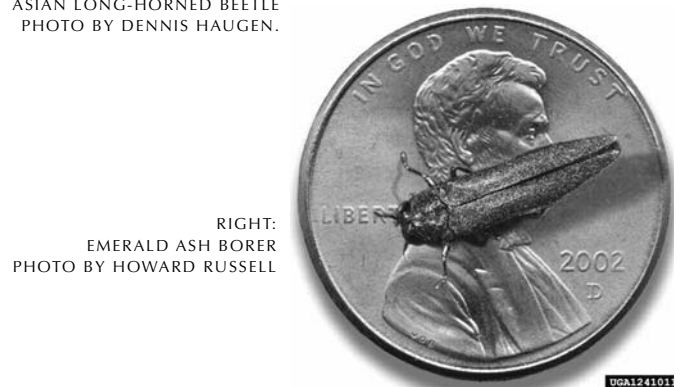
As the search for ALB continues in Worcester and Boston, researchers and managers are also on the lookout for a smaller wood-boring beetle – the Emerald Ash Borer. This species was first discovered near Detroit in the summer of 2002, and has spread quickly, mainly in transported firewood. EAB has also become established in Ontario, Ohio (2003), northern Indiana (2004), northern Illinois and Maryland (2006), western Pennsylvania and West Virginia (2007), Wisconsin, Missouri and Virginia (2008), Minnesota, New York, Kentucky (2009), and Tennessee (2010). Adult EAB tend to fly farther than ALB and are much harder to find, enabling them to spread more quickly without being detected.

Thus far, EABs have killed tens of millions of ash trees in southeastern Michigan alone, with tens of millions more lost other states. State and federal agencies have enforced quarantines in Michigan, Illinois, Indiana, Maryland, Minnesota, Missouri, Ohio, New York, Ontario, Pennsylvania, Tennessee, Virginia, West Virginia, Wisconsin, and Kentucky. Since its introduction nine years ago, EAB has caused millions of dollars worth of damage to municipalities, property owners, nursery operators and forest products industries.

Critical to the early detection and containment of these destructive beetles is a citizenry that is aware of and on the lookout for the beetles and evidence of their presence. In all but a few instances, infestations of ALB and EAB have been discovered by citizens. Photos and information about ALB and EAB are available at <http://extension.unh.edu/ALB/>.



ABOVE:
ASIAN LONG-HORNED BEETLE
PHOTO BY DENNIS HAUGEN.



RIGHT:
EMERALD ASH BORER
PHOTO BY HOWARD RUSSELL

Backyard Winter Bird Survey Highlights

by Rebecca Suomala and Pam Hunt



RED-BELLIED WOODPECKER
BY LEN MEDLOCK.

Many observers remarked that their feeders were quiet on the 2010 Backyard Winter Bird Survey. The advantage of having many years of data (more than 20 years for the Survey) is that we can look at ups and downs in a long-term perspective. The Survey showed record lows for Common Redpolls and Pine Siskins in 2010, no doubt contributing to the impression of quiet feeders. But these two species are winter irruptives – common in some years and absent in others. There is a

regular pattern of ups and downs over the years that is quite normal. Redpolls are largely tied to the semi-annual birch seed crops in northern Canada, and the 2011 Survey should show them back on the upswing of their two year cycle.

Of more concern to many was the seeming absence of even our most common feeder birds – Black-capped Chickadees, Tufted Titmice, and Blue Jays. It was somewhat reassuring to see that the 2010 Survey data showed no major decline in these species (Figure 1). There is a small decrease in their numbers, but it is within their normal variation. Good natural food supplies may have kept birds away from feeders. There was also concern that the frequent rains during the summer of 2009 had caused nest failures so that fewer young birds were raised, resulting in low numbers at feeders during the winter. While this may have occurred, the data show only a small dip in numbers, indicating that populations will recover quickly.

The Survey data continue to document the expansion of southern species such as Red-bellied Woodpecker. Numbers for this species were slightly lower in 2010 than 2009, but the total was still the second highest on record. This woodpecker does not migrate and after their record-shattering peak in the 2009 survey, it's likely that their numbers were thinned by winter mortality.

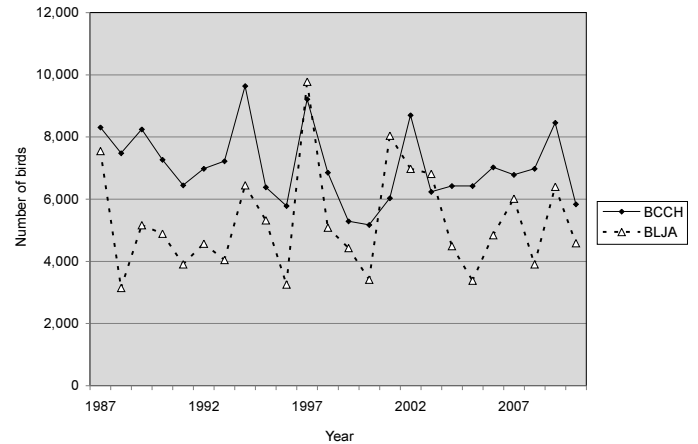


FIGURE 1. NUMBERS OF BLACK-CAPPED CHICKADEES (BCCH) AND BLUE JAYS (BLJA) ON NH AUDUBON'S ANNUAL BACKYARD WINTER BIRD SURVEY, 1987-2010.

The award for most exciting rarity is shared by two species recorded for only the second time on the survey – a Dickcissel visiting a feeder in Portsmouth and an Orange-crowned Warbler in New London. Both were photographed to provide documentation of these rare species.

For a copy of the full results, contact Becky Suomala or find them on the web site, www.nhbirdrecords.org/bird-conservation/backyard-winter-survey.htm.

New Hampshire Bird Records and New Hampshire eBird

by Rebecca Suomala

New Hampshire Bird Records was proud to honor Tudor Richards by sponsoring all four of the 2009 issues in his memory. This was made possible by the many generous donors who made contributions in memory of Tudor. In each issue, Bob Quinn also provided an article highlighting Tudor's contributions to our knowledge of birds in the State, the legacy he left, and the lessons we can take with us today. You can read the Summer 2009 (Vol. 28, #2) article on the Contents page of the *New Hampshire Bird Records* web site: www.nhbirdrecords.org.

The switch to NH eBird as a reporting system has resulted in a huge increase in the number of records submitted for each season. It's a challenge for each Season Editor to manage the review and interpretation of so many records, and we're still working out the best system. If you haven't yet tried NH eBird, please take a look, www.ebird.org/nh.

New Hampshire Bird Records is supported in part by individual donations. The "Twitchers in the Rye" birding team also supports NH eBird and *New Hampshire Bird Records* through sponsorships for their annual competition in the Superbowl of Birding. Read more about their adventures on the *New Hampshire Bird Records* home page (see address above).

IN MEMORY OF Tudor Richards

This is the fourth and final 2009 issue of *New Hampshire Bird Records* honoring Tudor Richards. We are so pleased to have been able to recognize Tudor and his many contributions to birding.



Left - Tudor Richards (President of NH Audubon) and Ralph Carpenter (Director of NH Fish & Game Dept.) at the dedication of the Pondicherry Wildlife Sanctuary in 1964.
Right - Tudor on his last visit to Pondicherry, November 2006. Photo by David Govatski.

Thank You

CONSERVATION FUNDING

Conservation programs are supported by funds from NH Audubon's Annual Fund, donations designated for the Conservation Department and specific projects, and 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.

DONORS

A very special thank you to everyone who donated to Conservation Department activities in 2010, to specific projects, and to New Hampshire Audubon's Annual Appeal. (We did not do a separate Conservation appeal in the spring of 2010, but instead a single Annual Fund helped support Conservation programs.) All donors will be recognized in NH Audubon's Annual Report. Your support helped to make our Conservation programs possible.

VOLUNTEERS

Volunteers contribute to Conservation Department projects in many different ways. Their support is essential to what we do. We cannot list all of their names here but we do appreciate everything that they do for our many projects.

VOLUNTEERS GATHER TO SHARE OBSERVATIONS AFTER A COORDINATED NIGHTHAWK WATCH IN CONCORD, 2010. PHOTO BY JANE KOLIAS.

CONSERVATION GRANTS

New Hampshire Audubon gratefully acknowledges grants for Conservation projects from the following:

Benjamin Couch Trust
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Nuttall Ornithological Club's Charles Blake Fund
TransCanada Corporation
William P. Wharton Trust

Funding for wildlife projects received from NH Fish and Game contracts comes primarily from State Wildlife Grants, a federal program that was created by Congress to assist states with their voluntary efforts to protect the more than 12,000 at-risk wildlife species around the United States from becoming endangered.



REMEMBERING

New Hampshire Audubon was saddened by the loss of a number of Conservation Department volunteers and supporters in 2010 who will be missed. A few are highlighted below, although we realize that short descriptions can never do justice to a person's contributions and we apologize to those we missed.

Peter Allen (1934-2010) loved the outdoors and, as a forest ecologist, had a wealth of knowledge about New England forests. While Peter volunteered for many environmental groups, and served as a NH Audubon trustee, Chris Martin knew him best as a Conservation Department volunteer. Before there was an Umbagog National Wildlife Refuge, Peter would paddle his canoe up the Androscoggin River early in the spring to report whether the local eagle pair (NH's only one at the time) had started nesting. He moved north to Errol, NH, and settled in a new subdivision that had recently been carved from the forest. When the US Fish and Wildlife Service unveiled a proposal to establish a new federal wildlife refuge at Lake Umbagog at a public meeting in Errol, Peter stood up amidst a largely anti-government crowd and declared softly, but firmly, "I just moved here from downstate, and I'm just the tip of the iceberg." His heartfelt personal statement about creeping growth and development caused many in the crowd to recognize what was at risk if they failed to protect Umbagog while they still could.

Rene Bollinger was the Eastern Peregrine Falcon Recovery Team Leader and instrumental in the Teams' efforts to restore the species east of the Mississippi.

Bob Bradley was the recipient of the 2009 Goodhue-Elkins Award for his contributions to our knowledge of birds in New Hampshire. An active birder in the North Country, he contributed many records

of bird sightings from that area, especially in the 1960s and 1970s when there were few reporters from that area.

Alice Cormier was a volunteer for Osprey Weekend, Winter Eagle Watches, and the Breeding Bird Atlas, as well as Christmas Bird Count participant. She was an active Nashaway Chapter member, field trip leader and former Chapter President. Many will remember her welcoming manner, delightful laugh, and warm friendliness.

Joe Kabat (1936-2010) enjoyed showing people the natural beauty of the Squam Lakes. He truly delighted in taking them to see nesting eagles and loons while at the helm of his boat, the "Be Prepared." When Bald Eagles first began nesting on Squam, Joe volunteered for monitoring and management activities with NH Audubon's Conservation Department. For years he did the same for loons with the Loon Preservation Committee. Each winter, when Squam froze over, Joe returned to his other home in Nashua where he continued to monitor eagles wintering along the Merrimack River. Joe was all about life-long learning, and so he was deeply involved with many other organizations, including the Rivier Institute of Senior Education at Rivier College and his alma mater, Dartmouth College. Joe passed away on October 10, spending his final summer and fall at his beloved lakeside camp on Little Squam Lake.

Robert Ritz was a long-time reporter to *New Hampshire Bird Records* and many data entry volunteers will remember his interesting bird descriptions as well as his notes on the first song of arriving spring migrants. He was also the compiler of the Keene Christmas Bird Count for many years.

Jesse Ward was a volunteer for the Breeding Bird Survey, conducting a route for 32 years – an amazingly long tenure for a survey that requires starting at 4:34 am! His daughter took over his route several years ago, continuing the tradition.

Swallow Colony Registry (Swallow CORE)

by **Rebecca Suomala**

Birds that capture insects on the wing, such as swallows and flycatchers, are declining across northeastern North America. This group, called aerial insectivores, includes swallows, swifts, and a variety of other birds. NH Audubon, with funding from NH Fish & Game, piloted a new program in 2010 called Swallow CORE, to collect data from volunteers on the distribution and abundance of swallow nesting colonies in New Hampshire, focusing on the species that are showing the steepest declines.



BANK SWALLOW BY JASON LAMBERT.

We are revising procedures, based on the pilot, and in 2011 we will be collecting information on nest sites of four swallow species: Barn Swallow, Cliff Swallow, Bank Swallow, and Purple Martin. Reporting will be done primarily through NH eBird and information will be on the project's web page along with a Swallow Fact Sheet. The 2011 season is supported by a grant from the Charles Blake Fund of the Nuttall Ornithological Club.

If you would like to volunteer for the project, please contact me.

Phenological Monitoring Pilot Project

by **Vanessa Jones**

Climate change researchers predict that rising global temperatures will dramatically impact ecosystems and many of the species they support. One such change that will undoubtedly affect many plants and animals is disruption of their phenology, or life cycle phases (phenophases), such as leafing, flowering, emergence of insects and arrival of migratory birds. In 2005 researchers across the country gathered at a workshop to establish a nationwide network of phenological studies. The resulting USA National Phenology Network is a collaborative framework of agencies, educational institutions, non-governmental organizations, citizen volunteers and many others.

The Network establishes protocols for monitoring various "phenophases," such as when the first flower and first leaf appear on a lilac, and provides a web site to record the data. Phenological monitoring focuses on a wide range of plant and animal species and participants include individuals of all ages

and backgrounds. Phenological data enables researchers to determine which species are most vulnerable to climate change, how these species' populations will respond over time, and how these changes may affect other species and overall ecosystems.

NH Audubon is planning a project to document the phenology of plant and animal species on the Deering Wildlife Sanctuary in Deering, NH. The Deering Sanctuary will serve as a pilot study site for testing the methodology and applicability of phenological monitoring on other NH Audubon sanctuaries. Objectives of the Phenological Monitoring Project include collection of phenological data on selected plant and animal species and recruitment and training of volunteers to participate in the project as citizen scientists. If you are interested in volunteering for this project in the future please contact Laura Deming or Vanessa Jones.