Hartford Conservation Commission

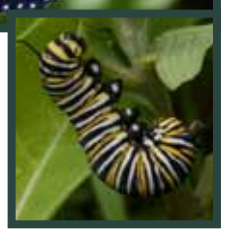
Has a brilliant flash of color ever caught your eye as you're walking in the woods? If so, you've probably just seen one of our summertime visitors, a Neotropical songbird, who migrated thousands of miles to nest and raise his family in our forests.

Our 2011 newsletter explores the relationship between our forests and these colorful visitors. We also feature the beautiful Monarch butterfly and its amazing life cycle. We hope you enjoy the newsletter and look forward to seeing you at one of our events.

2011 HCC Events Calendar

April 16, Saturday	**Vernal Pool Walk**, 10:00 a.m. — noon, Hartford Town Forest*
April 30–May 7	**Green-Up Hartford Days**, green-up bags available at Municipal Office*
May 7, Saturday	**Green-Up Day/Arbor Day Celebration**, 9:00 a.m. — noon, Lyman Point Park. Green up bags, tree and shrub sale
June 4, Saturday	**Trails Day**, 9:00 a.m. — noon, Hartford Town Forest*
June 4, Saturday	**Hartford Hazardous Waste Collection**, 9:00 a.m. — noon, Hartford Recycling Center
July 9, Saturday	**Audubon Vermont Forest Bird Habitat Walk**, 10:00 a.m.— noon, Hartford Town Forest
Sept. 3, Saturday	**Monarch Tagging**, 10:00 a.m.— noon, Quechee*
Sept. 24, Saturday	**Tree and Invasive Plant ID Walk Invasive Plant Removal**, 9:00 a.m. — noon, Hurricane Forest Wildlife Refuge*
Sept. 24, Saturday	**Hartford Hazardous Waste Collection**, 9:00 a.m. — noon, Woodstock Town Garage, Rt. 4 West
October TBA	**Source to Sea Connecticut River Clean Up***
February TBA, 2012	**Wildlife Tracking Snowshoe**, Hartford Town Forest*

* Please contact Matt Osborn for more information 295-3075, mosborn@hartford-vt.org
HCC members:Jon Bouton, Vickie Davis, Karen Douville, Kevin French (Chair), Jim Peters, Linda Wilson.
We meet the first Monday and are seeking a new member, please contact Matt Osborn if you are interested.



Monarch Butterfly

When you next spot the first monarch butterfly (Danaus plexippus) of summer as it appears to waft aimlessly across your path, you might reflect further on this extraordinary world traveler of tiny proportions.

Like all butterflies, monarchs move through four life stages: egg, larva (caterpillar), pupa (chrysalis), and adult (butterfly). Unlike other Vermont butterfly species, which overwinter here in one or another of its life cycle stages, none of the monarch's four life stages can survive our winter's cold. This means that when the summer's first monarchs appear each year in Vermont, they flew from a warmer location: the culmination of a 6000-mile, multi-generational odyssey.

During the summer, three broods of monarchs are likely to hatch; and everything that must get done for a monarch to reproduce before dying happens within its two- to five-week life span. Like most butterflies, monarchs require a single type of plant, called a host plant, as a food source in its caterpillar stage. One crucial aspect for each monarch is locating its host plant where it deposits eggs for its voracious, yet picky-eater stage—the caterpillar. Monarch caterpillars must feed exclusively on milkweed plants (genus: Asclepias) in order to grow to adulthood and produce the next generation. (In Vermont these include common and swamp milkweeds and the more ornamental butterfly weed.) In addition, milkweeds contain chemicals that are cardiac poisons to vertebrates, making monarchs poisonous in its larval, pupa, and adult forms to most of its predators.

Once monarchs emerge as butterflies, they are no longer able to chew food; they have become creatures that sip their sustenance in the form of plant nectar. Monarchs feed on various nectar producing flowers, particularly goldenrods and asters in late summer.

In September, the summer's final generation of monarchs has a different and longer path ahead of it. Unlike summer generations, these monarchs may live as long as nine months and will begin fueling themselves for a challenging and astounding feat—traveling some 3000 miles from Vermont to a very small area in southwestern Mexico's mountain forests where all currently living monarch butterflies from east of the Rockies convene. The cold weather escapees, weighing less than a gram, postpone reproduction before the migration and, instead, use their energy for a long distance flight that lasts for about two months, covering from 50 to 100 miles each day and roosting in trees at night. Feeding on nectar and pollinating flowers on the way, somehow, the monarchs actually build up fat reserves on their trek south.

Once in Mexico, the monarchs flock together to rest for about four months. One estimate is that in a good year, as many as 500 million monarchs head for this area in Mexico which comprises one-millionth the size of their northern breeding area. In spring, these same butterflies, including our Vermont monarchs, resume reproduction, and after laying their eggs, die. The resulting offspring begin the journey north fueled by flowering plants' nectar. The odyssey will span three more generations as the travelers continue the spring migration northward–though none of the travelers have ever been to Vermont.

For this epic and unique migratory phenomenon to persist, besides maintaining monarch wintering grounds, an adequate supply of milkweed plants is needed everywhere monarchs breed. So while the monarch is North America's most familiar and favorite insect, it is also one that is depending on us to maintain the systems that support its life cycle.

Butterfly weed

TOXIC!

Swallow-wort

Things you can do to help monarchs:

- In fields with common milkweed, delay mowing until after the monarch's fall migration in late September
- Plant a butterfly garden, include ornamental butterfly weed but avoid non-native invasive species, such as the attractively-named shrub Butterflybush (Genus: Buddleia) which is giving signs of becoming an invasive species
- Remove the invasive plant Swallow-wort that mimics milkweed but is toxic, killing the monarch caterpillar

Monarch Tagging

Help scientists learn about monarch migration
Butterfly nets, tags, and instructions provided, see calendar

For more information visit: http://www.monarchwatch.org/

Sources: http://www.fs.fed.us/monarchbutterfly, "Flight of the Monarch", Valley News, Mary Holland, Nov. 1, 2010

CONSERVATION

CONSERVATION

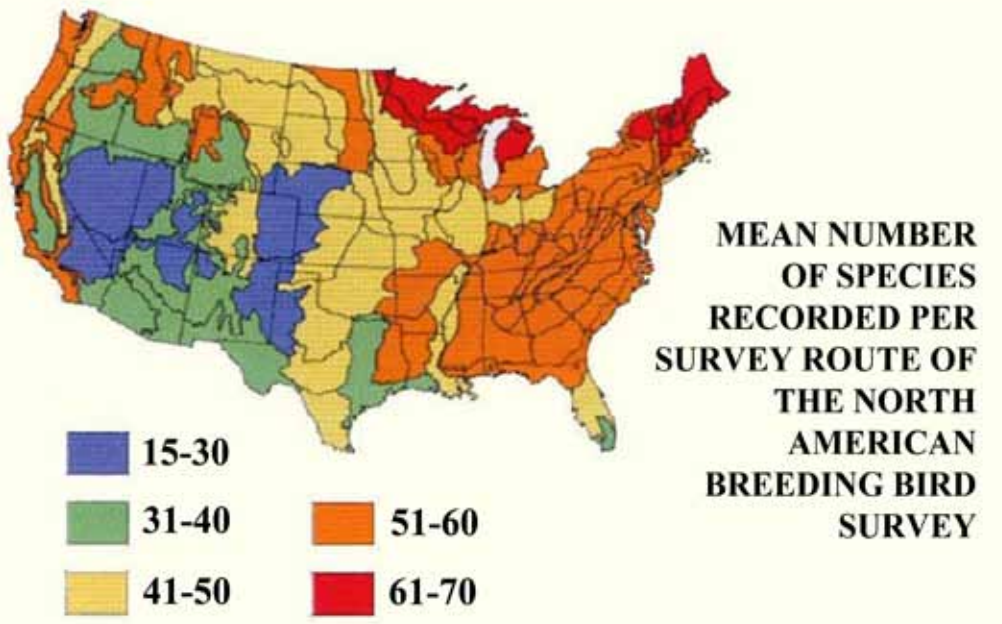
Forest Bird Habitat

In May of 2010, Steve Hagenbuch, a conservation biologist from Audubon Vermont, conducted a Forest Bird Habitat Assessment in the Hartford Town Forest and the adjoining Hurricane Forest Wildlife Refuge. The purpose of the assessment was to evaluate the type and quality of habitat available to forest bird species, and to offer management options and considerations with the goals of protecting, enhancing, and/or creating quality breeding habitat conditions for forest bird species. The assessment included: educational handouts, a five-hour site visit, and a final report with recommendations for habitat improvement.

The assessment was very educational; for more information:

- read on; the rest of the newsletter focuses on our forest birds
- review Audubon Vermont's report
  http://www.hartford-vt.org/content/conservation/

VERMONT IN THE BIG PICTURE:



THOMPSON, ELIZABETH H. 2002. VERMONT'S NATURAL HERITAGE: CONSERVING BIOLOGICAL DIVERSITY IN THE GREEN MOUNTAIN STATE. A REPORT FROM THE VERMONT BIODIVERSITY PROJECT. PG 13.

Did you know that Vermont forests are vital to global bird populations?

Breeding bird surveys have shown that the forests of Vermont and Northern New England are a globally important resource for birds throughout the hemisphere. In fact, our forests are home to the highest concentration of bird species breeding in the continental United States (see map).

Each year, brilliantly colored Neotropical birds like the Black-throated Blue Warbler and Canada Warbler migrate to our Northern New England forests in order to mate and raise their young. In some cases, 90% of their global population is breeding in this region. Many of these birds are seeing long-term declines that, like the proverbial "canary in the coal mine," may be indicating larger ecosystem problems.

Audubon Vermont has classified forty forest bird species as "***responsibility birds***". Responsibility birds:

- are facing long-term population declines and/or
- have a significant percentage of their global breeding population in our northern forest region.

To ensure healthy bird populations into the future, it is our responsibility to provide high quality nesting habitat for our forest birds. With this in mind, we need to consider that what we do in our forests, woodlots, and wooded areas can play an important role in maintaining our bird populations. See HCC page 4 for things you can do to improve bird habitats on your property so that you, and your grandchildren, can enjoy seeing our colorful feathered friends.

RESPONSIBILITY BIRDS

Alder Flycatcher
American Redstart
American Woodcock
Bay-breasted Warbler
Bicknell's Thrush
Black-backed Woodpecker
Blackburnian Warbler
Blackpoll Warbler
Black-throated Blue Warbler
Black-throated Green Warbler
Blue-headed Vireo
Boreal Chickadee
Canada Warbler
Cape May Warbler
Chestnut-sided Warbler
Chimney Swift
Eastern Wood-Pewee
Gray Jay
Lincoln's Sparrow
Louisiana Waterthrush
Magnolia Warbler
Mourning Warbler
Nashville Warbler
Northern Flicker
Northern Parula
Olive-sided Flycatcher
Ovenbird
Palm Warbler
Purple Finch
Ruffed Grouse
Rusty Blackbird
Scarlet Tanager
Spruce Grouse
Swamp Sparrow
Tennessee Warbler
Veery
White-throated Sparrow
Wood Thrush
Yellow-bellied Flycatcher
Yellow-bellied Sapsucker

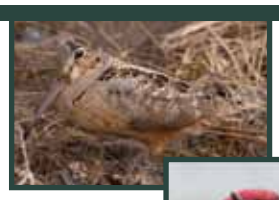
A baby Barred Owl keeps watch at the site visit
photo: Steve Hagenbuch

Audubon Vermont will provide free Forest Bird Habitat Assessments for landowners with over 250-forested acres or for neighbors with a combined acreage greater than 250 acres. Contact Audubon Vermont:
Phone: (802) 434-3068
Email: vermont@audubon.org

The Birders Dozen

The Birder's Dozen represents twelve of the Responsibility Birds that the Audubon Vermont Forest Bird Initiative is working to protect. These twelve birds use different forested natural communities and use the forest in a variety of ways for feeding and for breeding. Many of these birds are showing a decline in their population and those that are stable should remain stable or ideally increase in population through proper management of our forests. Finally, the Birder's Dozen represents birds that are simple to identify by sight or sound. We encourage you to get to know the Birder's Dozen and explore your property to find out who is residing there! Best used in conjunction with Audubon Vermont's Bird-Friendly Management Recommendations Fact Sheet (next page).

Pictures provided courtesy of the following: Pamela Wells at Sunkhaze Meadow National Wildlife Refuge, Braddock Bay Bird Observatory, Powdermill Avian Research Center, & Bill Dyer at Cornell Laboratory of Ornithology.



American Woodcock (Scolopax minor) Trend: Declining in VT

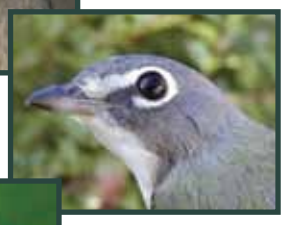
- ID Tips: A plump bird with a long bill, no neck & short legs; mottled cryptic coloration; Song: A nasal beeping peent heard mostly at dusk; also twittering wing sound when in flight
- Habitat: Early successional woodlands or grown-in fields; forests with openings; Management: Retain early successional habitat; maintain thick alder & aspen stands for cover

Yellow-bellied Sapsucker (Sphyracpicus varius) Trend: Declining in New England

- ID Tips: Messy barring on back, yellowish wash across belly. Vertical white stripe on side distinguishes it from other woodpeckers; Song: Drum burst of 5 rapid taps followed by gradual slowing double taps; call a QUEEah
- Habitat: Mixed coniferous & deciduous woodlands. Management: Retain deadwood leaving birch & aspen trees for cavity nesting habitat

Eastern Wood-pewee (Contopus virens) Trend: Declining in New England

- ID Tips: Slender, small headed, & grayish-olive above with dull, white wing-bars; "sallies" for insects (flying out from perch & then back again); Song: Plaintive pee-ahh-weee
- Habitat: Deciduous forests & woodland edges; Management: Enhance vertical structure/understory by controlling deer browsing; use single-tree or small group cut to improve understory.



Blue-headed Vireo (Vireo solitarius) Trend: Stable

- ID Tips: Bluish-gray head with strong white spectacles (circles around eyes), greenish back with white belly & yellow-olive flanks; Song: See you…be-seeing ya'…so long…repeat; slow with pauses in between phrases
- Habitat: Moist coniferous forests, also may be found in deciduous forests. Management: A middle-level forager that will benefit from a diverse understory

Veery (Catharus fuscescens) Trend: Declining both in VT & region

- ID Tips: Tawny-brown above, weakly spotted on breast; least spotted of all the thrushes; Song: Flute-like & ethereal; ball spiraling down a tube; call an emphatic vreer!
- Habitat: Damp deciduous woods with dense understory. Management: Enhance vertical structure/understory by controling deer browsing; use single tree or small group cut to improve understory

Wood Thrush (Hylocichla mustelina) Trend: Declining both in VT & region

- ID Tips: Brown back, heavily spotted on white breast; large thrush a little smaller than a Robin; Song: A flute-like ee-oh-layyy, ending in a sound like shattering glass
- Habitat: Mature, moist deciduous woods with dense understory & heavy layer of leaf litter. Management: Improve vertical structure/ understory with small canopy gaps

Chestnut-sided Warbler (Dendroica pensylvanica) Trend: Declining both in VT & region

- ID Tips: Yellow crown, black moustache stripe & chestnut sides following contour of wings; tail held cocked above wingtips; Song: Fast Please-please-pleased-to-meet-cha with emphatic ending
- Habitat: Second growth deciduous woods, early successional forest or overgrown fields. Management: Retain areas with early successional habitat; use management practices that closely mimic natural disturbances

Black-throated Blue Warbler (Dendroica caerulescens) Trend: Stable

- ID Tips: Deep blue on top with black mask & throat, white wing-patch "handkerchief"; Song: A thick & buzzy I'm-so-la-zeee with endnote rising.
- Habitat: Interior hardwood & mixed deciduous-coniferous forests with dense understory. Management: Minimize linear openings (straight roads) & maximize forest interior; needs dense understory for nesting - hobblebush & saplings of striped/sugar maple

Black-throated Green Warbler (Dendroica virens) Trend: Declining in region

- ID Tips: Bright yellow face, olive head & back, black throat drips down sides onto white belly, two white wing-bars; Song: For females males sing zee-zee-zee-zoo-zee (also known as I'm-black-throated-green); to defend territorial boundaries zoo-zee-zoo-zoo-zee (also known as trees-trees-murmuring-trees)
- Habitat: Prefers uninterrupted coniferous forests. Management: Maximize forest interior especially for spruce, fir & white pine

Canada Warbler (Wilsonia Canadensis) Trend: Declining both in VT & region

- ID Tips: Necklace of black stripes on bright yellow throat & belly, complete white eye-ring; Song: Often has soft introductory chips, then I'm-IN-here, but-you-CAN'T-SEE-ME
- Habitat: Mixed forests, cedar swamps, riparian forests. Favors dense shrubby growth. Management: Improve riparian buffers, protect cedar swamps & red-maple/conifer swamps

White-throated Sparrow (Zonotrichia albicollis) Trend: Declining in region

- ID Tips: White throat with yellow in front of eyes, white & black stripes on head, gray chest; Song: Clear whistled, Poor Sam Peabody Peabody Peabody
- Habitat: Coniferous & mixed forests with openings and shrubby, dense undergrowth. Management: Soften edges between habitats creating brushy growth especially near conifer stands for cover, foraging & nesting; create brushpiles on habitat edges

Scarlet Tanager (Piranga olivacea) Trend: Stable

- ID Tips: Slim, bright red bird with jet-black wings & tail ("A black-winged red bird"); Song: Like a robin with a sore throat; call an abrupt chick-burr
- Habitat: Interior deciduous forests, especially oaks. Management: Maximize forest interior & promote understory growth

CONSERVATION

CONSERVATION

Bird-Friendly Management Recommendations

Vermont is home to a variety of forest dependent birds whose habitat needs vary from species to species. This list of management practices is designed to cover a range of forest conditions that you may want to consider when planning how to manage or harvest products from your forest. Each practice you implement will depend on your individual property conditions and management goals. (Best used with Birder's Dozen Fact Sheet on the previous page).

- **Create/Enhance Vertical Structure** – Vertical structure refers to the variety of plant or tree heights, from the canopy to the forest floor. Different birds use different parts of the forest for breeding and foraging. Encourage a diverse vertical structure that pays attention to the four layers typically found in the forest; herbaceous layer, shrub layer, subcanopy and canopy. One method for enhancing vertical structure is single tree or small group selection removal. Keep these openings less than 1.25 acres in general, and preferably 0.25 acres.

- **Limit Management Activities During the Breeding Season** – Most Vermont birds breed during the spring & summer; from April until about August. Winter, late summer or fall harvesting is preferred to protect breeding birds and forest soils. Choosing to delay harvesting in the summer until after August 10th allows breeding birds the opportunity to fledge both first and second broods of young.

- **Keep Forest Buffers Along Streams** – Riparian forest buffers, along streams and rivers, provide key habitat for a great diversity of plant & animal life. Birds use riparian buffers during migration, as well as during the breeding season. Some birds, like the Louisiana Waterthrush forage & nest only along streams. Where no buffers exist, re-establish them. Buffers greater than 200-300 feet have the greatest use to songbirds, although buffers of at least 50 feet wide will provide baseline habitat needs for songbirds. Note: Vermont's Acceptable Management Practices give further guidance on maintaining riparian buffers.

- **Retain Overstory Trees When Harvesting** – Leaving large-canopied trees of varying type and size will allow birds the ability to perch, nest, and forage. Keep trees that produce fruits, seeds, or nuts like serviceberry, beech, black cherry, and oak. These trees will be of particular interest to birds during fall migration and to resident birds during the winter. Small clusters of conifers left in harvested areas provide shelter and food for resident birds during the winter.

- **Retain Deadwood** – Snags and downed trees all have significant wildlife value. Dead or dying trees will provide roosting, perching, foraging and nesting sites for roughly 40 species of birds. Let sleeping logs lie- as they are also good for forest regeneration. Retain at least six snags per acre on average with one exceeding 18 inches in diameter at breast height (DBH) and three exceeding 16 inches DBH. Leave trees that have cavities of varying sizes and are located in the upper trunk of the tree. Give priority to hardwood trees with cavities, rather than softwood, as they remain intact longer. Note: A professional forester can advise you on how to select trees that will maximize the safety of having snags on your property.

- **Soften Edges Between Habitats** – An "edge" can be defined as a place where two differing types of vegetation meet, i.e. deciduous forest meets grassland. Sharp edges, or an abrupt change between habitats often have negative impacts on songbirds; these impacts are known as "edge effects". Nest predation (by animals such as cats, skunks, raccoons) and nest parasitism (by cowbirds) are greatest within about 150 feet of the forest edge. These negative edge effects can be reduced by creating irregular edges or by feathering edges. Feathered edges have more trees closer to the uncut forest and gradually fewer trees closer to the harvested area.

- **Minimize Linear Openings** – Linear openings (like straight roads or ATV trails) in a forest block can serve as pathways for increased predation by animals and parasitism by cowbirds. Minimize the width, number and extent of truck/skidder roads when harvesting. Larger trails and woods roads introduce sunlight into the forest interior that can dry out leaf litter and reduce moist habitat for invertebrates consumed by ground nesting birds. Wherever possible, maintain forest canopy closure over trails and woods roads.

- **Maximize Forest Interior** – Forest patches that are large (50 acres or more) will increase the diversity of birds your woodlot can support. Forest interior is defined as habitat that occurs in unbroken forest at least 200-300 feet from the habitat edge. Increasing forest interior will benefit birds like the Scarlet Tanager, Blackthroated Green Warbler and Eastern Wood-pewee. Look at the shape of your stand; circular and square-shaped patches have a greater ratio of interior to edge than stands that are oblong, rectangular or irregularly shaped. When harvesting, strive to leave the largest possible patch intact.

- **Retain Early Successional Forest Habitat** – Early successional habitat is young forest habitat comprised of tree seedlings and saplings between one and fifteen years of age. If you have a lot of openings already, you may not need more. Early successional habitat may be accomplished through patch cutting or managing abandoned agricultural land as it grows and reverts back to forest. Taking care to avoid fragmenting interior forest blocks, patch cuts made to forest blocks should be at least two acres in size in order to provide enough habitat for breeding birds like the Chestnut-sided Warbler.

The Hartford Conservation Commission would like to thank Audubon Vermont for allowing us to reprint their educational materials (HCC pages 2-4). To learn more: contact Audubon Vermont, Phone: (802) 434-3068, Email: vermont@audubon.org

Photos top right: Magnolia Warbler, Powdermill Banding Station in PA; top left: Blackburnian Warbler, Charlie Eiseman.