



SUMMER 2015

INSIDE

Vermont's "Sweetest" Bird Habitat	3
For Anna	4
A Report on Forest Fragmentation	5
Summer Lovin'	8
A Moose, a Bird, and a Shrub	10
Book Review: A Landowner's Guide	12
Upcoming Events	13

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PHOTOS: JOANNE WAZNY

STRENGTHENING REGIONAL CONSERVATION

By Charlie Hancock

Greetings friends and welcome to the Summer 2015 edition of *Connections*, the quarterly newsletter from Cold Hollow to Canada. We hope this edition finds you've been able to get outside lately to enjoy the beautiful spring weather. With the advent of the solstice the days may start getting shorter, but we still have the dog days of summer to look forward to. (Fun fact: *Dog Days* is the name for the most sultry period of summer, from about July 3 to August 11. But did you know the name originated with ancient Greek observers to refer to the time extending from 20 days before to 20 days after the conjunction of Sirius—the *dog* star—and the sun? ... and I just thought it was referring to when my black lab spent a month sprawled in whatever shade he could find with his tongue out, not something Aristotle noticed about a star).

With this edition we're happy to announce that Cold Hollow to Canada has received a generous grant from the *Jessie B. Cox Charitable Trust Fund at the Boston Foundation*. The \$20,000 award will help CHC develop a formalized fundraising plan and expand the organization's individual membership and donor base to help accelerate the pace of conservation in our region. The grant funds will also assist CHC in re-vamping our website and outreach material to reach a broader audience and to better serve as a conduit for conversation, and a resource for information on conservation action in our region. Many thanks to the Cox Trust and



Boston Foundation for providing the financial backbone to help advance our vision of a healthy and intact forested landscape that supports a strong and sustainable local economy through stewardship, with permanent protection of core wildlife habitat and connectivity across the entire Northern Forest. Check out the Jessie B. Cox website for a full list of the five grants awarded across New England at <http://www.jbcoxtrust.org/?p=363>. Keep an eye on our website in the coming months (www.coldhollowtocanada.org) to track the exciting transformation taking place. Don't forget that you can always check out the calendar of events there to see what's happening in and around the CHC region.

We hope you enjoy this very full edition of the newsletter! Enclosed we'd also like to share an article on Forest Bird Habitat and Sugarbush Management, an update from Vermont's Commissioner of Forests, Parks and Recreation on Forest Fragmentation in the state, a Seasonal Twist on the Cold Hollow Mountains, news from a study concerning Ecological Relationships and Climate Change, book reviews, and a poem for the season from CHC's own Geoff Hewitt.

Thanks, and enjoy.

– The CHC Steering Committee



JOANNE WAZNY

VERMONT'S "SWEETEST" BIRD HABITAT

By Steve Hagenbuch, Conservation Biologist, Audubon Vermont

If you are a coffee drinker you have probably heard of the "bird-friendly" variety grown in the forests of Mexico and Central and South America. This endeavor has proven successful in meshing the economic needs of producers with healthy and resilient natural ecosystems that provide habitat for nesting and wintering bird species. How can Vermont fit into the "bird-friendly" product realm? Audubon Vermont along with its partners believes our state's signature product, maple syrup, is the answer.

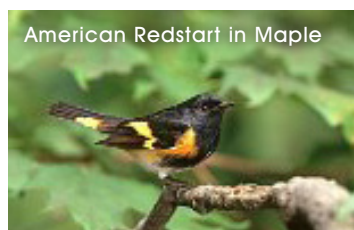
Each May many maple sugarbushes burst forth with a symphony of song produced by migratory bird species such as wood thrush, scarlet tanager, and black-throated blue warbler. As with any forest the management techniques applied to a sugarbush influence its structure and composition, and ultimately the quality of habitat for songbirds and other wildlife. Sugar maple monocultures may result in a short-term gain for maple producers but in the long term can have negative implications for sugarbush health and sustainability. A diversity of tree species, with at least 20–25% of the sugarbush (as measured by basal area) made up of species other than sugar maple is likely to reduce the frequency and intensity of sugar maple insect pests and disease. Not likely a coincidence, this same threshold has been shown to provide for a more diverse bird community and greater overall abundance of birds. Additionally the application of silvicultural systems that promote regeneration will help ensure a continual supply of sap producing trees and a more sustainable sugarbush in the long run. These same seedlings and saplings constitute the understory and midstory forest layers that the majority of forest birds nest and forage in. There are a number of other aspects of a sugarbush

supportive of birds that management can help in develop or maintain.

To promote the win/win situation that can exist for maple producers and bird conservation in a well-managed sugarbush Audubon Vermont along with the Vermont Department of Forests, Parks, and Recreation and the Vermont Maple Sugarmakers Association along with the cooperation a number of individual sugarmakers throughout the state, have recently initiated the "Bird-Friendly Maple Project." The goals of the project, which has received an initial round of funding from the Vermont Community Foundation, are to: (1) raise awareness about issues related to unsustainable sugarbush management, (2) engage more maple producers in bird-friendly management, (3) improve habitat for priority birds, and (4) create a meaningful way to promote and compensate maple producers who practice sustainable sugarbush management.



Black-throated Green Warbler in Maple



American Redstart in Maple



Scarlet Tanager

The next time you pour fresh Vermont maple syrup over your pancakes think for a moment that this liquid gold may have come from a sugarbush that played a

vital role in global bird conservation. And perhaps in the near future you'll be able to add recognized bird-friendly syrup to your morning cup of bird-friendly coffee.

For more information on the Bird Friendly Maple Project please contact Steve Hagenbuch at Audubon Vermont; 802-233-0332 or email shagenbuch@audubon.org.

CONNECTIONS

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FOR ANNA

Geof Hewitt



Your father lectures you on canoe safety.
He says the slightest shift
can fill the boat with water, so be still.

And having sat you safely in the center
Of its floor, he lets himself in
Talking all the time—now notice how I keep

Weight low and to the center, he preaches
As the side goes under and he swamps it.
In these thin waters, a seasonal marsh that comes to life each spring with peepers,
There is little danger of drowning as long as one
Doesn't try to swim but stands in the knee-deepest parts.
And he does and so do you, both sputtering.

After helping him beach and empty the canoe,
With the wisdom and trust of a child
you insist that he be first, then board his boat again.

Reprinted with permission from *The Perfect Heart: Select and New Poems*,
Mayapple Press 2010



A REPORT ON FOREST FRAGMENTATION

By Michael Snyder, Commissioner of Vermont Forests, Parks and Recreation

SUMMER
2015



A report on forest fragmentation was recently presented to the Vermont Legislature. The report describes the forests of Vermont, and outlines their many benefits and corresponding values. The report also looks at forest fragmentation, considering the causes and trends as well as the impacts that fragmentation will have on all of those same forest values—and it lists policy options to maintain forest integrity.

Currently at 75% forested, Vermont is the fourth most forested state in the US. Indeed, forests have covered Vermont since well before the state existed, though many changes in the nature and extent of our forests have occurred over the course of history. The vast majority of Vermont's forestland is held by private landowners (80%). A relatively small proportion of Vermont's forest is public land (20%), including the Green Mountain National Forest, many state parks and state forests, and a smaller number of municipal forests.

Although Vermont's forests are still largely owned by private landowners, the demographics of those owners are changing in important ways, with

significant implications for the size and integrity of our forests. The number of landowners is increasing, the size of the parcels is decreasing, and the age of owners is increasing. These changes bring new pressures on the forests of Vermont. Indeed, the rate of development in Vermont is increasing twice as fast as the state's population. This problem is compounded by the fact that population growth is occurring mostly in rural areas, where forestland and other working and undeveloped lands are concentrated. Accordingly, Vermont's forests are at risk of fragmentation.

Forest fragmentation is the breaking of large, contiguous forested areas into smaller pieces, typically by roads, agriculture, utility corridors, subdivisions or other human development. It usually occurs incrementally, beginning with cleared swaths or pockets of non-forest within an otherwise unbroken expanse of tree cover. Then, over time, those nonforest pockets tend to multiply and expand and eventually the forest is fragmented and reduced to scattered, disconnected forest islands. The remnant forest islands that result from fragmentation are

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surrounded by non-forest lands and land uses that seriously threaten the health, function, and value of those forest islands for both animal and plant habitats and for human use.

Any land-use change can lead to forest fragmentation. The extent of actual impact depends on the type of change, the degree of fragmentation, and the species involved. It is important to distinguish between a forest fragmented by human infrastructure development and a forest of mixed ages and varied canopy closure that results from good forest management. The former is typically much more damaging to forest health and habitat quality, usually with permanent negative effects, whereas the latter may only cause temporary change in forest condition, while continuing to support multiple forest benefits.

In general, fragmentation reduces overall forest health and degrades habitat quality, leading to long-term loss of biodiversity, increases in invasive plants, pests, and pathogens, and reduction in water quality. The wide range of these effects all stem from two basic problems: fragmentation increases isolation between forest communities and it increases so-called edge effects within fragments. Isolation diminishes connectivity, inhibiting the movement of plants and animals, restricting breeding and gene flow, and resulting in long-term population declines.

While this may be more difficult to observe directly, we do know that connectivity of forest

habitats is a key component for forest adaptation and response to climate change. Edge effects alter growing conditions within the interior of forests through drastic changes in temperature, moisture, light, and wind on the edges. Put simply, the environment of the adjacent non-forest land use dominates and determines the environment of the forest fragment, particularly on its edges. This triggers a cascade of ill effects on the health, growth and survivability of trees, flowers, ferns, and lichens and an array of secondary effects on the animals that depend on them, including humans.

Moreover, as forest fragments become ever smaller, practicing forestry in them becomes operationally impractical, economically non-viable, and culturally unacceptable. In turn, we lose the important contributions that forestry makes to our economy and culture. The result is a rapid acceleration of further fragmentation and then permanent loss.

Forests provide Vermonters with enormous benefits and a range of critical services. A thriving forest economy, functioning natural systems, and Vermont's quality of life rely on maintaining blocks of contiguous forests across Vermont's landscape. As we enter the 21st century, Vermont's forests have the potential to provide an abundance of economic, ecological, and social benefits into the future, and decisions and actions taken today will influence Vermont's forests and forest values for years to come.

Over the years, much thought has gone into how we might balance Vermont's anticipated growth with our interest in maintaining our traditional settlement patterns—with village centers surrounded by fields, farms and healthy, working forests. In order to protect the integrity of Vermont's forests, it will be important to:

- Educate and engage Vermont landowners, schoolchildren, municipalities and land-use decision makers (e.g. realtors and developers) about the economic and ecological benefits of large forest blocks and the connectivity among smaller forest blocks;

continued on page 7

- Continue to invest in land conservation and strategically target investments to focus on areas that have the greatest ecological and economic values and are most at risk;
- Support existing landowners to keep their land forested and to encourage new growth in existing settlements and near existing roadways to avoid incursions into high value forest blocks;
- Consider additional tools for local governments and the state to discourage development that converts blocks of forest to other uses and requires mitigation when such development occurs; and
- Ensure that forest landowners can get value from their forested land through sustainable forestry practices and develop and create markets for Vermont forest products.

Given the importance of Vermont's forests and the many, often complex, policy options available to the state, it has become clear that additional dialog is needed before we move forward down any one policy pathway. We expect that as a

follow up to the Forest Fragmentation Report we will be facilitating a series of stakeholder conversations to gather comments and feedback on the potential policy options to address the challenge of forest fragmentation. We encourage you to share your thoughts.



Michael Snyder is the Commissioner of Forests, Parks and Recreation. This article is printed with the permission of the author.



SUMMER LOVIN'

By Bridget Butler, CHC Administrative Coordinator



Canada Warbler

Excuse me while I come down from the high of spring bird migration and collect myself. The last drips and dregs of migrating songbirds came to an end that first week of June. When the Blackpoll Warbler and the Tennessee Warbler who were camped out in my backyard in downtown St. Albans finally left for the mountain tops and the boreal forest respectively, I sighed. I was a bit sad but a bit relieved. I wouldn't be on edge anymore listening for errant migrants and making a dash outside with my binoculars.

And with that, I'll ease into summer enjoying the birds that have truly settled down to nest and raise their young. My birding adventures shift to watching sharply for parents carrying mouthfuls of beetles, flies and grubs for their young, or listening to the alarm sounds from moms and dads as I approach too closely to nearby nests. You too can watch for signs of breeding birds on your property, like carrying food into a nest or carrying fecal sacs out of the nest to keep things tidy. You can listen for the insistent begging calls of young birds and

then watch out for parents swooping in. If you're lucky, you may catch a glimpse of a fledgling taking food from a parent or watch them as they follow the adults learning to feed. Then take a moment and pat yourself on the back for providing such great habitat for these winged-wonders!

Summer also brings National Moth Week July 18th–26th which will get you out and about at night looking for some other winged wonders or studying what's still hanging out under your outdoor lights come morning. Some of us have had the great fortune of discovering a giant sphinx moth like the Cecropia or Luna moths with their 5–6 inch wingspan. Others of us may have delighted in finding the candy colored Rosy Maple Moth with its taffy pink and yellow coloration. We may get frustrated by the damage that the larval form of these creatures wreak on our landscape from time to time, but then again there are these moments of awe and beauty that are truly amazing. Want to find out what kinds of moths you have on your property? Consider hanging a white sheet between two trees and shining a bright light on



Cecropia Moth

MARVIN SMITH, CREATIVE COMMONS LICENSE VIA WIKIMEDIA COMMONS

it after dark. Or mix up some moth juice! Gather some over-ripened fruit, stale beer and a little sugar, mix it up, then paint some trees with it and see what shows up. You can [find a great recipe by visiting the National Moth Week website](#).

As we move deep into summer, there's reptilian magic happening just below the surface in many places. One of our terrestrial turtles, the Wood Turtle makes it's way from the rivers and winding streams in June to lay eggs in a sandy or gravelly

embankment near the water. She often returns to the same site year after year where she takes hours to excavate a hole that gets just the right amount of sun and then lays a clutch of about 11 eggs. All throughout the summer these eggs warm in the sun, allowing the baby turtles to develop inside and then hatch come fall. Adult Wood Turtles then spend the summer feeding and basking in open woodlands and fields, abandoned agriculture pastures or alder groves, always near a waterway. Because these turtles require a set of habitats—waterway & upland—and they often move between these habitats, connectivity between habitats is crucial. The Wood Turtle has been designated as a Species of Concern in Vermont and Vulnerable in neighboring Quebec. Reports of sightings of these turtles are most welcome as Cold Hollow to Canada looks to better understand how protecting forest connectivity and waterways in order to help this unique turtle. Please send your sightings and photos to info@coldhollowto-canada.org. You can learn more about the Wood Turtle in Vermont by visiting the [Vermont Reptile and Amphibian Atlas online](#) and contribute your sighting there.



Male Wood Turtle

MIKE JONES, PH.D., UNIVERSITY OF MASSACHUSETTS

A MOOSE, A BIRD, AND A SHRUB

By Charlie Hancock

Most of us have seen evidence of moose in our woods. The piles of marble sized fertilizer in the trail, the dinner plate sized tracks in the soft earth, and (of course) the worked over trees and shrubs that lack all foliage or supple growth below the height of an average NBA player. One plant species of particular delight to our Bullwinkle neighbors is hobblebush (*Viburnum lantanoides*). Named for its ability to trip those traipsing through the forest, moose will browse the twigs and buds of this species which are exposed above the snow pack during winter months. While the impacts we see primarily stimulate an aesthetic response in us—caused by the shrubs somewhat drastic change in growth pattern—a new project from the Northern States Research Cooperative has made the link between this activity and another of our forest friends—the Black-throated Blue Warbler—who make their summer home in our forests and prefer the hobblebush for nesting habitat.

Black-throated Blue Warbler in Hobblebush



Through the course of the project, titled *A Moose, a Bird, and a Shrub: An Ecological Relationship That May Change with Climate*, researchers tested the effect of moose browsing on changes in distribution and branching patterns of understory shrubs, leading to changes in habitat selection for Black-throated Blue Warbler. At the Hubbard

Brook Experimental Forest in New Hampshire, researchers measured and modeled moose activity (how much browse?), understory composition and structure (is hobblebush architecture different?), and bird abundance (how much more *zoo, zoo, zoo, zoo, zee* do we hear as a result of this change in nesting habitat?).

Findings from the project show that moose, by winter browsing, have a profound physical effect on hobblebush and (subsequently) Black-throated Blue Warbler nest site selection. A moose browses a patch of hobblebush—chomping the buds and twigs that protrude through the snow—and the plants develop more branches than they would otherwise. Within their own territories, Black-throated Blue Warblers prefer these browsed patches, typically making their nests just below the depth of the past winter snow pack, since the browse activity results in more branches and greater visual obscurity above the nest location.

The researchers then considered the implications of climate change on this connection, focusing specifically on the impacts to snow pack. While exact numbers are almost impossible to forecast, we are able to predict (based on trend data) that we'll see a decreasing snowpack as increasing temperatures prevail in our region, which is shared by these species. Decreasing snowpack would mean more browse availability for moose, and an increase in the positive impact to nesting habitat. This is especially interesting given that while numerous studies have shown severe negative effects of browse on understory plants and bird populations, few if any positive relationships have been described.

The myriad of ecological processes at work in our forests (such as the connection detailed in this study) are critical for maintaining biodiversity. Forces such as climate change that are applied to these processes make then vulnerable to change.

continued on page 11



CONNECTIONS

Since recolonizing the Northern Forest about 30 years ago, moose have become a charismatic symbol of the region. While moose and Black-throated Blue Warbler ranges overlap, under the forces of global climate change they may not always, and understanding the community dynamics and habitat preferences of these species (and others) may be critical for long-term management as habitats and communities reorganize. The importance of this understanding is true for all connections in the ecosystems that comprise

the place we call home, and as stewards of the land—making the decisions that will impact their survival—it's crucial that we grasp the interwoven nature of the world around us. As John Muir once wrote, “when we try to pick out anything by itself, we find it hitched to everything else in the Universe”.

A full copy of the report can be found at the Northern States Research Cooperative website: <http://nsrcforest.org>



THOMAS BERRIMAN

BOOK REVIEW: A LANDOWNER'S GUIDE— WILDLIFE HABITAT MANAGEMENT FOR LANDS IN VERMONT

By Bridget Butler, CHC Administrative Coordinator

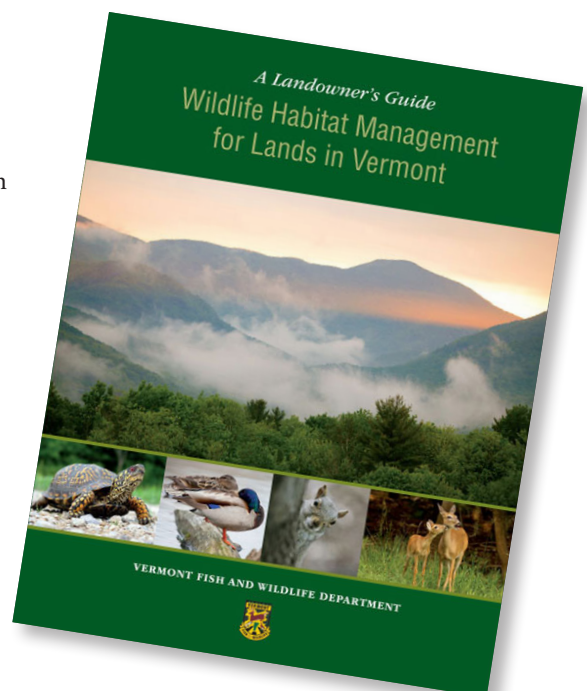
Released earlier this year, Vermont Fish & Wildlife's new guide on managing habitat for wildlife is a beautiful addition to any landowner's resource collection. The 134 page book, *A Landowner's Guide—Wildlife Habitat Management for Lands in Vermont*, seems a step up from the older version last printed in 1995 with a similar title.

Not only does the new version boast full color photos of Vermont natural communities, wildlife and maps, but it's layout is crisp and clean making it an easy, yet informative read. The book is divided into chapters based on various management approaches including an opening chapter dedicated to explaining the habitat planning process for landowners. Each chapter outlines practices appropriate for the particular habitat type or wildlife group and closes with a list of resources of interest for further exploration.

Landowners will find information on managing various habitat types from wetlands, to forests, to grasslands, to river corridors, and on practices to minimize invasive species or to maximize food sources for wildlife on their property. While the previous version had focused mainly on management techniques for game species, this new version also embraces the value of management for non-game species including forest and grassland birds, reptiles and amphibians, bats and pollinators. Game species including deer, black bear, grouse, waterfowl and many others each have their own chapter covering habitat requirements and habitat improvement.

A sample template for creating a habitat plan at the end of the book will help landowners capture their desires and dreams for their property in a format that can be used in formal habitat and stewardship planning with the support from a county or consulting forester. Use of the state's online Natural Resource Atlas is also mentioned often throughout book as a tool to help in this process.

The Landowner's Guide was developed by the Fish & Wildlife Department in partnership with the Vermont Department of Forests, Parks and Recreation as well as the U.S.D.A.'s Natural Resource Conservation Service. Each chapter was authored by biologists and land managers with the Vermont Fish & Wildlife Department, with guidance and technical input from foresters and wildlife biologists from partnering organizations. *A Landowner's Guide—Wildlife Habitat Management for Lands in Vermont* is available at www.vtfishandwildlife.com for \$12.00.



UPCOMING EVENTS

BAKERSFIELD CONSERVATION COMMISSION

Meets the last Monday of every month at 1:00 PM in the Town Hall Building, 40 East Bakersfield Rd, Bakersfield.

ENOSBURGH CONSERVATION COMMISSION

Meets the fourth Monday of every month at 7:30 PM at the Cold Hollow Career Center, 184 Missisquoi St., Enosburg Falls.

MONTGOMERY CONSERVATION COMMISSION

Meets the first Wednesday of every month from 5:30 to 7:30 PM at the Montgomery Town Office, 98 Main St (VT Route 118), Montgomery Center.

RICHFORD CONSERVATION COMMISSION

Meets the fourth Tuesday of the month at 5:00 PM in the upstairs conference room of the Arvin A. Brown Public Library, 88 Main St, Richford.

WILD AND SCENIC RIVER STUDY COMMITTEE

Meets the third Thursday of every month from 7:00 PM to 9:00 PM. Locations vary so visit www.vtwsr.org for up-to-date information.

COLD HOLLOW TO CANADA STEERING COMMITTEE

Meets the third Monday of each month from 6:00 to 8:00 PM at the Cold Hollow Career Center in Enosburg Falls or Bakersfield Library. We rotate the location, so please let us know if you'll be joining us. It'd be great to see you there.

Celebrate the Missisquoi River June, July & August

Sponsored by Northern Forest Canoe Trail, US Fish & Wildlife Service, Friends of Northern Lake Champlain, Missisquoi River Basin Association, VT Wild & Scenic Rivers, the National Park Service and the Town of Richford

Contact: info@celebratethemissisquoi.com

It all kicks off the first weekend in June, by celebrating the designation of the Trout and Upper Missisquoi Rivers as Wild & Scenic! Come enjoy live music, food, a guided paddle and a ceremony at the Abbey in Enosburg Falls. The celebration will continue throughout the summer with a variety of events (see canoe trip below) including a speaker series featuring Nancy Patch in August.

For a complete calendar visit: www.celebratethemissisquoi.com

Canoe Trip North of the Border

Saturday, June 20th

9:30 – 2:00 pm

Co-sponsored by CHC, Northern Forest Canoe Trail & Appalachian Corridor

Registration is required!

Kevin@northernforestcanoetrail.org or 802-535-5855.

All participants must sign a waiver.

We will paddle the 7 miles (11km) from Highwater to Glen Sutton. This trip is co-sponsored by the CHC, Northern Forest Canoe Trail and with Appalachian Corridor, and is co-led by conservation leader Bridget Butler and ecologist Russ Ford. The focus of this trip is exploring and protecting the ecological integrity of the Northern Green Mountains and Sutton Range. This is an easy river trip, suited for paddlers of all levels of experiences and ages. Bring your own paddling gear, water, and snacks. If you don't have a canoe or kayak we may be able connect you with someone with space, or point you to a local canoe/kayak rental business.

Pre-registration is required. Limit 10 boats. We'll meet to begin paddling at 9:30am and expect to be off the water by 2pm.

Please remember to bring your passport or proof of citizenship if you are coming across the international border.

Waivers: We are required to ask all participants to sign a waiver. **Please sign an online waiver: [Adult](#) [Minor](#)**

Connectivity and Conservation in the Northern Green Mountains

Thursday, August 6th, 7:00 pm

Sponsored by Cold Hollow to Canada, Northern Forest Canoe Trail, and Richford Conservation Commission

Contact: Nancy Patch (802) 524-6501

or nancy.patch@state.vt.us

The Enosburg Falls Conservation Commission will be hosting Nancy Patch who will be representing Cold Hollow to Canada Regional Partnership as she discusses the topic of Conservation and Connectivity in our region. This includes the function of our streams and rivers as important areas of landscape connectivity. About the Speaker: Nancy Patch is the Franklin-Grand Isle County Forester with the VTFFPR. Nancy has a B.S. in Forestry, an M.A. in Education from UVM, and an M.S. in Plant & Soil Science from Texas A&M-Kingsville. Nancy is co-founder of Cold Hollow to Canada Regional Conservation Partnership, a member of the Board of Directors for Two countries, One Forest, and she currently serves on the national Forest Guild's Membership and Policy Council. Nancy is also a member of the Enosburg Conservation Commission.

Save the Date! Cold Hollow to Canada Annual Gathering

Saturday September 12th 2015, 12–5pm

Join us for an afternoon of field walks, indoor presentations, and delicious food as we celebrate the place we call home and CHC's 7th Birthday! Full program details to come.

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