

Littleton Conservation Trust



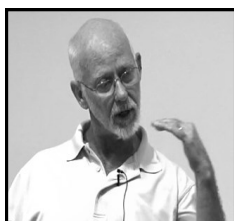
Newsletter

Spring 2016

"Gifts of the Glaciers" - LCT Annual Meeting

June 15th, Wednesday, 7-9:30pm
 Congregational Church of Littleton, 300 King Street
 Free - Open to the Public - Light Refreshments

LCT will conduct its Annual Meeting from 7-7:15pm followed by the 7:30pm "Gifts of the Glacier" presentation.



"Gifts of the Glaciers" will be presented by environmental designer and engineer Bob Pine (left) and archaeologist-historian Mike Roberts (bottom right).



It will focus on glacial land forms, including Tophet Chasm, left by the retreating glacier, glacial Lake Nashua, and forceful meltwaters, and how those guided subsequent land use by the indigenous Native Americans and colonial settlers who took advantage of plentiful water resources and deposited mineral rich soils for hunting, gathering, and farming.

Huge Glacial Lakes Like Lake Nashua



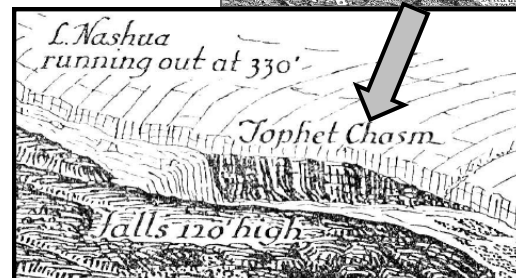
This program will examine how glacial forces carved the local landscape leaving a variety of dramatic landforms which in turn produced a very rich and diverse plant and wildlife ecosystem within that natural landscape.

Bob Pine is principal and founder of Pine and Swallow Environmental, a Professional Engineer and Landscape Architect, and a Director of the Groton Conservation Trust for over 30 years. Mike Roberts is a Professional Archaeologist and former President of Timelines, a local archaeological-historical preservation firm. Mike is a founding Director of Historic Massachusetts and the Institute for Conservation Archaeology at Harvard University's Peabody Museum. Mike has worked on over 800 archaeological and historic preservation projects, large and small, spanning New England and the eastern seaboard. ■



Oak Hill Tophet Chasm-Littleton's Grand Natural Wonder - Hidden Treasure Success

On Saturday, May 14th, the LCT and Historical Society produced "Oak Hill Tophet Chasm", a public outdoor educational event, highlighting the natural area where plunging glacial meltwater cascaded over a high ledge and carved into the bedrock 120 feet below to create the Tophet Swamp drainage area. The historic glacial waterfall ledge above is now dry but the bottom of the mucky swamp below has yet to be found. Niagara Falls is only 56 feet higher!



Reproduced from "Tophet Chasm, the Drainage Waterfall of Glacial Lake Nashua", by Richard J. Lougee, *Appalachia*, June 1956, pp. 15-20, with permission from the Appalachian Mountain Club

See *Oak Hill Tophet Chasm* continued on page 5



LCTV Video on Demand - Virtual Walks and Local Geology by William Vales

Littleton Community Television provides two conservation oriented programs - one on Littleton Conservations Trails, "Your Back Yard", and another on Local Geology, "Littleton Rocks". They can be viewed on local TV regular programming (see littletonma.org/Program-Schedule-Public) or can be accessed anytime through LCTV On Demand (see littleton.vod.castus.tv/vod/). For detailed instructions on how to access LCTV On Demand, please see littletonconservationtrust.org/accessing-lctv-on-demand/



LCT Guided Walks - Upcoming and Recent



Oak Hill Guided Hike, 6/25, Sat, 10am-Noon - See page 3
 Earth Day Vernal Pool Exploration, 4/22 - See page 5
 Nesting Box Walk at Long Lake Park, 6/4 - See page 4



**LCT
Board of Trustees
June 2016**

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www.littletonconservationtrust.org
www.facebook.com/Littletonconservationtrust

The Littleton Conservation Trust (LCT), distinct from the Town's Conservation Commission, is a private land trust formed in 1962 to promote Littleton's rural character; to preserve its water, plant, and wildlife resources, and its unique views; and to provide environmental education. The LCT is caretaker of over 300 acres of property (gifted from far-sighted residents) on which we manage a public trails system.

Littleton Conservation News compiled by Don MacIver

- ➡ The municipal **Conservation Commission's** newest member is **Chase Gerbig**, an experienced civil and environmental engineer. Dr. Gerbig is employed as a Project Engineer at Roux Associates in Woburn.
- ➡ Soon the **Conservation Commission** will commence restorative work at **Cloverdale** by removing the tangled mess of broken trees and invasive vines, including some old snags close to Great Road. This work involves heavy equipment and has been delayed due to the winter's unfrozen ground followed by wet spring soils. Cloverdale was originally part of the Mannion family farm and then was acquired by the town **Park and Recreation Department**. Recently it was traded for land closer to other recreational sites. Upon inheriting this unmanaged land the **Conservation Commission**, with help of the **Littleton Conservation Trust**, has sought to restore it to meadow and open woodland with trails and picnic areas or perhaps active agriculture and grazing.
- ➡ **LCT Trustee Fran Meyers** assisted the **Council on Aging (COA)** in launching its new mid-week walking program, **Prime Time Trekkers (PTT)**. It is modeled after COA's successful sister kayaking program, **Prime Time Paddlers (PTP)**. For information on PTT or PTP, please contact **Nancy Levine** at 978-486-3347 or PNLGMR@aol.com.
- ➡ Soon the Feasibility Study for restoring the 48 acre Mill Pond will be initiated under the Army Corps of Engineers with assistance from the **Clean Lakes Committee (CLC)** and the **Littleton Water Department (LWD)**. Due to nonpoint source pollution and natural eutrophication this water resource has been seriously degraded and choked with vegetation severely limiting its use for wildlife and recreation. The LCT has agreed in principle to use its own pond side land to assist in this much needed effort. Advocates for this restoration project include **CLC member** and **LCT trustee Steve Sussman** and **LWD Water Analyst Corey Godfrey**.
- ➡ The nonprofit **Littleton Community Farm**, located at 32 Foster St and behind Fay Park, is offering 18-week Community Supported Agriculture (CSA) shares. Please see littletoncommunityfarm.org/csa/.
- ➡ Once again, **First Church Unitarian (FCU)**, 19 Foster St., is offering free booth space to all local farmers and nonprofit community organizations at its annual fundraiser, **Littleton Country Fair**, to be held on Saturday, September 10th, 10am-4pm, at Fay Park. Farmers and nonprofit community booths retain full revenue. For inquiries contact the Fair Chair at fair@fculittle.org. LCT provides free do-it-yourself hand made cider with its manual cider mill and local apples generously donated from the Town's **Nagog Hill Orchards** under leased management by Debbie and Charles Auger. Famous for their peaches, apples, and other local fruits, Nagog Hill Orchards is located at **74 Nagog Hill Rd.** close to Nashoba Rd.
- ➡ **Littleton Trails**, a public group Facebook site is an interactive site to share stories, photos, and observations of Littleton's conservation lands and area wildlife. See www.facebook.com/groups/639049749490984.
- ➡ **Jim O'Neil**, **LCT Trail Crew Coordinator**, maintains a trail worker email distribution list. When work projects are planned, notifications and updates are distributed to its member list. Jim can be reached at JFOneil63@verizon.net.

For donations under \$1,000 we also accept credit card payments online <http://littletonconservationtrust.org/donate>

Littleton Conservation Trust Membership Form – 2015 - 2016

☐ New ☐ Renewal

Date: ____/____/____
(Date determines year of tax deduction)

Name: _____

Address: _____

Phone: _____ Email: _____

*Please provide an email address to receive notification of upcoming walks and conservation-related events.
Checks should be made out to the "Littleton Conservation Trust " or just "LCT".*

- | | |
|--|--|
| <input type="checkbox"/> Individual: \$25 | <input type="checkbox"/> Family: \$40 |
| <input type="checkbox"/> Friend: \$100 | <input type="checkbox"/> Supporter: \$250 |
| <input type="checkbox"/> Patron: \$500 | <input type="checkbox"/> Benefactor: \$1,000 |
| <input type="checkbox"/> Other: \$ _____ | |
| <input type="checkbox"/> Gift to Permanent Fund: \$ _____ | |
| <input type="checkbox"/> Please send me information about how to preserve my own land. | |

Please send form to:

Kathy Stevens, Treasurer
Littleton Conservation Trust
PO Box 594
Littleton, MA 01460



Promote Good Conservation in Littleton through Membership, Donation, and Memorial Gift



Please help us take care of the many protected conservation lands in Littleton, both private LCT managed lands and those town owned and under the control of the municipal Conservation Commission, so that we, and future generations, can continue to enjoy the outdoors and associated wildlife.

You can join or renew your membership either online or by mailing a check through the US postal system:

- ⇒ To join or renew online by credit card or through PayPal, go to: littletonconservationtrust.org/donate/ .
- ⇒ To join or renew by check, use the form on the top of this page and mail.

Littleton Conservation Trust memberships, donations, and memorial gifts are fully tax deductible. Thank you for your continued support of conservation in Littleton and the work of the all volunteer Littleton Conservation Trust, the land stewards, and the trail crew who maintain these lands.

Littleton Conservation lands are publicly accessible to all. A **Guide to Conservation Lands** can be purchased for cost (\$10) at the Reuben Hoar Library or obtained for free online at littletonconservationtrust.org/trail-guide/ .■

Littleton-Boxborough Area Birding Group

If you are specifically interested in bird watching walks in the Acton, Boxborough, Bolton, Harvard, Littleton, and Stow area subscribe to the group at boxboroughbirders.org .■

Receive Notifications on Guided Walks and Events

If you enjoy being outdoors, are interested in trails, wildlife, and history in and near Littleton, want to meet people with similar interests, or just need to get out and stretch your legs, consider joining a LCT guided walk. These walks are open to all, free of charge, and fun! Walks will be announced on the Littleton Conservation Trust website, listed in the Littleton Conservation Trust events calendar and automatically sent to the Littleton Conservation Trust email list. Sign up at littletonconservationtrust.org/contact-us/subscribe/ .

If you are interested in receiving notifications on outdoor-oriented events and nature observations west of Boston and sponsored by a variety of local organizations subscribe to Sudbury Valley Trustees free weekly bulletin "Outdoors this Week" at svtweb.org/programs/outdoors-week . ■

Oak Hill Guided Walk , June 25th, 10 am-12 noon

Join Land Steward Bill Brown for an easy two-hour hike over part of the 220-acre Oak Hill Conservation Land. The planned route is 2.5 miles long and has about 600 feet of ascent. Meet at the parking area off Oak Hill Rd. We will see the geologically significant Tophet Chasm, visit the highest point (508') in Littleton, and enjoy the vista at Lookout Rock. Please see the trail descriptions and area map at littletonconservationtrust.org/trail-guide/browse-trails/?trailid=14

There is no fee and no pre-registration is required. Hiking shoes or other footwear with good traction are recommended, as parts of the trails are rocky and steep. No dogs allowed on this hike. In the event of rain, the hike will be rescheduled. To ask questions about this hike, call Bill at 978-486-3303 . ■

"Who Will Hold the Sky Up Now the Big Trees are Down?"

by Don MacIver



Charles E. "Chuck" Roth
1/14/1934 - 2/21/2016

With sadness, we report that LCT trustee emeritus Chuck Roth has passed away due to declining health. Chuck served as past LCT President and Conservation Commission Chair.

Chuck was primarily responsible for the donation of LCT's 98 acre Sarah Doublet Forest and Nature Preserve, the core of the original Nashoba Praying Indian Plantation and subsequent smaller acre Newtown [Indian]

Village. Chuck inventoried over 500 species there.

A wildlife biologist and conservation educator by training, Chuck was appointed Massachusetts Audubon Society's first Director of Education, where he served for 30 years. He was founding director of the Massachusetts Environmental Education Society (MEES), New England Environmental Education Alliance, and Secretary's Advisory Group on Energy and Environmental Education (SAGEE). His environmental education (EE) leadership, spanning some 50 years, included an international reputation and mentorship for many current national environmental educators. Chuck authored countless nature and EE books and was a recognized wildlife artist in paint, illustration, and wood carving.

Chuck was responsible for the state's adoption of many EE programs used within local school systems. Additionally, he provided teacher EE training for those in city and town. Known as the "Father of Environmental Literacy", a term he coined, he played a fundamental role in creating a comprehensive and updated EE plan for the state. His educational influence help set the direction for Drumlin Farm and Mass Audubon where today he is simply referred to as a Legend.

A theme at Chuck's memorial service was the Douglas Wood nature song "The Big Trees are Down", referring to lost conservation giants such as John Muir and Rachel Carson. The phrase comes "...Who will hold the sky up now the big trees are down?" The audience culminating response is "We will hold the sky up now the big trees are down". This song also applies aptly to Chuck Roth.

Chuck's son Rick and family reside in Littleton. Rick is known for his popular Creature Teachers educational animal presentations and is also a nature artist, noted for work in paint, wood carving, and pottery.

Recently, Littleton has experienced losses of several outstanding conservationists, including LCT trustee emeriti Gina Sprong and Edith Smith, long-time LCT member Ron Pickett, and Conservation Commissioner Peter Tierney. ■

Bluebird-Tree Swallow Nest Box Walk at Long Lake Park - June 4th

by Dustin Neild

A guided walk of Long Lake Park was scheduled for June 4th in order to highlight our native bird nest box program, now in its 2nd successful year. Timing was key as the height of the nesting season meant that nest boxes were populated at every stage of development. A successful Easter Bluebird clutch had already fledged, but numerous tree swallow residents were present at every stage: completed nests, eggs being incubated, new hatchlings, and hungry nestlings readying to fledge. If you have not been to Long Lake Park in May or early June – put it on your "must-see" list of nature experiences.



Bluebird Development - Photos by
Kristin Hood and Dustin Neild

Last year, the program at Long Lake Park successfully fledged 28 Tree Swallows and 2 Bluebirds in 8 nest boxes (plus 21 Wood Ducks, elsewhere). This year the boxes were doubled and paired up to allow more possible nest sites. Although this approach has increased competition somewhat from non-native/invasive house sparrows, our volunteer nestbox monitors have done an excellent job deterring them, which has resulted in every pair of boxes hosting at least one pair of Bluebirds or Tree Swallows. Additional nest boxes have also been installed at Prouty/NEFF which have so far hosted Black-Capped Chickadees and House Wrens. We continue to monitor additional boxes for potential American Kestrel, Barred Owl, and Wood Duck residents.

In natural cavities - which are scarce - songbird mortality rates are very high, often exceeding 50-60%. Our program is currently performing at 85-90% or higher success rates by providing high quality nest sites, employing nest box best practices recommend by the Cornell Lab of Ornithology and The North American Bluebird Society, and managing invasive species activity early & often. A terrific example of this was our first Bluebird clutch this season: 5 eggs were laid (a high number for them) and as of this writing all 5 were healthy just 1-2 days prior to their expected fledge. They are shown here on hatch day, at approximately 6 days old and again at 15 days of development, on their final box check. Special thanks to Kristin & Ellie Hood for their time and energy contributions to this program. ■

UNACC - Gugumij Native American Drummers

Chief Jerome and Elders from the United Native American Cultural Center at Devens (unacc.org) drummed and sang at the Oak Hill Tophet Chasm Hidden Treasure event. For photos and drumming and singing videos, see www.facebook.com/LittletonConservationTrust/?fref=ts . ■

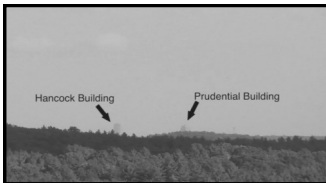


Other noteworthy natural and cultural features of the Oak Hill Conservation Land were identified with interpreted signage and friendly guides. Lookout Rock, at the height of a steep cliff, provides sweeping views of the town and road systems below and a vantage point to gaze at the skyscrapers piercing the Boston Basin hilly rim eastward.

To large crowds, native New England animals were displayed by naturalist Rick Roth. Native American oral traditions characteristic of this unusual site were practiced with storytelling and drumming and chanting. Colonial stagecoach metal rimmed wheel tracks worn into the rock were still evident from the historic coach run skirting the hill on its level route from Acton to Ayer. More modern usages were also pointed out, including remnants from an abandoned Air Force test site, a huge water tank supplying the town's current water needs, and today's heavily-used and well-marked scenic hiking and biking trails. Many people from a dozen towns came to experience Oak Hill's grand natural wonder -Tophet Chasm.

William Vales, conservationist, produced a portfolio of some 70 images focusing on the Oak Hill Area, highlighting its land forms and geology. His portfolio is available for viewing at the Littleton Historical society or online at LCT's website at littletonconservationtrust.org/oak-hill-and-tophet-chasm/

Littleton's Hidden Treasure event was created and run by the LCT and the Historical Society, with co-sponsorship from their municipal partners, Littleton's Historical and Conservation Commissions, and the National Park Service supported Freedom's Way National Heritage Area. ■



Photos by Michelle Barry and William Vales. (Top to bottom, left to right) Hidden Treasures Welcome Tent, Lookout Rock view of Boston skyscrapers, Gray Fox, Rick Roth holding Woodchuck, colonial stagecoach steel rimmed wheel tracks worn in bedrock, storytelling as Algonquin oral tradition, Chief Jerome and UNACC Gugumij Drummers (see story on page 4).

Earth Day Vernal Pool Exploration Thrilled All Ages - April 22nd

by Dustin Neild



Spring Peeper

In a first-of-its kind event, LCT Stewards Dustin Neild and Jim O'Neil were joined by 6 local children and 5 adults for an Earth Day vernal pool exploration on April 22, at dusk. The sunset timing was really good for exploring these unique and valuable ecosystems.

The site (Cobb, from the end of Pickard Lane), was perfect for this activity, with 3 easily accessible vernal pools. The highlights of the walk were eastern red-backed salamanders discovered under logs and spring peepers (small frogs that you hear peeping in springtime). The peepers were so close that all you needed was a keen ear to zone in on one and then a diligent eye to scan each branch of the tree you had focused in on. Many of the quarter-sized amphibians were low, around waist high on small saplings, filling their throat sacs with air for each loud "PEEP"!

The group didn't find any wood frog or spotted salamander egg masses as hoped but we did see green frogs and one American Bullfrog. The children enjoyed the adventure and the discoveries while the adults enjoyed the experience and watching the kid's excitement. The unique setting and all-ages nature of this outing have us already planning it again for next year! ■



Remnants of Air Force Cambridge Research Laboratory Site on Oak Hill

by Gerry Cavallo

A chain link fence, concrete antenna anchors and an outhouse are all that remain of the Air Force Cambridge Research Laboratory (AFCRL) site active on Oak Hill between 1958 and 1961. The Oak Hill site was chosen because of its ease of access from Hanscom Field and the "rather remote location of the site from the metropolitan area assuring little if any electronic noise contribution from man-made sources". The Oak Hill laboratory played a significant role in helping us survive the cold war by proving out the feasibility of scattering radio waves off the ionosphere to ensure aircraft could be recalled from their nuclear strike mission in the event of a false alarm, thereby averting the terrifying scenarios portrayed in the Hollywood productions of Failsafe and Dr. Strangelove.



Model of AFCRL Oak Hill Site

The experiment consisted of a transmitting site at Prospect Hill in Waltham, a KC-135 Air Force jet and the receiving site on Oak Hill. The aircraft flew a route from Hanscom Field 1500 miles north to Frobisher Bay Canada and ultimately successfully communicated with both sites.

A model of the site and the AFCRL test report are on display at the Historical Society. ■



P.O. Box 594
Littleton, MA 01460

*"Preserving Our Rural Landscape"
for over 50 Years*



Calendar of Events

6/4 10-noon	LCT Walk at Long Lake Park - Blue Birds and Tree Swallows. Visit nesting boxes. Enjoy scenic views. See page 4
6/11 10am -1pm	Zero Waste Day, High School, 56 King St See tinyurl.com/LittletonSustainability
6/13 6-9 pm	Master Plan Visioning Session, Middle Sch, 55 Russell St Dinner at 6pm; Program at 7-9 pm; Childcare available
6/15 7-9:30 pm	LCT Annual Meeting; "Gifts of the Glaciers" program Congregational Church of Littleton, 300 King St.
6/25-10 am	LCT Walk at Oak Hill - Enjoy scenic views. See page 3

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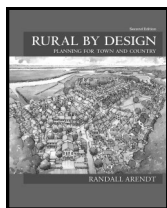
This newsletter is printed on recycled paper (20% post-consumer waste)

The Book Corner

This and other donated books can be found at the Reuben Hoar Library

Rural by Design: Planning for Town and Country, 2nd edition, 2015

by Randall Arendt



Rural by Design: Planning for Town and Country, 2nd edition, published in 2015 by the American Planning Association (APA) Planners Press, is a paperback in easy-to-use large format, with some 552 pages, extensive bibliography, and detailed index. The broad in scope and retooled content spans some 25

chapters categorized in six major areas: The Character of Towns, Design Approaches, Implementation Techniques, Designing Man-Made Structures, Protecting the Natural Infrastructure, and finally Case Studies.

This title is completely revised, with some 80% new material, 900 color illustrations, and some 84 case studies (many from the Northeast). Some chapters of particular relevance to our community are Strengthening Town Centers, Downtown Commercial and Mixed Use Case Studies, Rural Residential Case Studies, Broadening Housing Choices, Sustainability, Protecting and Restoring the Green Infrastructure Network, Retaining Farmland and Farmers, Transfer of Development Rights in Small Communities, and Designing Subdivisions to Save Land.

Noted planners and community land use practitioners have variously described this very readable and easy to use book

as "seminal", "foundational", "definitive", "comprehensive", "a great book made even better", and "part reference manual, part guidebook, and part inspiration". Not to be displayed prominently on the bookshelf just for show, this book is immensely useful and is intended for hands on use by a wide audience - as cited by a prominent peer planner "... This new edition will be invaluable to educators, to practitioners, to planning advocates, commission members, public officials and private landowners and developers—anyone with identifying and discouraging poor development practices and defining and encouraging state of the art initiatives for our often beleaguered rural, hamlet, and suburban communities."

■ *Review Repeated by Request*

About the Author: Randall Arendt is a landscape planner, site designer, author of over 20 publications, internationally sought after lecturer, and much acclaimed advocate for conservation planning. His proven approach of designing to fit within the landscape and the surrounding areas is referred to as "twice green"- providing high quality results for both the environment and the economy. He is the former director of planning and research at the Center for Rural Massachusetts at UMass at Amherst. Considered the "dean of the conservation subdivision" his 40 years of practice spans projects in 21 states and five Canadian provinces. ■

