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# THE The Colebrook Land Conservancy NEWSLETTER

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*"In Land We Trust"*

*Fall 2017*

## The Kitchel Wilderness, Colebrook's Hidden Gem



**C**olebrook is defined by its forested landscape, but it's more than just "woods". If you peek behind the trees along our roads, you'll find a remarkable diversity of habitats including hilltop, midslope, and low-slope oak forests; hemlock and beech woods; exposed ledge, talus, and rock ravine communities; wooded and shrub swamps; marshes; stream and stream bank communities; and more. Bobcat, black bear, gray and red fox, fisher, mink, and deer live here

among us. Our family and friends from other places think that we live in the wilderness. Do we?

Webster defines wilderness as "an area essentially undisturbed by human activity together with its naturally developed life community." Pioneering conservationist Aldo Leopold called wilderness a "base-datum of normality, a picture of how healthy land maintains itself as an organism." The word wilderness derives from the notion of "wildness"—in other

words, that which is not controlled by humans. Thus, it is the wildness of a place that makes it a wilderness. Wild places are those where nature is free to reach equilibrium states over timescales that are incomprehensible to people. As humans, it's hard to practice restraint and cede control of the forest to herself. But only by liberating the forest from our influence can she revert once again to a primordial state.

Algonquin State Forest is the home

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of the “Kitchel Wilderness”, an almost 600-acre state-designated Natural Area Preserve (NAP) that is forever protected from logging. It is a place of extraordinary biodiversity that justifies its NAP assignment. In a 2001 comparative vascular-plant study of the Kitchel Wilderness and the Phelps Research Area, a site in the upper Sandy Brook watershed that harbored the last virgin timber in Connecticut before it was felled in 1912, Botanist Bill Moorhead found a striking similarity between the Phelps 1911 condition (76 species as recorded by George Nichols of Yale), the Phelps 2001 condition (69 species), and Kitchel’s 2001 condition (72 species). Such states exist at Kitchel and Phelps because of the absence of logging in these ecosystems in the last 100 years. Beyond species

diversity measures, Moorhead identified 55 community types within the Kitchel Wilderness, a rather stunning number.

Being a legally protected Forever Wild preserve means that the Kitchel Wilderness will someday harbor old-growth trees of Eastern hardwoods and softwoods that range in age from fresh seedlings to 600-year-old monarchs. Such protection is exceedingly rare in the East. Large, old trees are invaluable as reservoirs of genetic diversity, robust seed sources for perpetual forest regeneration, refuges for old-growth dependent wildlife, and examples for forest restoration in the managed landscape. Given what we do and do not know about how eastern forest ecosystems function, one can conclude that all large old trees are ecologically significant, and that forest

health is dependent upon them. As stated by forest entomologist Boyd Wickman, “these trees are living examples of our long-term objectives to co-exist with nature”. The Forever Wild Kitchel Wilderness will not be subjected to structural and functional simplification (an outcome of selective forest harvest practices), the loss of soil and soil nutrients, the pollution of water resources, and the rampant invasion by exotic species that threatens forests and forestry. An old-growth forest ecosystem does not contain just old trees: it contains a wide range of forest species of all age classes as was definitively demonstrated in Nichols’ 1911 work in the nearby virgin Phelps Research Area. The literature also indicates that old growth ecosystems are extremely stable (i.e., resistant and resilient over long time periods) with intervals of 1500 to 3000 years or more between moderate to heavy natural disturbance events with some persistence to over 8000 years. Someday, the Kitchel Wilderness will be reminiscent of the forests of the post-glacial Holocene. This is an absolutely incredible legacy that we will leave for the future.

Clinton Anderson, Senator and architect of the 1964 Wilderness Act, said, “Wilderness is an anchor to windward”. He understood the relationship between humans and wilderness. He believed that the simple presence of an occasional person does not disqualify an area from being wilderness. Many ecosystems that are visited by humans may still be considered wild. This way of looking at wilderness must include a conscious awareness of and commitment to natural processes operating without direct human interference.

In sum, preserving largely untouched wilderness areas offers a host of benefits. It provides havens for wildlife and plantlife to live there undisturbed, generation after generation. Human beings derive a benefit, as well, when they dedicate and protect wild lands for future generations. As Senator Anderson said, “There is a spiritual value to conservation, and wilderness typifies this. Wilderness is a demonstration by our people that we can put aside a portion of this which we have as a tribute to the Maker and say–this we will leave as we found it.”

—Harry White



## White Wins the CT Land Conservation Council’s 2017 Award for Excellence in Land Conservation

**Ecologist Harry White, Conservation Director for Cornwall, Salisbury and Sharon land trusts, won the Katchen Coley award for his “lasting and meaningful impact on our landscape, working on projects protecting over 15,000 acres of our region’s forests, wetlands and farms....” The Consulting Ecologist for Northeast Wilderness Trust, he works on large-block forever-wild acquisition from the Adirondacks to the Great North Woods of Maine. A Colebrook resident, he was responsible for the Sandy Brook Natural Area Preserve Management Plan, and has frequently provided support to the Colebrook Land Conservancy’s projects.**

—Amy Bernstein



# The Tricky Business of Culverts

**I**n rural Connecticut, which is full of streams and country roads, culverts are a familiar feature of the landscape. Wherever a pond, stream or river meets a road, trail or other kind of barrier, there is either a bridge, or far more often, a culvert to allow water to pass under it. Made out of reinforced concrete or metal or even heavy plastic, these tunnel-like passageways can be found below road level and out of sight—where most people hardly notice them.

Yet, despite their seeming invisibility, culverts play an essential role in our environment. If they are properly designed, they can guarantee the continuous flow of a stream and help to regulate water levels during periods of heavy rainfall. If, on the other hand, they are badly built and poorly maintained, potentially grave problems can ensue, such as flooding, erosion, stream segmentation and loss of aquatic life.

Culverts range greatly in size, from a wide-mouthed elongated pipe to a concrete structure resembling a highway underpass. But no matter its size, if a culvert becomes clogged with silt buildup or with an accumulation of logs and twigs, a dam is created, causing water to flood the upstream area. Similarly, if a culvert's bottom is “perched”; that is, higher than the bottom

of the stream bed, it acts as another kind of dam, interrupting the flow of the stream. If the stream volume remains low, this can result in stagnation, creating an unhealthy environment for aquatic organisms and poses a very big problem for migratory fishes who cannot reach their spawning grounds to reproduce.

Another barrier to fish migration can occur when water passes through a culvert at such a velocity that it prevents some kinds of fish—and especially young fish—and aquatic organisms from swimming upstream. This can be due to a number of factors—an undersized culvert for the size of the stream, the steepness of its placement, or the shape or quality of the culvert's bottom. Additionally, if a stream runs through a culvert at too great a speed, it will cause the nearby stream bed to be scoured, which causes erosion and kicks up sediment.

For this reason, it is important to analyze carefully what conditions are present before determining how to ensure that a culvert is working properly, such as checking seasonal stream flow, finding out what happens during periods of heavy rainfall, knowing what kinds of fish and aquatic organisms are present, and that the existing conditions allow them to safely negotiate the culvert. And a simple check to make

sure that water can enter and exit the culvert unimpeded is the first step.

Recognizing the importance of maintaining properly functioning culverts, a number of organizations in our area have embarked on projects to examine the condition of each culvert in their watersheds. With the help of the Housatonic Valley Association (HVA), for instance, the Farmington River Watershed Association began a three-year investigation of its culverts, beginning in 2010. Four years later, Aton Forest, helped by volunteers, began their own initiative, surveying stream crossings within the Sandy Brook watershed in Colebrook and Norfolk with funding support from the Colebrook Land Conservancy, the Farmington River Coordinating Committee, the Farmington River Watershed Association, the Norfolk Conservation Commission, and others.

To help people better understand culverts and stream crossings, the Inland Fisheries Division, Habitat Conservation and Enhancement Program at the State of Connecticut's Department of Energy and Environmental Protection offers Stream Crossing Guidelines:

[www.ct.gov/deep/lib/deep/fishing/restoration/streamcrossingguidelines.pdf](http://www.ct.gov/deep/lib/deep/fishing/restoration/streamcrossingguidelines.pdf)

—Amy Bernstein



# Fall Walk

On Sunday, October 15th, botanist Joyce Hemingson led a walk through The Colebrook Land Conservancy's beautiful Phelps Research Area. The trail ran along Brummagem Brook, past views of fields, wetlands, rocky slopes and woodland. Passing a number of historic sites, it ended at the eighteenth-century iron forge located on the Colebrook-Norfolk town line.



We lack email addresses for many of you, and if there is an alert we wish to send out, information about upcoming events or other announcements, we have no way of contacting you but snail mail. Please send us your email address:

[info@colebrooklandconservancy.org](mailto:info@colebrooklandconservancy.org)

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