

## The Trails of East Leverett: The Big Picture

Most people's striking introduction to the growing network of trails and footbridges in East Leverett is the view from the dip in Shutesbury Road bracketed by the entrance to the 4H and Upper Trail on the northwest and the new Woodard's Corner trailhead to the southeast. Here one sees the Doolittle Brook in its beaver-dammed glory and a quick glimpse of a complex ecosystem. The purpose of the following is to place the various neighborhoods of the East Leverett Trails, both natural and human-made, in a larger context of space and time.

A bird's eye view of Leverett shows the branched patterns of numerous streams to be expected of such hilly terrain. These small watercourses comprise the upland contributions to the greater Connecticut River watershed in its course to the Atlantic. The three main stream systems in Leverett are the Sawmill River running mostly east-west in the north; the Long Plain Brook originating in the east-facing slope of Mt. Toby to the west; and the Doolittle/Roaring Brook watershed running south through Leverett Center and to the west from Shutesbury. The Sawmill is the continuation of the many streams combined and impounded by the dam forming Lake Wyola; as it flows west it picks up tributaries mostly from the uplands of Wendell and Montague, crosses Rte. 63, and meanders its way to the Connecticut. The Long Plain Brook gathers the many streams shed to the east from Mt. Toby. One of the most beautiful of these is the Roaring Brook with its dramatic cascades to be found at the northeastern corner. The Long Plain Brook heads south, picking up several other streams, crosses Bull Hill Road, cuts through its broad alluvial fan (more about this later), works its way through Sunderland and Hadley, where its name is changed to Russellville Brook, and enters the Connecticut in North Hadley.

The Doolittle/Roaring Brook (a different one from the above) drainage is the main southward watershed off Brushy Mountain and of most interest to walkers of the East Leverett trails. The Doolittle Brook runs more or less parallel to Montague Road. Along the way it gathers many streams---including the Rattlesnake Gutter and the Mountain Brook--- flowing from the westfacing slope of the Brushy complex, and works its way past Gordon King's tree farm and covered bridge, both parts of the new East Leverett Trail. It then flows through the broad "Great Swamp" of earlier maps, certainly one of the most striking attractions of the trail system. Near where the Doolittle flows beneath the bridge on Teawaddle Hill Road, it is joined by The Roaring Brook which has tumbled its way down from near the peak of Brushy and other south-leading valleys further east in Shutesbury. It too has created an alluvial fan, which accounts for the flatness of the East Leverett Meadow. The commingled Doolittle/Roaring Brook, renamed Cushman Brook, flows to the south and west, where it is dammed to create Puffer's Pond in Amherst, then continues on as the Mill River, is dammed again to create Lake Warner, then runs free to the Connecticut in North Hadley.

The East Leverett Trails thus frame a small part of this story, where a portion of the Brushy Mountain watershed slows down across an alluvial fan. This transitional nature along with other geological and ecological factors accounts for the surprising variety of habitats and landscapes with different forest types, evidence of recent and older human use, and a wide range of species.

One last point: alluvial fans form with the entry of flowing water into still water; slowed down, it loses its capacity to carry materials and thus drops them off as gravel and sand and silt in the telltale fan shape. What still water did these streams enter? The answer to that question brings us to another context informing the lay of this particular piece of land: the element of time in the form of the melting lobe of ice (in places up to two miles thick) which at the decline of the last Ice Age left behind a sizeable glacial meltwater lake named Glacial Lake Hitchcock. Some 12 miles wide and 200 miles long (stretching roughly from Middletown, Ct to St. Johnsbury, VT), it resulted from a deposit that dammed the Connecticut approximately 15,000 years ago, causing the water to back up. Our local streams, unheard by human settlers, deposited their materials along its coastline as they entered Lake Hitchcock just beyond the bounds of Leverett, near Rt. 116 in Sunderland. Lake Hitchcock existed for approximately 3000 years. Its demise began when the dam (a recessional moraine) holding it in eroded and toppled. It took perhaps 100 to 200 years to drain, and that drainage is the floodplain of the modern Connecticut. Fossil finds indicate that both Mastodons and Wooly Mammoths, among other species, no doubt created their own trails to that magnificent ice-blue water hole.

Phil Crafts, October 2012