

Part II: Rapid Ecological Assessment of the Woodchuck and Tucker Mountain Parcels



Prepared for
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Overview

This report is a rapid ecological assessment of two adjacent properties in Newbury, Vermont. On September 17th, 2016, I visited the 142 -acre parcel owned by Ted and Deborah Leach (henceforth called Woodchuck Mountain) (Map 1). On the same date, I explored the western ~100-acre slice of a 493-acre property jointly owned by several members of the Leach family (henceforth called Tucker Mountain). The larger Tucker Mountain property was placed under a conservation easement through the Vermont Land Trust in 1994. Twenty-two years later, VLT is poised to seek the funds to purchase both parcels outright at half of market value. The ultimate intent would be to transfer the land to the public domain to create a new and far more substantial zone of the Newbury Town Forest. Though currently owned by Vermont Forest, Parks, and Recreation, an additional 116-acre parcel of land further north of Woodchuck Mountain would further bolster acreage in this new Town Forest (Map 2). In total, these new additions would roughly quadruple the acreage of Newbury's current town forest, a 189-acre parcel located further north in the township.

This assessment is intended to provide ecological context to the discussion surrounding the proposed Town Forest addition. My report specifically focuses on the slopes and summits of Tucker and Woodchuck Mountains. Ecological Planning M.Sc. candidate Hannah Phillips conducted a simultaneous assessment on the other ~400 acres of Leach family land (Part 1), and taken together, these documents represent the full acreage of the project. In addition to conducting 10-hours of wandering transects on the site, I have compiled relevant information from Jeffrey Smith's 2010 Forest Management Plan for the Tucker Mountain parcel. I hope my findings will assist the Vermont Land Trust in making the Newbury Town Forest a reality.

After investigating Woodchuck and Tucker Mountain, I believe the most salient ecological values include:

- **Connectivity between priority habitats:** The project would conserve a total of 750 adjacent acres connecting habitat blocks prioritized by the Vermont Department of Fish and Wildlife. These blocks lie within a larger forest matrix block designated as "Tier 1" by the Nature Conservancy (Maps 3, 4, 5, 6). The land is sizeable enough to serve as a haven, as opposed to just a stepping stone, for many species on the move.
- **Ancient sugar maples:** A stand of old-growth maples crowns the unassuming high point near the western edge of the Tucker Mountain property. Though their gnarled and decadent trunks provide shelter for cavity-seeking wildlife, these trees are magnificent in their girth alone. We should preserve their longevity as a legacy for all Vermonters.
- **High-quality wildlife habitat:** Bears find an abundance of oak, beech, and berries on the slopes of Woodchuck and Tucker mountains, while white-tailed deer find shelter from snow under conifer stands on the property's lower slopes. We would preserve valuable wildlife habitat by protecting the structural heterogeneity of these mountainside forests and hilltop openings.

Biophysical Location

Tucker and Woodchuck Mountain rise above the Connecticut River Valley near the transition between the Northern and Southern Vermont Piedmont biophysical regions. The Vermont Piedmont is characterized by abundant lower elevation hills and split into two regions based largely on climatic differences (Thompson and Sorenson, 2000). Situated astride the boundary between the cool, northern Piedmont region and the warmer southern zone, temperatures on Tucker and Woodchuck Mountain are moderate when compared with the rest of the Vermont. The wooded summit of Woodchuck Mountain, at 1,739 ft., peaks above the 1,690 ft. mowed lookout atop Tucker Mountain. This lower summit slopes towards Meadow Brook, reaching a low point of 1,200 ft. in the southwestern corner of the property.



Figure 1: View from the summit of Tucker Mountain west towards the Green Mountains.

Hydrology

In between Woodchuck and Tucker mountains, there are two human-created ponds. Flowing westward to fill these pools, the headwaters of Meadow Brook escape through small culverts beneath earthen dams. Another intermittent brook surfaces briefly on the southern boundary of the property to join Meadow Brook further downstream. Meadow Brook eventually empties in the Waits River which flows into the lengthy Connecticut River. The eastern portion of the proposed town forest flows into Hall's Brook (see Phillip's parallel report). I identified five forest seeps on the property and one swamp; these wetlands are discussed in detail in the *Natural Communities* section of this report. It is important to note that I encountered these features in mid-September of a drought year; I would expect these wetlands would swell in size and that more water would flow in the brooks under more typically moist conditions.



Figure 2 and 3: Upper manmade pond (left) and intermittent brook on southern property line (right).

Bedrock Geology – Map 7

The bedrock skeletons of both Tucker and Woodchuck Mountain are metamorphosed ocean sediments initially deposited in the Devonian Period around 400 million years before present. Around 350 million years ago, the force of the colliding tectonic plates squashed and reshuffled the horizontally-deposited layers borne of the warm, tropical Iapetus Sea. Today, the interbedded phyllites and limestone of the Waits River Formation make a wide calcareous swath north-to-south through both the Tucker and Woodchuck properties. On either side of this band, the Gile Mountain Formation is present in the form of schist, phyllite, and slate. Though not as rich in calcium as neighboring limestone layers, this formation is nevertheless far “sweeter” than the granitic basement rock that dominates the landscape further east across the Connecticut River in New Hampshire.

In my site visit, I did not locate any exposed limestone amongst the numerous schist and phyllite outcrops. Though none of the rock surfaces reacted when tested with mild solution of HCL, the property did show signs of calcareous enrichment. One possible explanation for such observations is that the Waits River limestone may erode more quickly than other strata when exposed above ground. Supporting this idea, this formation spans the saddles between rises across the property, and some of the plant species detailed in this report might attest to the calcareous presence of limestone just below the land surface.

Surficial Geology – Map 8

Much of the properties' bedrock lies concealed by material of a far younger geologic vintage. Tens of thousands of years ago, the Laurentide Ice Sheet paved its progress and eventually its last retreat in a jumbled mix of boulders, rocks, and much smaller particles. The glacial till that covers the majority of Woodchuck and Tucker Mountain likely played a role in the site's human history as a source for stonewalls and agricultural headache. A multiplicity of origin sites can be detected amongst the glacier-borne debris—for example, the granites and chunks of rosy quartz are unlike any of the on-site bedrock types. I also encountered several refrigerator- to car-sized glacial erratics on the property.



Figures 3 and 4: A visitor-compiled “museum” of distinctive rocks (left) and a section of stone wall running through the forest (right).

Soils – Map 9

Tunbridge-Woodstock soils are prevalent on both summits and slope of Woodchuck and Tucker Mountain. This fine, sandy loam is characterized as ‘very rocky’ due to the frequent influence of near-surface bedrock. Along topographic drainages, soils are classified as Buckland loam, described as ‘very stony’ in reference to the numerous cobbles found in this thicker matrix of till-derived soils. I confirmed the presence of rocky/stony, sandy loam based on two soil cores to a depth of 10 inches each. Mineral soil pH in these upland cores ranged from 5.5 to 6.5.

Natural Communities – Map 10

I designated natural communities based on the Thompson and Sorenson's formative text: *Wetland, Woodland, Wildland* (2002). In the next section, I offer stand descriptions to capture the variability of distinct zones of vegetation at a finer scale.



Figure 6: A window into the Northern Hardwood Forest matrix natural community.

Northern Hardwood Forest

Sugar maple in every age class is abundant on Woodchuck and Tucker mountain. Beech, red oak, red maple occur with varying frequencies depending on microsite-specific topography. White ash and basswood are peppered into the forested matrix as a stately reminder of the sweet bedrock below. Occasionally yellow birch or paper birch careen upwards from an exposed ledge or scrap of bare ground. Striped maple are a ubiquitous understory component, often shading a sparse herb layer of seedlings and sarsaparilla. On the slopes of Tucker mountain, softwoods such as Eastern hemlock, balsam fir, and red spruce also appear with some frequency.

When humans clear a Northern Hardwood Forest, a slightly different suite of species often regenerates, which may feature white pine, red maple, and/or paper birch depending on the

length and nature of the disturbance. On Woodchuck and Tucker mountains, we see such processes at work across time and on a range of spatial scales.

As previously mentioned, the property’s matrix forest shows multiple signs of enrichment. I found extensive patches of wild ginger and several clumps of maidenhair fern scattered on both sides of Tucker Mountain Road. I refrained from splitting each swath of nutrient-loving herbs into its own patch of Rich Northern Hardwood Forest, a distinct natural community. Thompson and Sorenson endorse this type of lumping when done with discretion: “[a] large area [...] may be mapped as Northern Hardwood Forest, with the recognition that there is variability within it.”

Rich Northern Hardwood Forest



Figure 7: Dense herb layer under sugar maple-dominated canopy.

On the northern boundary of the Woodchuck Mountain parcel, I encountered one undeniable example of a Rich Northern Hardwood Forest. Here, wood nettle and maidenhair fern carpet a shallow north-facing depression. Just over, or perhaps intermingling with the property boundary, long tubes wick away spring sap destined for pancakes. Evidence of maple sugaring seasons long past is close at hand in an assortment of rusty metal objects.



Figure 8: Sugaring then and now

Mesic Red Oak-Hardwood Forest

The southern ridge of Woodchuck Mountain has a direct southern exposure and a recent history of apparent silvicultural treatment. One or both of these influences support a preponderance of red oak in the canopy. Red maple, sugar maple, beech are also abundant, while hophornbeam and hemlock make infrequent appearances. Red oak seedlings are regenerating in shallow-to-bedrock soils though in some locations the understory is dominated by beech. There are multiple manmade corridors that dissect the forest on this slope; at the base there is a narrow utility right-of-way and further upslope several skid tracks. Scattered invasive buckthorn shrubs are present in these linear forest gaps. However, logging seems to have been conducted selectively, and many lovely, large-diameter oaks have been wisely left to thrive in more open forest.

Hemlock-Northern Hardwood Forest



Figure 9: Only a little light filters through the hemlock-dominated overstory

Eastern hemlock becomes more prominent than hardwoods on the lower western slopes of Tucker Mountain. Beech, maple, oak and birch still appear among the softwood. Only a few ferns dot the shady forest floor. The canopy is effective at filtering out snow in addition to light, and deer take advantage of this moderating effect in harsh winter conditions.

Red Maple-Black Ash Swamp



Figure 10: A swamp in the last hour of daylight

A few red maples and black ash poke up through sedges and ferns in this small opening in the forest. Sensitive fern and sedges (*Carex* spp.) are abundant interlaced with cattail. Swamp saxifrage and cinnamon fern also grow out of muck. The swamp is not far from a house and human-enhanced pond just over the property line. This area may see more use because of this nearby entry point. In addition to porcupine footprints, all-terrain vehicle tracks were seen at the end of the swamp (Figures 11, 12 below).



Seeps

In each of the seeps, sedges, bryophytes and ferns are well-represented. A thorough trip during the peak flowering season would likely yield a far more detailed species list at each of these locations. Beyond floristic diversity, ground-water kept at a near-constant temperature above freezing year-round which supports vegetation beyond the bounds of the typical growing season. Bears make use of this early-spring source of welcome nourishment (Thompson and Sorenson 2002). Despite similarities, each of these seeps is distinctive in topographic position or associated plant community. I have described them based on their location on the Woodchuck and Tucker Mountain properties. I also make mention of any threats I observed near these resources.



Figure 13: “Northern Seep”

The small wetland furthest north on the property is open except for a spindly red maple and unidentified standing snag. This seep may be the headwaters of an ephemeral/ intermittent watercourse that flows eastward off the property. Yellow sedge, jewelweed, royal fern, and sensitive fern grow abundantly here. A soil core to 10-inches of depth revealed pH measurements ranging from 6.5 to 7.5. *Equisetum* spp. grows densely over a rock wall that cuts across a narrow portion of this seep. A well-used ATV track is within 50 ft. of the seep’s margin, and I encountered one set of tracks running right towards the wetland.



Figure 14: “Mid-slope Seep”

A bedrock ridge makes a horseshoe around this secluded seep. Sugar maple and white ash are present in an open canopy that shades a lush growth of cinnamon and sensitive fern. A round depression of bare muck, three meters in diameter, appears to hold water for much of the season, and as a result, this habitat feature may be important to amphibians. This seep extends down slope linearly until reaching the road and intermittent brook. Raccoon and deer tracks crisscross this narrow zone, while marsh fern and interrupted fern are scattered along its margins.



“Southern Softwood Seep”: Groundwater puddles in the concave bowl beneath steep southwest-facing slopes. This seep is located amongst a softwood stand that has been disturbed during logging activity in 2010. The remaining red spruce and regenerating balsam fir convey a more northern feel to this zone, and a small patch of sphagnum moss and an aberrant larch are found nearby. A somewhat sparser understory of sensitive fern and bryophytes grow amidst open patches of circumneutral muck.

“Western Seep”: This tiny seep is located between the narrow margin of a 2010 clearcut and the property line. The saturated soils may have influenced the boundaries of that harvest event. Long beech fern and thick mosses are abundant here beneath the shade of hemlock and white pine.



Figure 15: “Southwestern Seep”

This gentle depression is surrounded by sugar maples and large-diameter white ash. Cinnamon fern, jewelweed, and sensitive fern blanket sodden, mucky substrate. This seep is within view of the Red Maple-Black Ash swamp and a human-enhanced pond on an adjacent property. There are black pipes running up from this pond, one to a springbox within the boundaries of the Leach parcel and another further upslope into the margins of this seep.



Figure 15 and 16: Black pipes and springbox within the Leach property boundaries.

Current Vegetation – Map 11

The following zones do not fit neatly into the natural communities concept. Nevertheless, I cannot paint a complete ecological picture of the site without describing the distinct character of each.



Figure 17: View from of the White Mountain from Tucker Mountain

“Mowed and altered summit”: The residents of Newbury are most familiar with the bald top of Tucker Mountain, and this gentle peak would surely remain a major attraction in the potential Town Forest. Ecologically, the frequently mowed summit might appear barren and may represent a barrier to some forest species. However, grassland-obligates species could find suitable habitat here, and a breeding bird survey might confirm this suspicion. I caught brief glimpses of unidentified sparrows and American kestrel from the summit. Botanically, the summit has areas of mowed graminoids, wildflowers and invasive herbs. These fields are interspersed with “hedgerows” of regenerating trees including red maple, pin cherry, aspen, and white pine. Lowbush blueberry shrubs are abundant, though this acidophilic plant seems out-of-place in proximity to rich sites elsewhere on the property. Generations of agricultural use may have depleted the soil of cations in these locations to make current growing conditions more acidic. Frequent mowing has also led to tiny, dwarf versions of lycopods such as ground cedar and other herbs.

Aesthetically, the cleared mountaintop offers some of the finest Vermont views. The forested peak of Woodchuck Mountain, though slightly taller, conversely leaves everything up to the imagination. At this point, generations of Newbury residents have maintained the beloved Tucker Mountain vistas. There is clear evidence, however, of this being a tough love at times; the Beer Bottle-Cigarette Butt unnatural community is never far from sight in the foreground of lovely mountainscapes.



Figures 18, 19 and 20: Party debris around a large fire ring (left), a large white pine “wolf tree” (center) and a young white pine seedling joins the open-grown ranks(right)

“Recent Forest Treatments”: The majority of the Tucker Mountain Parcel was selectively logged using old older skid roads sometime between 2010 and 2012. Much of this area experience earlier forest treatments in the early- to mid-1990’s. Many large white pines, sugar maples and red oaks have been left standing. A younger, dense-grown cohort of red maple, paper birch, and other hardwoods was also left to grow in patches. The lanes in between these shrubby forest are thick with blackberry, bracken fern and hay-scented fern. I found bear and moose scat in these zones.



Figures 21, 22, and 23: Large pines and maples standing above regenerating forest (left), moose droppings (center) and berry-laden bear scat (right).



Figures 24 and 25: Aerial photo from 2009 (left) and from 2010 (right). Tucker Mountain Summit visible on the right-margin of both photos. Though older logging corridors may be seen in the first photo, they are greatly expanded in the second photo.

“2010 Clear Cut”: A few acres of forest in the extreme western portion of the property were clearcut in 2010. Blackberry and white pine seedlings grow vigorously here. Two large white pines were left as seed sources in the cleared area, and a large open-grown sugar maple lingers on the forest’s edge.

“Older Clear Cut”: Around 50 years ago, this stand may have been clearcut. Now, red spruce, balsam fir, paper birch, red maple grow densely on this steep west-facing slopes. I did not venture far into this zone, but my observations from the edges agreed with the stand description I encountered in Smith’s 2010 Forest Management Plan.

“Common Juniper”: A small (< 0.5 acre) patch of dense common juniper grows head high. This shrub and the presence of large, many-branched white pines speaks to this zone’s intensive use as a pasture within the last century.

“Old Fields”: Stands of white pine form a patchwork within the hardwood matrix north of Tucker Mountain Road. Oriented along stone walls and next to signs of old road corridors, these patches were likely once fields or pasture, hinting at the former order imposed upon the now-forested landscape.



Figure 26: Looking through the open mid-story of a white pine stand into the thick green of mixed-age hardwoods.

“Red Pine Stand”: Around 10 - 20 red pines cluster on a slope otherwise dominated by white pine and more typical northern hardwoods. These trees may have been planted by early settlers on Woodchuck Mountain.

“Spruce-fir Dominated Forest”: The drainage southwest of Tucker Mountain summit is dominated by red spruce and balsam fir. Though I have included this zone within the Northern Hardwood natural matrix, this young, uneven aged forest may represent a distinct natural community. Perhaps cold air pools in this slight topographical depression favored by softwoods.

“Dense-fir Regeneration”: The larger softwood forest described above includes a 1-2 acre cluster of regenerating balsam fir. This doghair thicket is a small patch of excellent snowshoe hare habitat. This prey species in turn is favored by fisher and bobcat alike. Various lycopods and ferns fill in around the edges of the firs.

“Man-made Ponds”: I visually surveyed both ponds for signs of wildlife. A great blue heron’s track traced a similar route along the margins of the pools. Both ponds showed signs of old beaver activity, but seemed to have been abandoned by the large rodent a number of years ago. A large snag next to the lower pond presents an ideal perch for raptors. I glimpsed numerous crayfish and salamanders from the bank, woefully unable to catch or identify members of either taxa. Diving beetles and small fish moved in frenetic schools. I managed to catch and identified one leopard frog.



Figure 27, 28, and 29: Aquatic and semi-aquatic wildlife of Woodchuck and Tucker mountains. A leopard frog and crayfish clay from man-made ponds (left, center). A wood frog caught upslope in the forest above Tucker Mountain Road (right).



Figure 30 and 31: A long-standing property boundary is clearly delineated by long-standing maples (left) and two such maples towering above younger forest cohorts (right).

“Monarch Maple Stand”: In this zone, pole-sized maples and other scattered hardwoods surround occasional canopy-dominant behemoths. Most of these are sugar maples, but there are also a few gargantuan basswood and red oak. Though only a handful of the legacy trees are captured within property’s boundaries, they are nonetheless one of the most alluring aspects of the entire ~200-acre area. The tree featured on the cover of this report has a hollow base spilling over with porcupine droppings, and many of the other trees are partially rotted at the base with occasional dead limbs and numerous cavities. These decadent features are valuable to a host of wildlife species, and enhance the unique character of the larger stand.

Additional Notes on Wildlife Value

This property has abundant, healthy red oaks in addition to moderately-healthy beech stands. These trees provide a hard mast food source for rodents, deer, turkey, skunks, and bear. Logging activity in the last five years have created ideal conditions for berries; all three bear scats found on site were filled with tiny seeds. There are also a few old apple trees on the property. Striped maple, hemlock, and seeps provide browse and vegetation for herbivores during leaner times of year.

In terms of potential bird habitat, several species of neotropical migrants including the chestnut-sided warbler and common yellowthroat benefit from forest canopy gaps (Hagenbuch *et al.*). In addition, cavity-nesting species will find ample standing dead snags on this property. Upslope of the 2010 clear-cut, I found an eggshell large enough to suggest it came from the depredated nest of a buteo, turkey vulture or possibly turkey.



Figure 32, 33, 34, 35, and 36: Examples of delectable soft mast (top left, top center) and looking up the trunk of an American beech (top right). Canid scat (lower left) and large egg (lower right).

Human History – Map 12

Tucker Mountain was settled and mostly cleared prior to 1808, and the following excerpt from the *History of Newbury* vividly depicts some of the mountain’s first residents:

James [Carter] [...] settled on the highest cultivated land in town, on the hill formerly called “Carter’s mountain,” but now sometimes called “Tucker’s mountain,” from John Tucker and John W. Tucker, his son, who afterward owned a part of the Carter farm. [Carter] was a man of affairs, often being selectman, lister, etc. He built about 1810, a two story house, still standing on the mountain [in 1902]. He was known as “Mountain Carter,” and was a man of great size, and his wife, who was his cousin, was also very large, both weighing, it is said 700 lbs.

-F. Wells, 1902

In addition to the Monarch Maple Stand, large-diameter witness trees often accompany the extensive lengths of stone walls on the property. The current vegetation also reveals other aspects of the site's land use history. The northwestern part of Woodchuck Mountain parcel was likely used as a woodlot and sugarbush for generations, whereas the eastern half of this parcel, north of the road seems to have experience more concentrated agricultural and residential use. In between stone walls in this zone, one finds evidence of old road corridors, where opportunistic paper birches sprouted linearly on exposed mineral soil. There is an old foundation and apple tree in a clearing near the two structures that are still standing just north of Tucker Mountain Road.

Management Concerns and Recommendations – Map 13

I encountered invasive species such as multiflora rose, buckthorn, and honeysuckle in some of the logging corridors and alongside Tucker Mountain Road. I am pleased to report that these species were very limited to entirely absent in the forest interior. In order to prevent the spread of weeds into the forest, I recommend that any trail systems be sited whenever possible in existing zones of disturbance. However, in the event that the land becomes a Town Forest, I might encourage a new footpath be routed through the Monarch Maple Stand in order to expose visitors to the impressive legacy trees. I documented ATV tracks encroaching near two of the property's seeps, and I would recommend that these forested wetlands have a protective buffer enforced in the future to protect their vegetation and saturated soils from logging or recreational vehicles.

Along with hiking, wildlife viewing, hunting, and ATV-riding, visitors to Woodchuck and Tucker Mountains will find ample opportunities to foraging. Within my one-day visit, I encountered lobster mushrooms, king boletes, and chaga fungus in addition to the heavy berry crop. Judging by the \$30/pound price tag for lobster mushrooms at a downtown supermarket, the harvest of forest products might join silviculture and maple sugaring on the list of potential future "working uses" of the proposed Newbury Town Forest.



Figure 37: A particularly large chaga fungus growing from a paper birch.

Beyond their specific flora and fauna, Woodchuck and Tucker Mountains contribute to the surrounding landscape through the ecosystem services they provide. An undeveloped and largely forested set of mountains makes the larger watershed more resilient to flooding than the same area developed and partially covered in non-permeable surfaces. Though nearly a century has passed since the devastating floods of 1927, residents of the Upper Connecticut River Valley can anticipate flood conditions to reappear over the next one hundred years. When considering the potential Town Forest, flood mitigation and the carbon sequestered by well-managed forests are two public goods that should not be ignored. The specter of climate change joins in as an unignorable entity in the Newbury Town Forest discussion. The natural communities and vegetation zones I have documented on the site can be expected to change over the coming decades, and management activities will have to adapt accordingly.



Figure 38: The site of the Bradford-Piermont bridge, swept away by the Waits River on Nov. 4, 1927. (photo: Bradford Historical Society) Meadow Brook, with its headwaters situated between Woodchuck and Tucker mountains, flows into the Waits River upstream of where this photo was taken.

In some ways, Tucker Mountain already acts as the “unofficial” Newbury Town Forest. Based on the current uses at the site, I anticipate certain challenges in managing the forest for recreation, silviculture, and wildlife habitat values. Property boundaries are inexact and may require additional surveying. Some unauthorized “takes” will likely need to be curtailed—such as the pipes draining water from the narrow drainage southeast of Tucker Mountain and ATV trails through sensitive areas. Going forward, there may be tension between the ATV community and other user groups such as hikers, wildlife seekers, or some amount of conflict between the Vermont Land Trust and current users. Hopefully, messengers from within the fabric of Newbury communities can help foster renewed stewardship of the Town Mountain. Certainly, there will be ample opportunities to leverage shared values at a place where people gather to play, hunt, and watch the sunset. Vermont’s town forests thrive on precisely this sort of common ground.



Figure 39: Possible stakeholders in the management of Newbury Town Forest? Photos are from Tucker Mountain’s unofficial Facebook page (<https://www.facebook.com/pages/Tucker-Mountain/151045751577958?fref=ts>)

Summary

After three days of field- and computer-based investigations, I am convinced of the rich and varied ecological value of the Woodchuck and Tucker Mountain properties. Though far from pristine—this land has been in use for agriculture or silviculture for much of the last 200 years (Wells, F. 1902)—nutrient-rich soils and topographical complexity nevertheless abound. The most recent forest management actions would seem to have improved wildlife habitat. As testament, the property currently boasts abundant acorn and berry crops.

This zone of wildlife-friendly forest stitches together multiple blocks of core habitat prioritized by Vermont Fish and Wildlife Department (Sorenson and Osborne, 2014). Furthermore, these core habitat blocks fall within a forest matrix block identified by the Nature Conservancy as a Tier 1 “contiguous area whose size and condition allow for the maintenance of ecological processes, [and] viable occurrences of [...] embedded species populations (The Nature Conservancy (TNC) Eastern Conservation Science, 2006).”

Finally, this land enriches the living history of the Upper Connecticut Valley with the stories contained in its stone walls and towering maples. Based on social media, Vermonters venture out nearly every fair-weather weekend to enjoy the mountaintop scenery on Tucker Mountain. Situated at the confluence of social and ecological benefits, the proposed Newbury Town Forest is a project worthy of statewide support.



Figure 38: Here’s to the new Newbury Town Forest!

Species Lists

Herbs

Sarsaparilla – *Aralia nudicaulis*
Wild ginger – *Asarum canadense*
Maidenhair fern – *Adiantum pedatum*
Jack-in-the-pulpit – *Arisaema triphyllum*
Herb Robert – *Geranium robertianum*
Canada mayflower- *Maianthemum canadense*
False Solomon's seal – *Maianthemum racemosum*
Jewelweed – *Impatiens capensis*
Cinnamon fern – *Osmunda cinnamomea*
Interrupted fern – *Osmunda claytoniana*
Royal fern – *Osmunda regalis*
Indian Pipes – *Monotropa uniflora*
Beech drops – *Epifagus virginiana*
Long beech fern – *Thelypteris phegopteris*
Hay-scented fern – *Dennstaedtia punctilobula*
Ostrich fern – *Matteuccia struthiopteris*
Fen Grass-of-Parnassus – *Parnassia glauca*
Waterleaf – *Hydrophyllum virginianum*
Blue cohosh – *Caulophyllum thalictroides*
Wood nettle – *Laportea canadensis*
Goldenrod – *Solidago* spp.
Goldthread – *Coptis trifolia*
Partridgeberry – *Mitchella repens*
Rock polypody – *Polypodium virginicum*
Marsh fern- *Thelypteris palustris*
Trillium – *Trillium* spp.
Partridge berry – *Mitchella repens*
Milkweed – *Asclepias* spp.
Pearly everlasting – *Anaphalis margaritacea*
Wild strawberry – *Fragaria virginiana*
Mullein – *Verbascum thapsus*
Yarrow – *Achillea millefolium*
Swamp saxifrage – *Saxifraga pensylvanica*
Cattail – *Typha latifolia*
Large-leaved aster – *Aster macrophyllus*.

Lycopods

Bristly clubmoss – *Spinulosum annotinum*
Ground cedar – *Diphasiastrum digitatum*
Shining clubmoss – *Huperzia lucidula*

Trees

Sugar maple – *Acer saccharum*
Red Oak – *Quercus rubra*
American beech – *Fagus grandifolia*
Red maple – *Acer rubra*
White ash – *Fraxinus americana*
Basswood – *Tilia Americana*
Eastern hemlock – *Tsuga canadensis*
Striped maple – *Acer pennsylvanicum*
White pine – *Pinus strobus*
Red spruce – *Picea rubens*
Balsam fir – *Abies balsamifera*
Red pine – *Pinus resinosa*
Black ash – *Fraxinus nigra*
Hophornbeam – *Ostrya virginiana*
Black cherry – *Prunus serotina*
Yellow birch – *Betula alleghaniensis*
Paper birch – *Betula papyrifera*
Quaking aspen – *Populus tremuloides*
Big-toothed aspen – *Populus grandidentata*

Shrubs

Blackberry – *Rubus allegheniensis*
Common juniper – *Juniperus communis*
Lowbush blueberry – *Vaccinium angustifolium*
Hobblebush – *Viburnum alnifolium*
Thimbleberry – *Rubus odoratus*
Staghorn sumac – *Rhus typhina*

Sedges

Yellow Sedge – *Carex flava*

Invasive Species

Buckthorn – *Rhamnus* spp.
Honeysuckle – *Lonicera* spp.
Yellow Toadflax – *Linaria vulgaris*
Common barberry – *Berberis vulgaris*
Cypress Spurge - *Eupatoria cyparissias*
Multiflora Rose – *Rosa multiflora*

Wildlife

* indicates detected by sign only

Birds

Blue Jay
American Goldfinch
Hermit Thrush
White-breasted Nuthatch
Red-breasted Nuthatch
Black-capped Chickadee
Ruffed Grouse
Ovenbird
Connecticut Warbler
Hairy Woodpecker
Chestnut-sided Warbler
Black-and-white Warbler
Black-throated Green Warbler
American Robin
American Kestrel
Mourning Dove
Turkey Vulture
Common Raven
Great Blue Heron*
Yellow-bellied Sapsucker*
Pileated Woodpecker*

Mammals

Red squirrel
Eastern chipmunk
White-tailed deer*
Coyote*
Black bear*
Moose*
Striped skunk*
Raccoon*
Porcupine*

Amphibians

Leopard frog
Wood frog
unknown salamander

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