



## Introduction.

The purpose of this Forest Management Plan Addendum (FMPA) is to provide detailed, specific recommendations for the “Carse Addition,” a 291-acre addition to the Hinesburg Town Forest (HTF) acquired by the Town of Hinesburg in 2022.

This FMPA is intended to serve as an addendum to the [HTF’s Inventory and Assessment](#) (hereafter referred to as the HTF’s “Forest Management Plan” or “FMP”) approved by the Town of Hinesburg in 2018. The FMP is itself an addendum to the HTF’s Management Plan (MP), most recently updated in 2022.

The [2022 MP](#) is the governing document for the HTF, providing broad goals and objectives, rules and restrictions for the governance and use of the HTF. By contrast, the FMP provides specific analysis and management prescriptions for forest stands at the HTF within the goals, objectives, rules and restrictions put forth in the MP.

This FMPA describes a holistic approach for the stewardship of the Carse Addition a 291-acre addition to the HTF not covered by the FMP. This FMPA, consider sa wide range of different benefits, values and opportunities, including wildlife habitat, responsible forest management, conservation education, public recreation and the preservation of biodiversity, all framed within the aesthetic, cultural, economic and community values that the HTF offers to the Hinesburg community.

Because of the detail provided in the existing FMP, and the need to update the FMP in 2028, this FMPA will be more abbreviated than the FMP and will provide less general information about the HTF. For more detailed information about the HTF in general, please reference the MP and FMP.

Besides complying with the MP and FMP, this FMPA is intended to comply with the terms of the [HTF’s conservation easement](#), which is co-held by the Vermont Land Trust and the Vermont Housing and Conservation Board and monitored by the Vermont Land Trust. One of the main purposes of the HTF’s CE is:

*“To conserve productive forestland, wildlife habitats, biological diversity, natural communities, riparian buffers, wetlands, soil productivity, water quality and native flora and fauna on the Protected Property and the ecological processes that sustain these natural resource values as they exist on the date of this instrument and as they may evolve in the future.” (p. 1)*

The need for an FMPA for the Carse Addition before conducting any forest management is specified in the HTF’s Conservation Easement here:

*“As provided in Section III(3), below, Grantor shall not harvest timber, wood products, commercial non-timber forest products, or conduct commercial maple sugaring operation without first developing a forest management plan for the Protected Property. Said forest management plan and any updates, amendments or other changes thereto (collectively “Forest Management Plan”) shall be submitted to Grantees for their approval prior to any forest management activity listed herein.” (p. 3)*

Because no management will be conducted in the Carse Addition’s Mapped Reserve Zones (Zones 3 and 4, see page 6-7 of this FMPA), the inventory and management recommendations in this FMPA will be limited to portions of the Carse Addition subject to active management (Zones 1 and 2).

As in the HTF’s FMP, silvicultural recommendations put forth in this FMP are intended to be overseen by the Chittenden County Forester. If the Chittenden County Forester is unavailable, they

shall be overseen in the field by a Vermont-licensed forester in agreement with the Town of Hinesburg. Any foresters and loggers contracted to complete work described in this FMP will be put forward by recommendation of the Hinesburg Town Forest Stewardship Committee and the Chittenden County Forester.

All of the recommendations prescribed in this FMPA should be accompanied by extensive public outreach and education before, during, and after their implementation. In addition to encouraging a healthy, vibrant forest, the demonstration of thoughtful, responsible forest management and stewardship is a critical goal of this FMPA, as in the FMP.

This FMPA shall be updated as part of the HTF's next FMP update, in 2028.

DRAFT

## --- OVERVIEW OF FOREST CONDITIONS ---

### The Forest.

The Carse Addition is located on mostly south-facing slopes between 1100' and 1500' ASL. In general, the Carse Addition's lower slopes are gentler, with evidence of soils influenced by glacial sand and gravel deposition, whereas upper slopes are steep and soils are thin in places—most notably in the parcel's Ecological Protection Areas (EPZs) and the Reserve Zones surrounding them.

Both Stands 19 and 20 are mosaics of two variants of Northern Hardwood Forest natural communities: Red Oak-Northern Hardwood Forest and Rich Northern Hardwood Forest. In general, the former natural community type is located where soils are thin, aspect is strongly to the south and/or slopes are convex. The latter natural community type is more common where slopes are concave, or in small areas with northerly and easterly aspects.

Forest management most recently occurred on the parcel in 2018-19 in the area mapped in this FMPA as Stand 19, when approximately 80 MBF of hardwood saw timber and 70 MBF of pine saw timber was removed in a single tree/group selection treatment. Prior to 2018, in 2011 approximately 40 MBF of white pine was salvaged from the western portion of Stand 19 (mapped here as 19a) following the December 2010 windstorm. A section of the western portion of Stand 20 (20a) was heavily cut in 2009-10. The entirety of the parcel contains evidence of multiple forest management entries over the last several decades.

In general, Stand 19 is recovering from recent management, with some areas of high-quality residual trees and other areas where the overstory, understory and/or midstory are of poor quality. Combined with pockets of early successional forest established in the 2010 windstorm and subsequent salvage operation, this stand would benefit from some commercial and non-commercial management work to improve the quality of residual stocking (crop tree release), as well as to create pockets of early successional forest (patch cuts/overstory removal).

Stand 20 is a very impressive stand, with an overstory largely comprised of high-quality oak, ash and sugar maple. This stand would benefit from some commercial forest management to improve forest complexity, wildlife habitat and old growth characteristics over the next ten years. This would also be one of the few areas of the Hinesburg Town Forest that may be managed under dry summer conditions.

### Landscape-Level Assessment.

The majority of the 2500-acre area around the Carse Addition consists of two large forest blocks: a block between Hayden Hill Road East/West and Lincoln Hill Road, and a block between Lincoln Hill Road and Hollow Road (Hinesburg Hollow Road). The majority of forests within the interior of these blocks are relatively mature, although most are still somewhat even-aged, closed canopy forests lacking structural and age-class diversity. The following was taken from the [Carse Addition's Interim Management Plan](#) (IMP):

*“The Carse Addition connects the HTF to the 1,172 acre Fred Johnson Wildlife Management Area, and the 700+ acre parcel retained by the Carse family. Conservation of the HTF and Carse Addition and their connection to existing conserved land fulfill a significant need to retain valued natural areas to sustain wildlife habitat, water quality, and natural plant and forest communities. The conservation effort aligns with the State's, Conservation Design Plan to protect Priority Interior Forest Blocks and Priority Connectivity Blocks.”*

Approximately 75 acres (3%) of this 2500-acre area around the Carse Addition can be classified as young forest (<50 years of age). Of these 75 acres, 45 acres are located within the HTF itself: approximately 40 acres of young forest in the area of the HTF affected by the 2010 windstorm, and approximately 5 acres of young forest regenerating from the forest management done in 2018-20 from the HTF's Economou Road access. The balance is reverting open land, shrub wetlands, and areas that show signs of recent logging. Of the 45 acres of young forest within the HTF, +/- 42 acres are nearly 15 years old, and expected to become too mature to support area-sensitive early-successional birds species like Canada warbler and mourning warbler, as well as other wildlife species dependent on early-successional habitat, within the next 10 years. This will result in a significant reduction in young forest/early successional habitat within this area, placing it below the 3-5% threshold recommended by Audubon Vermont. To provide more young forest conditions for wildlife, it is recommended that the HTF consider both creating new areas of young forest and grinding areas of existing young forest to perpetuate this condition.

Within the HTF itself, habitat and age class diversity is much greater than in the surrounding area as a result of natural disturbances and ongoing forest management. Within the Carse Addition, recent forest management (under the previous ownership) has created some vertical and horizontal structural diversity, although additional non-commercial forest management would improve structural diversity and the development of a healthy, diverse understory and midstory.

### **Threats.**

Small populations of shrub honeysuckle were found near roads and powerlines in the south of the parcel and should be controlled as soon as possible. While there are not yet wide-spread populations of non-native invasive plants in the Carse Addition, they remain a **major** concern. Non-native invasive plants pose a serious threat to the health of forests, wetlands and wildlife communities at the HTF (and across the landscape). They should be monitored for constantly, and removed whenever they are found.

Deer browse was also observed to be negatively impacting the forest of the Carse Addition and its ability to regenerate and support a healthy, diverse understory of native trees and plants. The vast majority of the Carse Addition's understory was dominated by species that deer avoid browsing, including beech, striped maple, hop hornbeam, and witch hazel—a strong indicator of a locally-high deer population. While white-tailed deer are native to Vermont, their populations in some parts of the state – including in Hinesburg – appear to be exceeding the carrying capacity of their habitat. Where deer are overpopulated – such as in a large portion of the United States – their browse constitutes a massive biodiversity threat that has cascading negative implications for ecology, wildlife and ecosystem resilience, and may increase the abundance of non-native invasive plants. It is recommend that deer hunting, especially antlerless deer hunting, be encouraged in the Carse Addition, as in the rest of the HTF.

**History.**

The following is taken from the Carse Addition's Interim Forest Management Plan (IMP):

*“Since the mid 1900s, Henry Carse owned and oversaw the management of a 1,000 acre forested parcel on Lincoln Hill Road in Hinesburg. Upon Henry’s death the land became jointly owned by his descendants who in 2020 decided to sell the property. One of the current owners purchased approximately two thirds of the parcel that is located on the south side of Lincoln Hill Road. The Carse family offered to sell the remaining 291 acres on the north side of the road to the Town of Hinesburg rather than listing it on the open market. The land borders the 837 acre Hinesburg Town Forest (HTF) on two sides and has existing trails that cross uninterrupted into that forest. The Town expressed its interest in acquiring the land and combining it with the existing Town Forest... With the leadership of the Vermont and Hinesburg Land Trusts, the Town pursued that opportunity and together the organizations put together the necessary funding to complete the purchase and conservation effort.”*

The Carse Addition was a portion of a larger parcel previously owned by the Carse Land Company. When the Carse Land Company dissolved, the 711 acres south of Lincoln Hill Road was purchased by a family member, and the 291 acres north of Lincoln Hill Road was purchased by the Town of Hinesburg.

Like the majority of Vermont, it is likely that even the steepest and rockiest areas of the Carse Addition were cleared at some point in the early-mid 1800's, along with about 80% of Vermont. The largest single driver for this clearing was the creation of sheep pasture, although the need for wood for heating fuel, building materials and fence posts were also drivers of repeated forest clearing and exploitation.

Stand 20, along with most of the Carse Addition, appears to have been allowed to revert to forestland around 1900, and was heavily cut multiple times between the mid-1900's and today. Stand 19 appears to have been managed as pasture until the mid-1900's. It has also been managed multiple times, most recently in 2018-19.

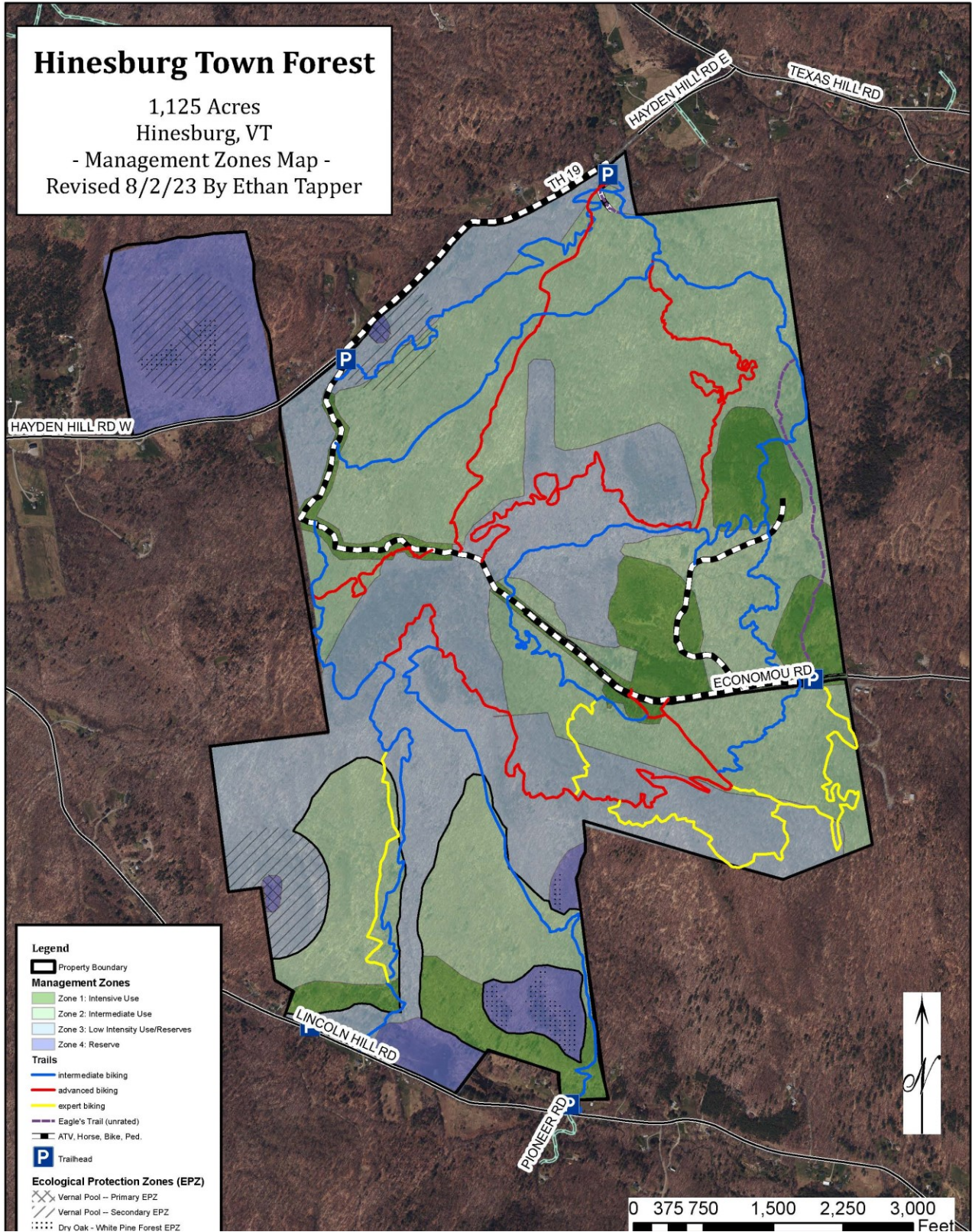


Figure 1: Management Zones Map – Revised 2023

**Management Zones.**

The Carse Addition, like the rest of the HTF, will be divided into four management zones:

- Zone 1: Intensive Use Zone, in which more intensive forest management and recreational trail development is allowed;
- Zone 2: Intermediate Use Zone, in which forest management and recreational trail development of intermediate intensity is allowed;
- Zone 3: Low Intensity Use/Reserve Zone, in which no forest management (other than non-native invasive plant control and deer control) is allowed and recreational trail usage is minimal;
- Zone 4: Reserve Zone, in which no forest management (except as specified above) and no recreational trail development is allowed.

In the Carse Addition:

- +/- 32 acres (11%) are mapped as Zone 1 – in Stand 19;
- +/- 103 acres (35%) are mapped as Zone 2 – Stand 20;
- +/- 119 acres (41%) are mapped as Zone 3 – largely along steep slopes, sensitive soils, riparian areas, the beaver wetland at the southern end of the parcel and the secondary zone of the Carse Addition’s vernal pool EPZ;
- +/- 37 acres (12%) are mapped as Zone 4 – around the Carse Addition’s natural community EPZ’s, the primary zone of the vernal pool EPZ, and the beaver wetland at the southern end of the parcel.

In the entire Hinesburg Town Forest (including the Carse Addition):

- +/- 120 acres (11%) are mapped as Zone 1;
- +/- 521 acres (46%) are mapped as Zone 2;
- +/- 376 acres (33%) are mapped as Zone 3 – largely along steep slopes, sensitive soils, riparian areas, the beaver wetland at the southern end of the parcel and the secondary zone of the Carse Addition’s vernal pool EPZ;
- +/- 108 acres (10%) are mapped as Zone 4 – around the Carse Addition’s natural community EPZ’s the primary zone of the vernal pool EPZ, and the beaver wetland at the southern end of the parcel.

**This Forest Management Plan Amendment includes a revised version of the HTF’s Management Zones Map (FIGURE 1). The previous map, created in 2022, has been edited to refine zone boundaries within the Carse Addition. The only change to HTF zones outside of the Carse Addition in this map is adding the location of the 2010 blowdown to Zone 1, which will allow for the continued management of this area for early successional habitat.**

Together, Zones 3 and 4 (the “Reserve Zones”) account for 53% of the Carse Addition and 43% of the HTF. Of the acres mapped as Zone 3 and 4 in the Carse Addition, as in the rest of the HTF, the only management actions allowed or recommended are deer control (through recreational hunting) and non-native invasive plant monitoring and control.



### Ecological Protection Zones.

Several Ecological Protection Zones (EPZs) were identified in Carse Addition by the Vermont Land Trust in the HTF's conservation easement – see Figure 2 – and are afforded special protections in the CE. These include a vernal pool and surrounding protection zone (100-foot buffer) and secondary zone (400-foot buffer), as well as three areas of Dry Oak-White Pine Forest, a natural community of statewide significance. All of these areas are mapped here as part of one of the HTF's Reserve Zones (Zone 3 or 4), and so will not be managed except for monitoring and controlling non-native invasive plants and deer populations.



Figure 2: Carse Addition Ecological Protection Zones Map

**Boundaries.**

The parcel boundaries of the Carse Addition are marked by stone fences, barbed wire, and painted/blazed trees. In the field, many of these boundaries are not well-marked or easily found. Parcel boundaries should be located and painted as soon as possible and before any forest management occurs on the parcel.

**Access.**

Access to eastern sections is afforded by a landing in a field adjacent to Lincoln Hill Road in the southwest corner of the Carse Addition—this landing was used to access Stand 19 in 2018-19.

While access to western sections may be afforded via the aforementioned landing (with the addition of a stream crossing), it would be improved by instead using a gated access in the Carse Addition's southwest corner. Using this access for forest management would likely require building approximately 100' of gravel road and a gravel truck turnaround. A portion of this expense may also be incorporated into simultaneously building a parking area for recreational trail users.

## --- MANAGEMENT CONSIDERATIONS AND PRIORITIES ---

Among the forest management objectives for HTF's, articulated in the MP (p. 20-21), are:

- *Allow natural processes to govern the HTF's ecosystems and model any active management on these processes to the extent possible.*
- *Demonstrate sustainable forestry practices that protect and enhance ecosystem function and health.*
- *Protect and/or enhance habitat for native species, including game and non-game wildlife.*
- *Manage the allowed uses of the forest in such a way that they do not adversely affect the rural residential nature of the neighborhood.*
- *Monitor and respond to*
- *s changes.*

In addition to these objectives, the primary goals of this FMPA are:

- To encourage diverse, resilient forests and other ecosystems;
- To protect biodiversity, protecting and enhancing habitat for all native species;
- To produce local, renewable resources (wood) when possible within the above-listed objectives;
- To demonstrate responsible forest stewardship in an open, transparent and inclusive way.

## --- STAND DESCRIPTIONS ---

### Stand 19

Size: 32 Acres

**Forest Type:** Northern Hardwood Forest

**Description:**

Stand 19 is comprised largely of areas managed in 2018-19, located on the Carse Addition's less-steep slopes at the southern end of the parcel. This Stand, like Stand 20, is a mosaic of two different forest types: on dryer soils, red oak, red maple, white pine and beech are more common. On wetter and thinner soils and concave slopes, sugar maple and white ash are more common. The effect of the forest management done in 2018-19 on this stand was variable—in areas dominated by sugar maple, the management appears to have benefitted the composition and the structure of the stand. In areas dominated by red oak, the 2018-19 management treated the overstory but left a poor-quality midstory and understory behind. There are also scattered areas within this stand that were untreated.

Stand 19 has been divided into two sub-stands: Stand 19a and Stand 19b. Stand 19a is located west of the Carse Addition's largest brook, on wetter soils. This includes an area of white pine, partially-salvaged following the 2010 windstorm. Soils in Stand 19a are generally wetter and will likely need to be operated on only in winter or exceptionally-dry summer conditions. Stand 19b is located east of the brook, on much dryer soils with an established landing location in the Carse Addition's southeastern corner.

Throughout the two sub-stands are immature crop trees (especially sugar maple and red oak) and pockets of sugar maple poles and saplings which would benefit from release.

**Composition:** Overall, red maple accounts for 30% of the total basal area in the stand, followed by white pine (16.5%), red oak (11%), and beech (5% each). While sugar maple only accounts for 1.5% of the basal area in inventory data, field evidence suggests it may account for a higher proportion of the stand on the ground.

**Stand Summary:** 8 plots, 10 BAF prism

Total Basal Area/Acre: 76ft<sup>2</sup>/acre

Acceptable Basal Area/Acre:48 ft<sup>2</sup>/acre

Quadratic Mean Stand Diameter:12.5 in.

Trees/Acre: 89

**Approximate Stand Age:**60 years

**Stand Health:** Deer browse damage, beech bark disease.

**Invasive Species:** small populations of shrub honeysuckle along the powerlines in the southwestern portion of the stand.

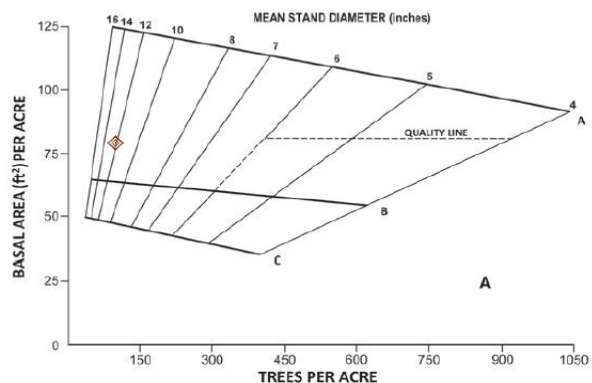


Figure 1: Hardwood Stocking Guide. Leak, W.B., Yamasaki, Y., and R. Holleran. 2014. Silvicultural Guide for Northern Hardwoods in the Northeast Gen. Tech. Rep. NRS-132.

**History:** Managed on multiple occasions, most recently in a single tree and group selection treatment in 2018-19.

**Access and Operability:** 19a is accessed via an established landing in open land along Lincoln Hill Road. 19b may be accessed via this landing, but can be more easily accessed via a gated access in the southwestern corner of the stand.

**Management Objectives:**

The primary objective for this stand is to encourage the development of a healthy, diverse, resilient forest. This will include promoting tree diversity and complexity, creating and maintaining high-quality wildlife habitat, and demonstrating responsible stewardship while protecting stand dynamics and ecosystem processes.

In this stand, there will be a particular focus on managing for young forest habitat for wildlife, especially neotropical songbirds.

**Management Activities:**

The following treatment will be scheduled for 2025 +/- 3 years. If accomplishing this is not possible prior to updating this FMP in 2028, it shall be reassessed at that time.

In Stand 19b:

- Conduct a crop tree release treatment with canopy gap and patch cut establishment. The first stage of this work will be commercial forest management to release crop trees and create canopy gaps (openings up to ¼ acre in size, covering no more than 3 acres in total). Release crop trees – healthy, vigorous trees of all species, especially red oak and sugar maple – from competition on 2-4 sides of their crowns, lowering the basal area in the treated areas to no less than 70 ft<sup>2</sup>/acre. Essentially, this part of the project will go back through the 2018-19 forest management area and release trees and pockets of regeneration which were not released at that time.
- 
- Create patch cut(s). In areas where the understory and midstory are uniformly unhealthy, cut all commercial trees within 2-5 acres patch cuts (covering up to 60% of the stand area). Retain lots of dead wood, snags, cavity trees and legacy trees within patch cuts.
- Follow-up both crop tree release and patch cuts with non-commercial Forest Stand Improvement, either by hand-cutting or grinding non-commercial stems.
- This work will ideally be done in dry summer conditions, preferably after August 1 and before November 1, although it should be done opportunistically and as conditions allow.

In Stand 19a:

- Remove the overstory of the area partially salvaged in 2011 (3-5 acres), leaving just scattered snags and cavity trees.
- Create 1 or 2 2-3 acre patch cuts in areas with poor quality overstory, midstory and/or understory as described above: harvesting all commercial trees and following with grinding or non-commercial felling to remove low-quality understory trees.
- This work will likely need to be done in winter, although conducting it during a very dry summer—in conjunction with 19b—may be possible.
- Build a road and log landing in the southwest corner of 19a, either just north or just south of the power lines.

DRAFT

**Stand 20**

Size: 102.5 Acres

**Forest Type:** Northern Hardwood Forest**Description:**

Stand 20 is an impressive hardwood stand on the upper slopes of the Carse Addition. Like Stand 19, Stand 20 contains a mosaic of two major forest types: red oak, red maple, white pine and beech on dryer, south to west-facing areas, and sugar maple, white ash and basswood on concave slopes and, deeper and more moist soils. These latter areas include some sections which show signs of extreme richness, with rich site indicator plants like blue cohosh and maidenhair fern. While this stand has been managed on multiple occasions, only the southwestern portion has been managed recently—cut heavily in 2009-10. Other areas have likely not been managed for at least 30 years.

**Composition:** Red oak accounts for 31% of the total basal area in the stand, followed by sugar maple (26%), red maple (13.5%), and beech 11% each). While sugar maple only accounts for 1.5% of the basal area in inventory data, field evidence suggests it may account for a higher proportion of the stand on the ground.

**Stand Summary:** 25 plots, 10 BAF prismTotal Basal Area/Acre: 99.5 ft<sup>2</sup>/acreAcceptable Basal Area/Acre: 65 ft<sup>2</sup>/acre

Quadratic Mean Stand Diameter: 11.5 in.

Trees/Acre: 140

**Approximate Stand Age:** 100 years**Stand Health:** Deer browse damage, beech bark disease.**Invasive Species:** None noted.**History:** Managed on multiple occasions, most recently, 20a was heavily-cut in 2009-10.

**Access and Operability :** 20b may be accessed via a landing in open land along Lincoln Hill Road. 20a may be accessed via this landing in winter, but can be more easily accessed via a gated access in the southwestern corner of Stand 19a.

**Management Objectives:**

The primary objective for this stand is to encourage the development of a healthy, diverse, resilient forest. This will include promoting tree diversity and complexity, creating and maintaining high-quality wildlife

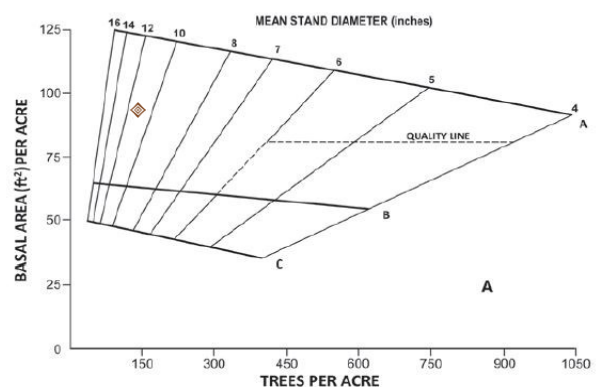


Figure 1: Hardwood Stocking Guide. Leak, W.B., Yamasaki, Y., and R. Holleran. 2014. [Silvicultural Guide for Northern Hardwoods in the Northeast](#) Gen. Tech. Rep. NRS-132.

habitat, and demonstrating responsible stewardship while protecting stand dynamics and ecosystem processes.

The goal of this stand, as compared to Stand 19, will be to develop mature forest characteristics, including both vertical structural diversity and horizontal structural diversity.

***Management Activities:***

The following treatment will be scheduled for 2025 +/- 3 years. If accomplishing this is not possible prior to updating this FMP in 2028, it shall be reassessed at that time.

An irregular group shelterwood is prescribed in Stand 20. The goal of this project will be to encourage the stand to become more diverse, more complex and more like an old forest while creating great habitat opportunities for wildlife and addressing biodiversity threats.

Throughout the stand, unhealthy trees, or those crowding healthier, more vigorous trees, will be harvested across all age classes. The basal area in the stand as a whole will be reduced to approximately 75-85 ft<sup>2</sup>/acre, although the stocking will be left intentionally variable to create a gradient of light conditions.

At least 10 large trees per acre of a variety of species will be labeled and retained as legacy trees as part of this project, retained in perpetuity to provide the important ecological and habitat benefits of big, old trees, and eventually of large-diameter dead wood. An additional 10 legacy trees per acre will be labeled and retained in each future entry.

Groups of all different shapes and sizes – but no larger than 1 acres in size– will also be created, regenerating up to 20% of the stand area in total. Within groups, most or all overstory trees will be removed. Groups will be located in areas of unhealthy trees, in clusters of ash and/or where vigorous regeneration is established.

Small trees, treetops and branches should be left on the forest floor to provide the ecological benefits of dead wood and to protect understory trees from deer browse.

The goal for this forest management project is to encourage the development of a forest with many different sizes, ages and species of trees, a diverse, vigorous understory, an irregular canopy punctuated by gaps of all different shapes and sizes, big, old legacy trees, and lots of dead wood on the forest floor. In short, it will create a complex forest well-equipped to provide a wide range of habitats for wildlife and to be resilient in a changing climate, and will create old forest conditions centuries before they naturally occur.

This work will be a great place to showcase how forests work and what responsible forest management looks like. It should be accompanied by educational signage and an open, inclusive and transparent outreach process.

It is recommended that the work in 20b be conducted under dry summer conditions from the landing in the southeast corner of the Carse Addition. 20a should be conducted in winter, unless a dry crossing location uphill of the established crossing can be located to access 20a via the landing in 20b. A cable skidder is the recommended equipment for this work.

This is a commercial treatment, meaning that it will generate revenue for the town. It is recommended that at least \$5,000 of the revenue for this treatment be reinvested in post-harvest non-commercial Forest Stand Improvement (FSI) work and improving access.



Prior to this management, chemical or mechanical treatment of beech should be considered. If necessary, it should be implemented prior to beginning this work. This would also be non-commercial and would be an additional expense to the Town.

DRAFT

### Schedule of Management Activities

(Timing of specific activities may be shifted)

Stand	Activity	Scheduled Year	Cost	Funding Source
19, 20	Forest Management	2025	Revenue-generating	N/A
19	Non-commercial follow-up	2025	\$5,000	Timber revenue, HTF Budget, Stewardship Fund
19	Invasive Plant Control	ASAP	\$0-500	HTF Budget, Stewardship Fund
20	Beech Treatment	2025 (before work in Stand 20)	Up to \$2,500	HTF Budget, Stewardship Fund
19a	Build Road/Landing/Parking Area in southeast of Stand 19a	ASAP, before work in 19a or 20a	\$7,500	HTF Budget, Stewardship Fund
All	Locate and paint property boundaries	ASAP, Every 5 years	None - volunteers (unless survey is needed)	Stewardship Fund

### Works Referenced

Frank, Robert M., Bjorkbom, John C. *A silvicultural guide for spruce-fir in the Northeast*. Gen. Tech. Rep. NE-6. Broomall, PA: U.S. Department of Agriculture, Forest Service, Northeastern Forest Experiment Station; 1973. 29 p. [https:// doi.org/10.2737/NE-GTR-6](https://doi.org/10.2737/NE-GTR-6)

Hagenbuch, S., Manaras, K., Shallow, J., Sharpless, K., Snyder, M. *Silviculture with Birds in Mind* (2011). Audubon Vermont & Vermont Dept. of Forests, Parks and Recreation.

Leak, William B.; Solomon; Dale S.; DeBald. 2014. *Silvicultural guide for northern hardwood types in the northeast(revised)* . Gen. Tech. Rep. NE-603. Newtown Square, PA: US Dept. of Agriculture, Forest Service, Northern Research Station.

Leak, W.B., M. Yamasaki, J.S. Ward, K. Desmarais, and K.P. Bennett. 2017. *Ecology and Management of Northern Red Oak in New England*. University of New Hampshire Cooperative Extension, Durham, NH.

Leak, William B.; Yamasaki, Mariko; Holleran, Robbo. 2014. *Silvicultural guide for northern hardwoods in the northeast*. Gen. Tech. Rep. NRS-132. Newtown Square, PA: US Dept. of Agriculture, Forest Service, Northern Research Station.

Raymond, P., Bedard., S., Roy, V., Larouche, C., Tremblay, S. December, 2009. *The Irregular Shelterwood System: Review, Classification, and Potential Applications to Forests Affected by Partial Disturbances*. Journal of Forestry.

Reay, R., Blodgett, D., Burns, B., Weber, S., and Frey, T. (1990). *Management guide for deer wintering areas in Vermont*. Vermont Department of Forest, Parks, and Recreation, Vermont Department of Fish & Wildlife, and USDA Forest Service publication.

Seymour, Robert S. *Integrating Natural Disturbance Parameters into Conventional Silvicultural Systems: Experience from the Acadian Forest of Northeastern North America* (2005).

Thompson, E. H., & Sorenson, E. R. (2005). *Wetland, woodland, wildland: A guide to the natural communities of Vermont*. Montpelier: Vermont Dept. of Fish and Wildlife and the Nature Conservancy.