

Paul T. Doherty Memorial Town Forest
Forest Stewardship Plan for the Tinker Brook Tract, Gorham, NH
Prepared by Haven Neal
July 31, 2020

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Introduction and History:

This property is in the Town of Gorham. The northern most point of the property is the Berlin Gorham Town line. The property extends south for a distance of 3.04 miles to a point approximately .5 miles north of U.S. Route 2. The property is 2020 acres in size. Approximately 2005 acres are forested. Non- forested acres include the road system, some ledge rock outcrop, and a small wetland on the southwest side of the property.

The property is contiguous to the existing town forest bordering it to the west.

The property is listed as Lot 2 on The Town Gorham Tax Maps R6, and R7.

The property was acquired by The Conservation Fund in 2014 From Yankee Forest LLC. The acquisition was an interim hold to buy time while the Town of Gorham could assemble the funding to acquire the property. The Conservation Fund assisted the town in fundraising and project management. During the Conservation Fund's ownership, the property was managed by forest managers Land Vest and public access was permitted.

Funding for the project was provided by the USFS Community Forest Program, NH Land and Community Heritage Investment Program, NH DES Drinking and Ground Water Trust Fund, Open Space Institute Community Forest Fund, The Neil and Louise Tillotson Fund, and the sale of 200 acres to the Town of Randolph. The sale to Randolph was funded by The Randolph Conservation Opportunity Fund a donor advised fund of the NH Charitable Foundation.

Prior the ownership of Yankee Forest in 1996 the property was owned and managed as industrial forest land by the pulp and paper company that formerly operated in Berlin, NH. The duration of this ownership was approximately 75 years.

Adjacent forestland includes Jericho State Park to the north in Berlin, Moose Brook State Park on the south west side, and non- industrial forest on the east side.

Between 2000 and 2009 the property was harvested by the previous owners to salvage damaged trees from the 1998 winter ice storm.

Topography and Soils:

The highest point in elevation is in the north west corner where the far west boundary runs south from the Berlin town line through the summit of Sugar Mountain at 2440 feet above sea level. The lowest point is the southwest boundary corner with Moose Brook State Park at 1013 feet above sea level. The spine of Sugar Mountain runs southeast across the northern portion of the tract. North of this spine the tract slopes facing the northeast and south of the spine the slope has a southwest and south facing aspect. The slopes average 8% to 15% over most of the tract. There are approximately 12 acres of inoperably north facing steep slopes that make up a riparian area for Tinker Brook. Another 10 acres of exposed ledge and inoperably steep ground is found in the northeast area. Another area with ledge and inoperable slopes is located in the

southeast quadrant of the tract. This area is 11 acres in size. There is a forested wetland 37 acres in size on the west side of the tract just north of Moose Brook State Park.

Through a research project conducted in the 1970s the USDA Natural Resources Conservation Service in New Hampshire developed a way to group soils according to their tree growth potential and the Trends of forest cover types that would occupy these sites in a climax forest. These groups are called the NH Important Forest Soils Groups.

The center of the tract from north to south is dominated by three soil types. They are the skerry-peru association, the becket- skerry association, and skerry fine sandy loams. These soils make up 1211 acres. These soils are listed in the 1A category of The Important Forest Soils Groups. The soils in this group are considered the most productive in New Hampshire for tree growth. The successional trends for soils in this group are towards shade tolerant hardwoods. Sugar maple, White ash, birches, and aspens are common tree species that establish on these soils. In the northeast and a couple of spots to the south there are 349 acres of tunbridge-Lyman, and becket-marlow soils that are in the 11A group. These are soils found in the 1A and 1B groups but are in this group due to physical limitations for forest management such as rock outcrop, steep slopes or excessive rockiness. Another group of soils including Waumbek, Monadnok, Hemon, and tunbridge soils are in the 1B group. These soils make up 390 acres. The soils in this group have similar characteristics as the 1A group but are more coarsely textured and slightly less fertile. Along with the same species found on the 1A soils hemlock, spruce, and beech are often found on these soils.

Access:

There are 2 entry points into this forest. A southern entry point is from the yard of the Gorham Sand and Gravel Company running north a distance of .5 miles across a private landowner then into the forest for a distance of 2.3 miles then entering the original town forest. There is a winter spur road that goes to the west just north of the northeast corner of the Moose Brook State Park boundary approximately 1.2 miles north of the south boundary of the forest. This winter road runs west for a distance of approximately 1200 feet ending in a large log landing. This all- season road is in generally good condition although there is some center erosion due to heavy ATV use.

The second entry point is in the northeast end off Corbin Street in Berlin. This road begins at the west end of Corbin Street in Berlin. It runs approximately 1300 feet in a south west direction entering the forest near the northeast corner. After running another 200 feet in this direction it swings to the northwest and after another 200 feet crosses out of the town forest back into Berlin on T.R. Dillon property. The road proceeds west for a distance of approximately 2200 feet where it swings slightly to the south reentering the Gorham Forest. There is a spur road that runs off the Dillon property to the south that enters the Gorham property running for a distance of 3000 feet ending in a log landing. Approximately 200 feet east of this spur road there is a bridge that must be rebuilt before vehicle traffic can resume. The main road after reentering the Gorham Forest then runs southwest and south for a distance of 1.2 miles. Two other spur roads run off the main road. The first begins 3400 feet from where the main road

enters the forest. This spur runs west for a distance of 3000 feet ending in a log landing. The second spur begins approximately 1500 feet south of the first spur running southeast for a distance of approximately 1800 feet ending in a log landing. The total distance of these roads is roughly 2.3 miles.

These roads were originally built by the paper company that previously owned this land in the late 70s and early 80s. They are well -constructed all season forest access roads. Where the road runs through the Dillon property in Berlin there is a bridge crossing a stream. This Bridge is in need of some repairs to the deck before it can support heavy truck traffic. The roads will otherwise require some repair and maintenance work such as ditch repair, Culvert repair and or replacement, and general surface work. Much of the repair work is due to heavy ATV use.

Goals of the Town Forest:

This property will provide a number of benefits to the Town of Gorham and its citizens. The following goals are for the realization of those benefits.

- Watershed protection is a top goal. There are approximately 300 acres on the west side of the property that are within the Perkins Brook watershed. This is the primary water supply for the town of Gorham. The practices and guidelines for watershed protection established in the 2017 Forest Stewardship Plan for the Paul T. Doherty Memorial town Forest will be applied whenever forest management activities are undertaken within this area.
- Sustainable timber management is a goal that will provide income to help the town fund projects and offset local property taxes. To this end silvicultural practices will be applied to ensure a dependable supply of quality forest products for the long term.
- With the exception of the 300 acres that lay within the Perkins Brook watershed which is open to non – motorized recreation only, the property is open for motorized and non-motorized recreation. This includes snow mobiles, ATVs, hunting, snowshoeing, cross country skiing, hiking, and wildlife viewing.
- Maintenance of wildlife habitat to help sustain the broad range of species that traditionally inhabit this region when planning forest management activities is a goal.
- It is a goal for the town that this property be made available as a resource for the education of natural resources for children and adults in Gorham and elsewhere.

Forest Cover:

A systematic point sample forest inventory was done by Land Vest, Inc. a forestry consulting firm with offices in Bethel, Maine and West Stewartstown, New Hampshire. The inventory report is provided in the appendix.

According to the inventory, 85% of the forest cover consists of hardwoods with a species composition of beech, sugar maple, red maple, yellow birch, paper birch, white ash, quaking aspen, and big tooth aspen. Small numbers of basswood, black cherry, hornbeam, and grey birch are also present. Non- commercial species such as pin cherry, and striped maple are

also present in small numbers. Softwood species make up 15% of the cover consisting of balsam fir, hemlock, white pine and red spruce.

There is an average of 1,666.8 trees per acre. Merchantable trees that are trees that are 5 inches DBH (diameter at breast height) or more average 195.4 trees per acre. Sapling and pole sized trees (1 to 4 inches DBH) make up the balance or 1471.4 trees per acre.

The average volume per acre is 13.88 cords. This volume is in the trees that are 5 inches DBH or more. Almost all of the forested acres have been harvested within the last 20 years with the last harvest taking place 11 years ago.

Almost all of the stands have a moderately well to well stocked layer of sapling and pole sized timber. An over story layer of pulpwood and small saw timber sized trees varies in density from sparsely stocked to well stocked.

Crown dieback was observed in some of the over story hardwoods. This may be due to root damage caused by soil compaction and rutting caused by timber harvesting during wet periods or by release shock from removing over topping trees.

In the northeast area of the property there are approximately 70 acres in a mixed hardwood and softwood stand that was harvested using an overstory removal to release sapling and pole sized softwoods. Overstory white pines were retained as a seed source. Many of these pines are beginning to uproot or break off due to wind.

Most of the stands have been harvested within the last 20 years with varying degrees of intensity. As such the forest is largely in a successional transition.

Insect and disease damage are somewhat minimal throughout the forest cover. Eastern tent caterpillar which caused a great deal of damage farther to the west in Randolph does not appear to be an issue here. In the beech component, beech bark disease is prevalent to the extent that is seen in other areas of the region.

Water Quality:

The State of New Hampshire Division of Forests and Lands and The University of New Hampshire Cooperative Extension along with a committee of natural resource professionals in New Hampshire have developed a manual of the best management practices (BMPs) to prevent soil erosion and maintain water quality when conducting timber harvesting. This manual has gone through several revisions the most recent being 2016. The complete manual is available on the UNH Cooperative website. The BMPs deal with design, construction, and maintenance of access roads, landings, and skid trails on logging operations. Operations that may impact any surface waters are required to obtain a minimum impact forestry notification from The New Hampshire Department of Environmental Services Wetlands Bureau. One of the requirements for obtaining this notification is that the BMPs described in the manual are adhered to.

Approximately 300 acres on the west side of this property are within the Perkins Brook watershed. Any forestry operations that take place in this area in addition to the BMPs, must follow the water quality and sanitation guidelines set down in the 2017 Paul T. Doherty Forest Management Plan. These guidelines are provided in the appendix. Timber harvesting in this area will be confined to the winter months on frozen ground conditions.

Timber Management:

A number of timber harvest entries have been made on this property over the last 75 years. Much of the forest has seen as many as four entries with the last entry due to the winter 1998 ice storm being the most extensive and intensive. This entry took place from the years 2000 to 2009.

The objective for managing the timber is to maximize the potential of the acceptable growing stock (AGS) by harvesting trees that have either reached their potential or are inhibiting the potential of AGS. In this way successive entries should provide more value per unit than the previous entry.

An annual winter harvest of 1,000 to 2,000 cords on the entire 6,000 acres of the Gorham property is the desired schedule for the next five (5) years. This schedule may be interrupted by factors such as weather and forest product market conditions.

In areas with the more coarsely textured Waumbek and Manadnock soils, a major component of the sapling/pole understory is beech. Beech due to its lower product value and propensity for beech bark disease is undesirable as a future crop tree. In these areas the harvest prescription would be group selection to promote the regeneration of more valuable gap phase species such as white ash and yellow birch. In the areas of more fertile soils where the sapling/pole component has a greater representation of species such as sugar maple, white ash, and yellow birch, a prescription of over story removal is preferred. In any case, the overall goal is to manage the pre-commercial component of the forest that has the potential to develop into valuable forest products.

Wildlife:

Sightings and evidence of a number of wildlife species have been observed on this property. While wildlife habitat creation and maintenance are not primary goals of the town, they have an interest in maintaining quality wildlife habitat. Timber management and wildlife are not mutually exclusive. Timber harvesting can be a useful tool in the enhancement of wildlife habitat.

The New Hampshire Fish and Game Department through the Wildlife Action Program has developed a map that identifies the habitat type and another map that ranks the habitats according to their importance to New Hampshire. Most of the acres on this forest are identified as supporting landscapes. These areas contain a variety of habitats that support many species of wildlife but are not ranked higher because they have no critically important or rare habitat.

This is a young and predominantly northern hardwood forest. A list of species that thrive in this forest type is included in the appendix. A seedling/sapling forest is especially important to species such as American woodcock, ruffed grouse, and snowshoe hare.

The rocky cliffs in the northern part of the property provide important habitat for bob cat and pine marten. The small wetland that straddles the property and Moose Brook State park provides habitat for beaver, waterfowl, and many other species.

A possible practice to maintain some early successional forest is to mechanically clear several small patches of sapling forest every 10 years or so to prevent those areas from developing into a second growth forest with larger trees.

Consultation with biologists from the New Hampshire Department of Fish and Game will determine the use of some of the denser areas of conifer in the north east part of the property as deer wintering areas. This may affect the management in these stands.

Recreation:

While the 300 acres of forest within the Perkins brook watershed will be limited to non-motorized recreation, the balance of the acreage will be open to managed snowmobile and ATV use. A corridor trail in cooperation with the New Hampshire Bureau of Trails is now in use to enable riders from Jericho Lake State Park north of the forest to travel to in-town Gorham. Other trails are also in use and sanctioned. A White Mountain Ridge Runners Snowmobile Club trail map identifying State Corridor Trail Number 19 that runs the length of the forest is provided in the map section.

There are a number of unsanctioned trails in use on the forest. These will need to be evaluated to determine their origin and if they are appropriate. If necessary, these trails will be closed off.

Other non-motorized recreational pursuits include hunting, hiking, cross country skiing, and snowshoeing.

Vehicle access is controlled by gates at the Corbin Street entrance in the north and the Gorham Sand and Gravel entrance in the south.

Cultural Features:

No evidence of past human use, other than timber management, has been observed.

Boundary Lines:

There are 11.1 miles of boundary lines around this property. Approximately 2.7 miles on the west side are common to the existing town forest and may not need to be maintained. The north line bordering Jericho Lake State Park was resurveyed by the state approximately 15 years ago. This is also the Berlin-Gorham town line. The other lines around the property including the Moose Brook State Park Boundary are all visible but should be renewed within the next five years.

Education:

As has been the case with the original town forest, use of the forest as a resource for work shops and field days is a desire of the town and is considered a major benefit to the town of forest ownership. The original town forest has long been a resource for the Gorham school system as well as hosting workshops for the NH Timber Harvesting Council, and the UNH Cooperative Extension Service.

The Paul T. Doherty Memorial Town Forest is a member of the NH Tree Farm System. The 2,020 acres of this property will be added to the 3,840 acres of the original Tree Farm.

Management Recommendations:

Most of the hardwood cover on this forest consists of sapling/pole stocking with a northern hardwood overstory that varies in density from very sparse stocking to moderately well stocked. Some of these stands have sufficient density to recommend a crown thinning. With the average merchantable trees per acre at 195 and an average basal area at 62 square feet per acre, when this is plotted on the USFS stocking guide the point comes slightly below the B line which indicates near full stocking. This is the point at which stand density and tree diameters are at a point that is optimal for tree growth. Since this is an average of the 2,005 acres it is the assumption that timber harvesting using single tree and group selection is appropriate on much of this forest. Some other areas that are more sparsely stocked but may have a well- stocked and good quality sapling/pole understory are possible candidates for an overstory removal harvest to release the understory trees.

One area of immediate concern is a mixed wood stand in the northeast corner of the property. This stand was harvested by overstory removal to release a softwood understory. Larger white pines were left as a seed source. These pines are beginning to blow over. A salvage harvest is recommended as soon as possible.

Some non-revenue producing practices may include early successional habitat development, and crop tree selection forest stand improvement. Early successional habitat development is a practice that maintains some portion of the forest in a seedling/sapling cover. This was covered in the wildlife section. Crop tree selection is a practice that identifies precommercial acceptable growing stock and aiding in the growth of these trees by removing competing stems. Because these practices do not produce any revenue that could support the cost of implementation, grant monies from the public sector or nonprofit organizations would be needed.

Recommended Schedule of Management Activities:

The following are activities that may be implemented and a possible timeline for implementation.

- Rebuild the bridge near the Corbin Street entrance (Fall/Winter 2020-21)
- Salvage harvest of wind-damaged, white pine in the northeast portion of the forest. (fall/winter 2020-21)
- Crown thinning and overstory removal harvesting in hardwood stands. (fall/winter2020-2030)
- Road maintenance and repair in conjunction with timber harvesting (Fall/winter 2020-2030)
- Possible partnership with Coos County Conservation District and area schools to develop educational field days for area students. (2021)
- Periodic monitoring to prevent or control insect damage, disease, soil erosion, or unsanctioned human activity (on going).

Bibliography:

Inventory of Tinker Brook Property, Gorham, NH. David Degratola 6/25/2020.

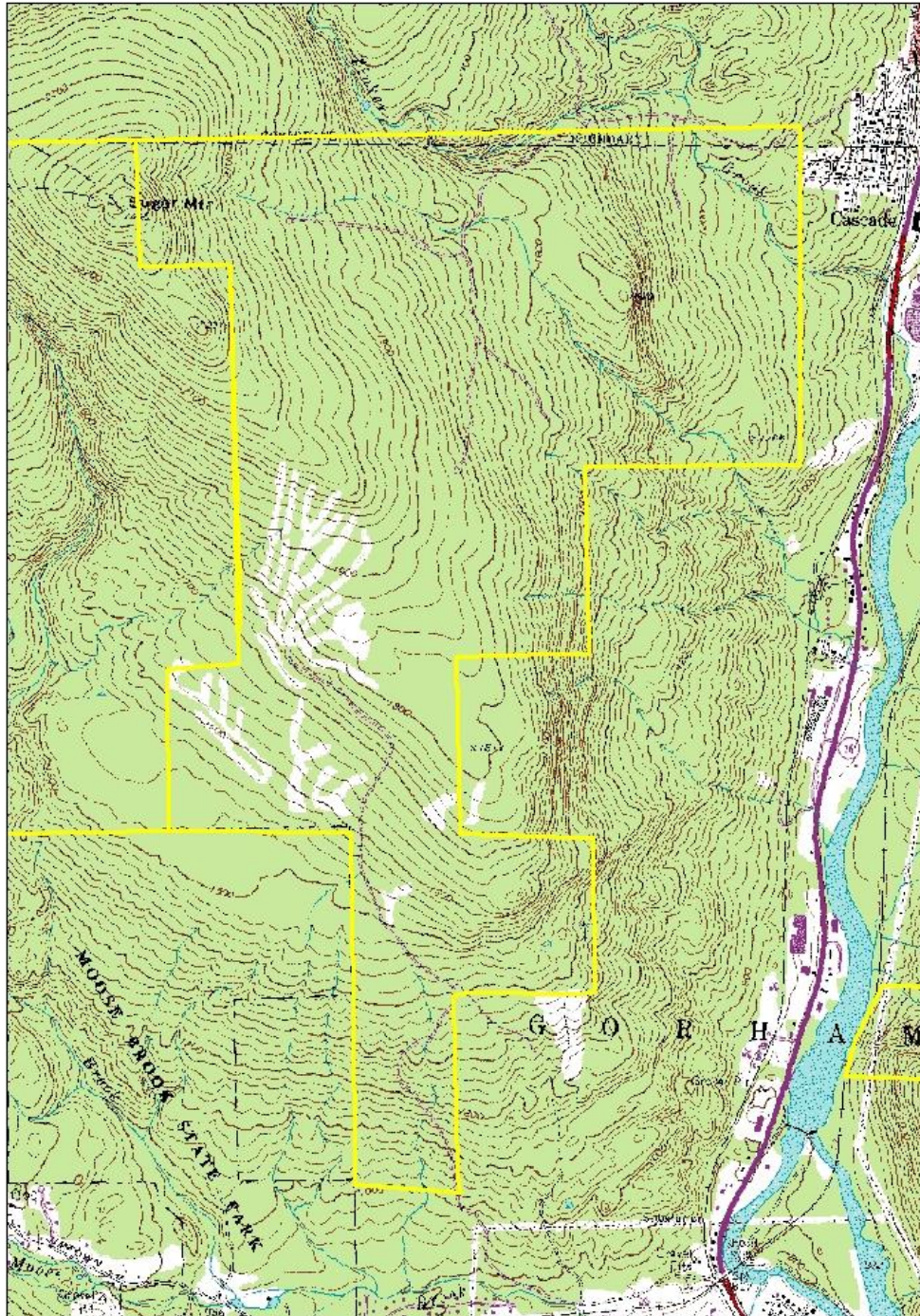
Good Forestry in the Granite State. Recommended Voluntary Forest Management Practices for New Hampshire. Second edition December 2010. Good Forestry in the Granite State Steering Committee.

Silvicultural Guide for Northern Hardwoods in the Northeast. USFS Northern Research Station William B. Leak, Mariko Yamasaki, Robbo Holleran

Maps

Gorham Town Forest

Tinker Brook Tract

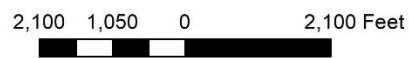
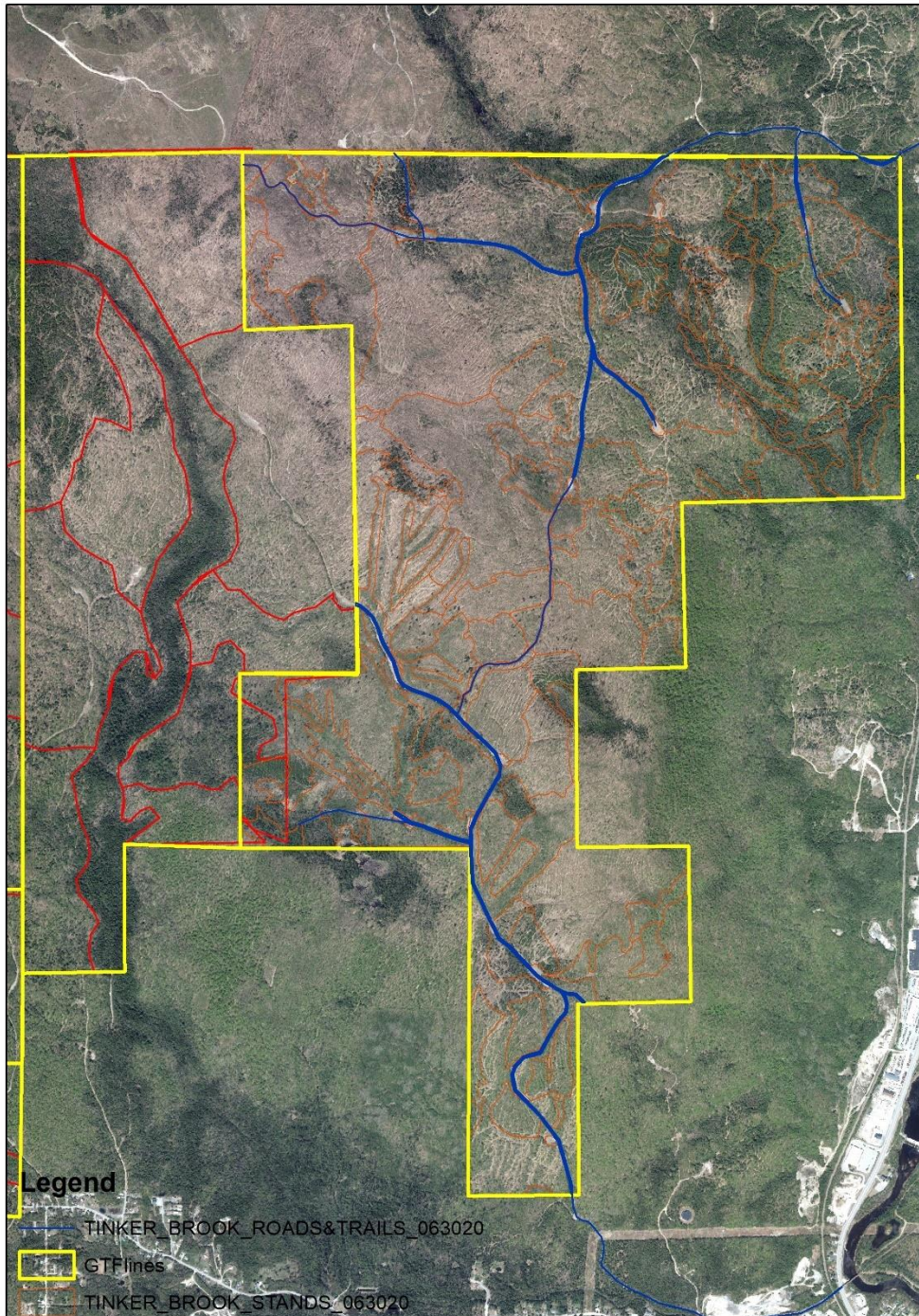


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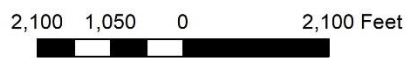
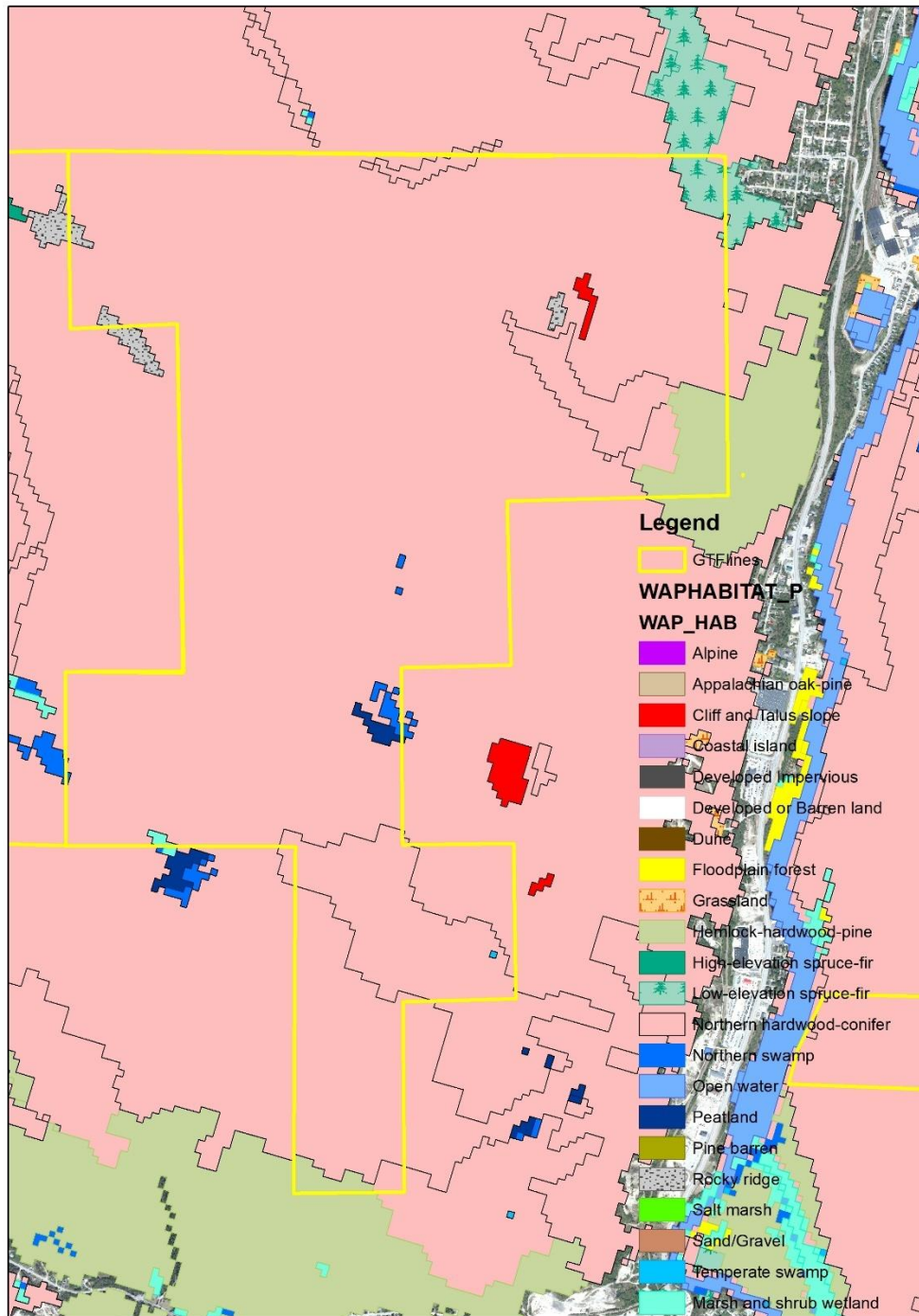
Gorham Town Forest

Forest Stands
Tinker Brook Tract



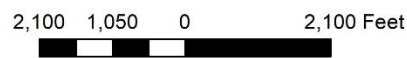
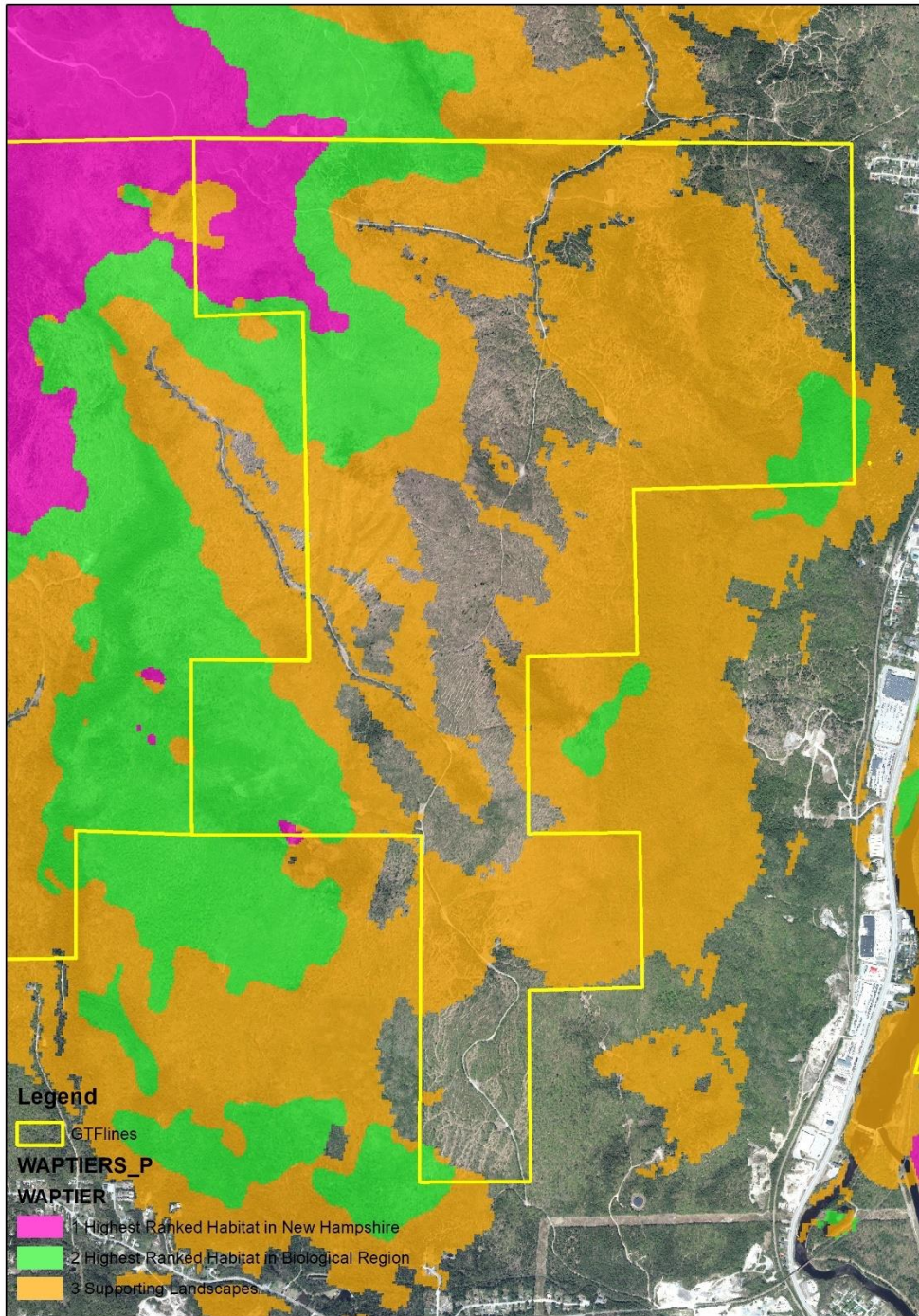
Gorham Town Forest

Tinker Brook Tract

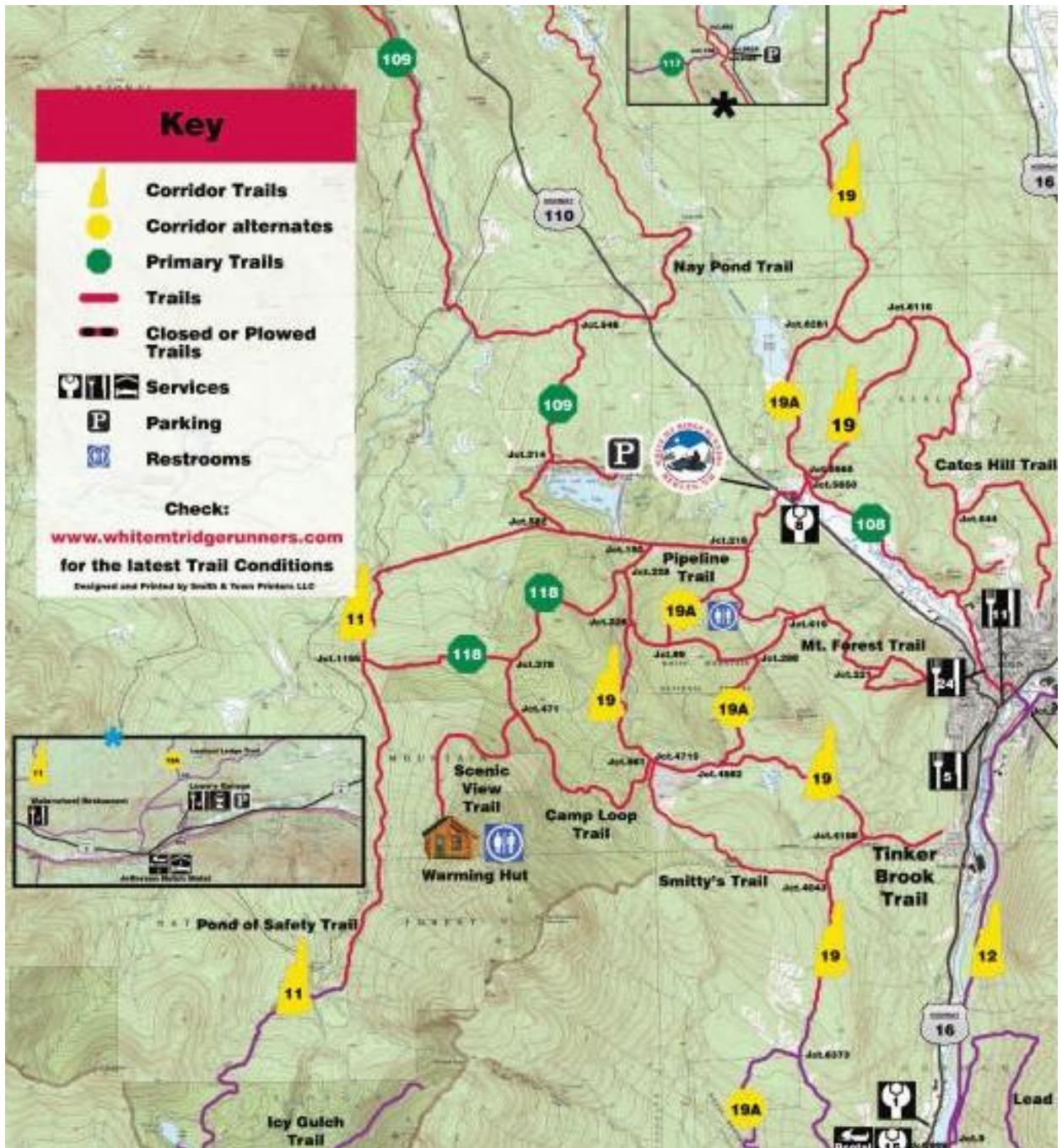


Gorham Town Forest

WAP Highest Ranked Habitat
Tinker Brook Tract







Appendix

TI3 Town of Gorham New Hampshire Tinker Brook 2020

Level: Selected Merged

All Strata
Basal Area by Plot with Statistics

All Plots

All Products

All Species
Diameter Classes 1 to 29
Forested Acreage

Town of Gorham New Hampshire Tinker Brook Timber Inventory

Total Acres:	2,020.6	Sampling Method:	POINT	Confidence Level = 90% t-score =
Forested Acres:	2,005.5	BAF:	10	1.65
Plots:	288			

	Basal Area per Acre	Trees per Acre
Mean	95.6 sq. ft.	1,666.79
Std Dev	43.3	
C.V.	45.4%	
Std Err	2.6	
Rel Std Err	2.7%	
Samp Err	4.4%	



5/27/2021

T13 Town of Gorham New Hampshire Tinker Brook 2020 Timber Inventory
 Selected Merged

Level:

All Strata
 Volume by Species Expanded by Acreage

All Plots

All Products

All Species
 Diameter Classes 5 to 50

Forested Acreage

Form Classes

Town of Gorham New Hampshire Tinker Brook Timber Inventory

Total Acres: 2,020.6 Sampling Method: POINT Plots: 288
 Forested Acres: 2,005.5 BAF: 10

Wednesday, May 13, 2020 10:42 AM



Species	Sawlogs MBF-Int	Pallet MBF-Int	Boltwood MBF-Int	Pulpwood CDS	Growing Stock CDS	Cull CDS
Balsam fir	61.9			264.1	391.2	11.0
Eastern hemlock	381.6			1,348.6	114.3	4.9
Eastern white pine	195.6	21.3		207.2	45.3	
Red spruce	384.8			269.3	207.5	
American basswood		7.0		37.9	3.5	
American beech	24.2	147.8		4,949.0	420.6	52.3
Bigtooth aspen				174.6	58.4	

Black cherry					8.0		49.8			
E. Hophornbeam							7.0			
Grey birch					11.1		11.3			
Paper birch	59.2		51.0		1,167.2		475.3			
Quaking aspen					1,225.3		11.8			
Red maple	168.8		224.6		2,277.5		354.0	5.4		
Striped maple					15.0					
Sugar maple	473.6			444.0	3,241.3		668.8			
White ash	208.9		91.0		1,087.7		257.0	28.8		
Yellow birch	117.0		2.3	92.3	1,300.0		706.5	53.8		
Softwood:	1,023.9	49%	21.3	4%	0.0	0%	2,089.2	12%		
Hardwood:	1,051.6	51%	523.7	96%	536.3	100%	15,494.6	88%		
Total Vol:	2,075.5 MB		545.0 MB		536.3 MBF		17,583.9 CD:		3,782.1 CD:	156.1 CD:
Per Acre:	1.03 MBF/Ac		0.27 MBF/Ac		0.27 MBF/Ac		8.77 CDS/Ac		1.89 CDS/Ac	0.08 CDS/Ac

TI3 Town of Gorham New Hampshire Tinker Brook 2020 Ti Volume per Acre by Plot with Statistics

Town of Gorham New Hampshire Tinker Br

Total Acres: 2,020.6
Forested Acres: 2,005.5 BAF:
Plots: 288 Method: POINT 10 Confidence Level: t-score: 90%
1.65

Sawlogs CDS/Acre	Pallet CDS/Acre	Boltwood CDS/Acre	Pulpwood CDS/Acre	Growing Stock CDS/Acre	Cull CDS/Acre
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Mean	2.0	0.5	0.5	8.8	1.9	0.1	13.8	Std Dev	3.6	1.2	1.0	7.1
										2.4	0.4	10.4
C.V.		187%		218%			191%		80%		127%	
		495%		76%								
Std Err		0.2		0.1			0.1		0.4		0.1	
		0.0		0.6								
Rel Std Err		11%		13%			11%		5%		7%	
		29%		4%								
C.I.	+-	0.4	+-	0.1	+-	0.1	+-	0.7	+-	0.2	+-	
	0.0	+-	1.01									
Samp Err		18%		21%			19%		8%		12%	
		48%		7%								

217,415

Paul T. Doherty Memorial Town Forest Watershed Practices

The following describes, “The Gorham Town Forest Watershed Practices” (Practices) referenced in paragraphs C.4.a.b. & C. of the Forest Management Agreement between the Town of Gorham (Owner) and Haven Neal (Manager).

Any activity not specifically described herein conducted by the manager on and regarding the property in carrying out an approved operation plan shall be in full compliance with the Gorham Town Forest Watershed Practices.

See Schedule C for definitions.

Practices

WEATHER CONDITIONS:

Harvesting will take place during winter conditions on solidly frozen ground. Harvesting may be suspended at the discretion of the manager in consultation with the owner if warm weather conditions make maintenance of skid trails and water quality overly difficult or impossible.

LANDINGS:

All landings are in place along the winter access roads. (See map #2 Forest Types).

TRUCK ROADS:

Roads are constructed in accordance with New Hampshire voluntary BMPs (best management practices) for controlling erosion and maintaining water quality. Other measures such as surfacing bridge approaches with crushed stone and closing in spaces between bridge decking will be employed on an individual basis to prevent turbidity problems with the Gorham water supply.

HARVEST BUFFERS:

Harvest buffers will be retained along streams according to schedule A. Buffers along streams not specifically identified will be left at the discretion of the manager.

MAIN SKID TRAIL CORRIDORS:

All corridors will be marked on the ground and identified on a map as part of a harvest operating plan prior to the beginning of logging operations by the manager. No skid trails within buffers other than at stream crossings.

WATER CROSSINGS:

Skidder crossings on intermittent streams will be by pole ford or small culverts.

Grade Considerations: Trails not to exceed 15% grade except for distances of less than 300 feet.

Closure: Seeding of exposed mineral soil on trails at a rate of 50 pounds per acre with a conservation mix to be performed, as soon as conditions allow, if the harvest has been completed.

Water bars shall be installed on main skid trails according to the following table:

Trail Grade (%)	Spacing between water bars (feet along grade)
2	250
5	135
10	80
15	60
20	45
30	35

SKIDDER SPUR TRAILS:

Skidder spur trails are located at the discretion of the manager and may be located in harvest buffers where harvesting is allowed. Spur trails may not be located in any harvest zones.

SANITATION:

1. A garbage can will be located on the landings and will be emptied weekly. No garbage or waste will be disposed of on the site.
2. **A portable toilet will be located on the landings during operations.**
3. Oil changes and major repairs of logging equipment will not be undertaken on the watershed.
4. Chainsaw fuel and bar and chain oil will be locked up in the lunch shack or other structure overnight and will be removed from the watershed each weekend. No more than 5 gallons of fuel and bar and chain oil may be left on the site overnight.
5. The loader/crane will be removed from the watershed at the end of every day.
6. Oil arresting pads will be stored on the landing.
7. Soil from the occurrence of an oil or fuel spills must be excavated and removed from the watershed.

8. Manager will call the water department office at 466-3302 immediately upon becoming aware of any oil or fuel spills.
9. Specific areas for the refueling of equipment will be designated on log landings. No refueling will take place outside of designated areas.
10. Prior to commencement of full operations, the logging crew will be briefed by the forester on the water quality policies.

PAUL T. DOHERTY MEMORIAL TOWN FOREST

Schedule A

HARVEST BUFFERS

CLASS	DISTANCE FROM STREAM TREAD (feet)	HARVEST ALLOWED	STREAM IDENTIFICATION (see map)
Major I	0 – 300	None	Icy Gulch/ Moose Brook
Major II	0 – 200	None	Blue Highlight
Minor II	0 – 200	None	Orange Highlight
Intermittent	0	100%	

PAUL T. DOHERTY MEMORIAL TOWN FOREST

Schedule C

DEFINITIONS AND GUIDELINES FOR DETERMINING PRACTICES

GRADE: The average slope of the land for a distance of 50 feet as measured from horizontal.

LANDINGS: An open or cleared area where felled trees are brought from the woods to be cut to length, processed, and loaded onto trucks for delivery to the markets. Landings serve as the focal point for men and equipment during the harvest.

MAIN SKID TRAILS: Trails used by the skidder for primary access to the landing from the stump or spur trails. These trails provide access to approximately 20 acres and/or 100 cords.

MAIN SKID TRAIL CORRIDORS: Corridors 100-feet wide within which main skid trails are located at the discretion of the manager.

MAP: Watershed practices map to accompany the operation plan.

MEAN HIGH WATER: The average maximum height of regular stream flow.

OPERATING AREA: Area approved in the operating plan for management activities.

ROAD RIGHT OF WAY: The total width of area cleared of trees for truck road establishment taking into account requirements for the following, including but not limited to, banks, ditches, water control and protection devices and practices, and safety.

SKIDDER BRIDGE:

Class I. A skidder stream crossing completely spanning the stream with no supports or abutments within the mean high water mark.

Class II. A skidder stream crossing supported by log or stone abutments within the mean high water area or watercourse and spanned with wooden plank.

SKIDDER SPUR TRAILS: The paths of travel by the skidder from the main skid trails to the trees being felled.

STREAM CLASSES: Streams are defined by agreement between owner and manager and are categorized based upon field estimation of the mean high water mark and winter flow at a given point on the stream. Category classes are as follows:

class	Cross section of flow at mean high water	Winter flow
Major I	> 10 square feet	Yes
Major II	5 to 10 square feet	Yes
Minor I	< 5 square feet within 2000' of reservoirs	Yes
Minor II	< 5 square feet	Yes
intermittent	< 5 square feet	No
	< 1 square feet	Yes

STREAM CROSSING CORRIDOR: Corridors 100-feet wide within which skidder stream crossings are located at the discretion of the manager.

TRUCK ROADS: The access road to the landing by which forest products are transported by trucks to public roads.

WATER BARS: An earthen berm constructed across a truck road or skid trail for the purpose of preventing soil erosion by diverting water runoff.

WATER SHED: That portion of the property known as The Gorham Town Forest which due to the topography of the property, drains by streams into Icy Gulch Reservoir, or Perkins Brook Reservoir.

The following general rules should be applied to benefit wildlife in the Coos County area:

1. Avoid cutting any tree that has an obvious cavity, den, or nest.
2. Try to preserve at least four cavity trees, or future cavity trees per acre.
3. Do not cut mast trees (beech, oak, apple, and cherry) unless it is a thinning of suppressed trees where there are plenty more around. Ten to twelve large mast trees per acre should be reserved, where such trees occur.
4. Do not cut hemlocks unless it is a thinning of suppressed trees in a dense stand.
5. Try to regenerate white pine where possible. This is best done in the dry summer months when a bare mineral seedbed can be scarified by routine machinery activity. Harvest timing must coincide with a good crop of mature second year cones that will be dropping seed. White pine seed is an important food source and it is declining as a component of Coos County forests.
6. Favor the poplar (aspen) which is a vital food source for grouse, beech (hard mast producer), yellow birch (prolific seeder), apples (soft mast), mountain-ash (soft mast), and black cherry (soft mast) as single trees and as seed sources. Often, they are all minor components in the species mix of Coos woodlots, and need to be encouraged to benefit wildlife.
7. Leave dead standing snags when it can be done without safety risks to harvest crews. Dead standing trees are important perches and create large woody debris when they do finally fall over. The debris cycles nutrients and becomes important breeding and feeding sites for vertebrate and insect soil dwellers.
8. Always try to favor a marking and cutting style which incorporates small patch clearings (group selection) along with selective thinnings (individual tree selection). These methods in combination create maximum diversity in canopy structure. The canopy in thinned areas will close in quickly while the openings will regenerate a wide variety of tree, shrub, and herbaceous species and create browse.
9. Plan small-staggered cuttings in adjacent types and stands. Browse in the ground is only usable for 5-8 years. After that it grows too tall for the succulent terminal buds to be accessible for food, except by moose. Staggered cuttings ensure that there is always new young growth available in any given area.

Summary of Findings Ecological Inventory of Tinker Brook Tract, Gorham, NH Brett Engstrom for The Conservation Fund 12 September 2017. This is a summary of findings for the ecological (natural resource) inventory I did for The Conservation Fund in 4 field days over the summer of 2017. See accompanying Wetland and Upland Features Important for Conservation map. Important natural features of Tinker Brook Tract • 20 wetlands mapped as polygons. Most < 1 acre, four 1-2 acres, one 7 acres, and one 15 acres which is only partly on the tract. Many of these wetlands are open seepage wetlands while a few are seepage swamps and acidic basin swamps. The largest is a beaver wetland complex including marsh and seepage swamp. Only four of these 20 wetlands are shown on National Wetlands Inventory maps. These four have been remapped since the NWI polygons are grossly misplaced. • 14 wetlands mapped as points, all < 1 acre. Primarily seeps and related seepage woodlands. Importantly, these include one high quality vernal pool, a critical wildlife habitat especially for amphibian reproduction. • One endangered (S1) plant – Back’s Sedge (*Carex backii*). Small population associated with unique dry, somewhat rich, rocky northern hardwood forest habitat. • Two upland forest areas of conservation significance: 1) a one-acre dry-mesic, semi-rich, rocky northern hardwood forest which is the unique habitat for the endangered Back’s Sedge; 2) 17-acre Tinker Brook ravine. Swinging through just the far north portion of the tract, Tinker Brook passes through a ravine with waterfalls and cascades, mature mixed forest on steep slopes, and several streamside seeps and alluvial woodlands. The brook is host to at least two species of salamanders, has exceptionally clear water, and bedrock outcrops and boulder talus with potential for bear & bobcat dens. While not of exceptional age, the ravine forests act as important buffer for this mountain stream. It is a very beautiful spot. • Bear, moose, and deer sign was found throughout the tract, but especially in and around wetlands. 18 species of birds were seen and/or heard, including many neo-tropical migrants, such as scarlet tanager, rose-breasted grosbeak, and several warblers. • Many other natural and cultural features were mapped during the inventory: springs, rock outcrops, streams (one shown on USGS topographic map and National Hydrographic Data was erroneously placed), wildlife sign, property boundaries and corners, stonewall, and even an old, hand-forged axe head. Back's Sedge Copyright:© 2013 National Geographic Society, i-cubed Wetland and Upland Features Important for Conservation Tinker Brook TCF Tract, Gorham.

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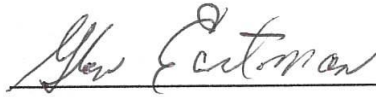
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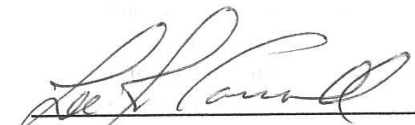
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Adopted on May 17, 2021 by:

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