New England
Forestry Consultants, Inc.
www.cforesters.com

Forest Management Plan

Page Pond Conservation Forest

10/19/2018

Prepared by:

Shaun Lagueux
70 Overlook Drive
Bristol, NH 03222

ShaunLagueux@gmail.com

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Contents

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603 481-2549

ShaunLagueux@gmail.com

NH 324

FOREST INFORMATION SUMMARY

LAND OF Town of Meredith
Conservation Commission
41 Main Street
Meredith NH 03253

FOREST NAME Page Pond Conservation Forest

TOWN Meredith town | Belknap County | NH

ROAD Barnard Ridge Road & Quarry Road

	TOWN	TAX MAP	LOT N	ACRES	BOOK	PAGE	ACRES
PRIMARY PARCEL	Meredith	S03	6	187.4			

NUMBER OF PARCELS 6 TOTAL ACRES FOR ALL PARCELS TAX MAP 765.2

See Property Parcel List on next page DEED

PARCEL NOTES There is some discrepancy in tax map S03 Lot 6 in regards to the Page Pond area. The tax map includes all of the pond, as well as an area north of the pond that is not shown on the TPL maps.

REFERENCE MAPS

USGS	S. Lagueux, 2018
SURVEY	On file with Cons. Comm.
AERIAL PHOTO	S. Lagueux, 2018
FOREST TYPE	Sorest Type Map, Lagueux. 2009
SOILS	TPL Soils Map & Belknap County Soils
OTHER(S)	TPL Access Map

OTHER DATA

FOREST CODE 33001040S036

OF COMPARTMENTS 1 TOTAL ACRES IN LB 760.3

MANAGEMENT OBJECTIVES: Page Pond Conservation Forest

The goals for this property are:

1. To maintain and protect the open space and forest environment around the Page Pond and large wetland complex in the southern portion of the property.

2. To protect esthetic values of the forested, as well as recreational opportunities.

3. To protect, maintain and enhance wildlife habitat.

4. Produce periodic income and timber crops through the application of a conservative timber management program which does not compromise the first three objectives.

FOREST DESCRIPTION

From TPL Stewardship Plan:

The Town of Meredith will manage the Property for wildlife habitat, sustainable timber management, watershed protection, and low impact public recreation. Permanent conservation of the Property achieves multiple community benefits, including protecting critical wildlife habitat, prime wetlands and water quality, providing recreational and educational resources, protecting historical and culturally significant aspects of Meredith's past, preserving a working landscape, and helping to protect a completely undeveloped 19-acre Great Pond (Page Pond).

In its entirety, with the addition of the Expansion Lot, the Property represents roughly one half of the largest unfragmented block of land in the eastern half of Meredith. The 1400+ acre unfragmented block is surrounded by high-density development along the shores of Lake Winnipesaukee, and therefore has extremely high development potential. The Property, less than ½ mile from Lake Winnipesaukee, sits at the very core of this unfragmented land, and has been largely undisturbed since the days of previous pasturage over 140 years ago.

PROPERTY RESTRICTIONS

☒ Conservation Easement	☒ ROW to land	☒ Collaboraters	☐ Local Regulations
☐ Deeded	☒ ROW across land	☒ Abuttor Courtesy	☐ No Restrictions

Conservation easement held by the State of New Hampshire, LCHIP.

FOREST CERTIFICATIONS

This forest has no certifications at this time.

History of Plan Revisions and Amendments

10/19/2018	**<Choose an Update Category>**	**slagueux**

Property Parcel List
Page Pond Conservation Forest

The following parcels are included in this forest:

MAP	LOT	TOWN	COUNTY	TOWN ACRES	LOT NAME
S03	6	Meredith	Belknap	187.4	Page Pond
S04	1	Meredith	Belknap	188.3	Page Pond
S04	3	Meredith	Belknap	20.7	Page Pond
S04	6	Meredith	Belknap	170.0	Page Pond
S12	4	Meredith	Belknap	82.7	Expansion
S5	5	Meredith	Belknap	116.1	Expansion
			Total Acres in Town Records:	765.2	

COMPARTMENT INFORMATION

Page Pond Conservation Forest

COMP ID *1* TOTAL ACRES *561.5*

Comp. 1 Page Pond

COMPARTMENT DESCRIPTION / MANAGEMENT

LOCATION AND ACCESS

The property is located in Meredith, New Hampshire, on Quarry and Blueberry Hill Roads. Access to the lot for forest management purposes varies at the present time. The north end of the property has ample access from the existing woods roads developed by the previous owner. There are two main roads that both start from the terminus of Quarry Road. The south western portion of the property has usable access via the Class VI portion of Blueberry Hill Road. This access has been used in the past but will require some moderate upgrading for future use. Additional access to the western portion of the lot may be possible, if needed, over a cooperating abutter.

Recommendations:

Access quality is a major factor in the cost of forest management operations and the value of stumpage. Good access is critical for effective fire control, and good roads and trails can add much to the use of this property by the general public. Care should be taken to design, maintain, and improve effective roads, landings and skid trails.

BOUNDARIES

Property boundaries are generally well marked, though some areas are in need of improvement. Painted boundary markers vary by color depending which owner did the maintenance at that time. Generally speaking, the boundaries are either marked in red, yellow or orange. Some lines are well delineated by stone walls which are in generally good repair.

Recommendation:

Maintain blazed lines by cutting new blazes on trees that have old healed-over blazes. Re-paint blazes before they start to fade. Clearly marked boundaries facilitate management activities, and can help prevent boundary disputes and timber trespass.

Recommendations:

All faded property lines should be blazed and painted. Maintain boundaries by blazing and painting as needed at ten to fifteen year intervals. Use a bright and durable exterior oil based paint formulated especially for boundaries. Clearly and consistently marked boundaries facilitate management activities, and can help prevent boundary disputes and timber theft.

FOREST HEALTH

The forest health on this property is relatively good. The most common tree species on the property are white pine, red oak, hemlock and mixed hardwoods. The issues to be concerned with regarding theses species is Blister rust, canker, annual ring shake and insect or disease infestation, respectively. Some of the pine areas have shown very small symptoms of blister rust. These stems have been removed in previous sale areas and will continue to be salvaged in

future sales. It is not such a problem as to change planned harvest times in these areas. With hemlock, the major concern is ring shake. The hardwood populations on the lot appear to have withstood the most recent gypsy moth infestations pretty well. There are very few standing dead stems throughout the lot.

Overall the forest is fairly healthy in terms of insects and diseases. However, an ever present feature in any hardwood stand where beech is present will be beech bark disease. There is no way to keep this from becoming an issue. This problem will degrade beech stems but may take many years to kill the tree. This disease has relegated beech to a forever low grade market.

SOILS

There is only one major soil classification on the woodland portion of the property. From the county soil description: "The soils in this group are generally sandy or loamy over sandy textures and slightly less fertile than those in group IA. These soils are moderately well and well drained. Soil moisture is adequate for good tree growth, but may not be quite as abundant as in group IA soils. Soils in this group have successional trends toward a climax of tolerant hardwoods, predominantly beech. Successional stands, especially those which are heavily cutover, are commonly composed of a variety of hardwood species such as red maple, aspen, paper birch, yellow birch, sugar maple, and beech, in combinations with red spruce, balsam, fir, and hemlock. Hardwood competition is moderate to severe on these soils. Successful softwood regeneration is dependent upon hardwood control."

GENERAL TIMBER RECOMMENDATIONS:

HARVESTS

All harvesting should be on a marked tree basis, under the supervision of a professional forester. This ensures that the selection of trees for harvest is in the best long-term interests of the landowner. The forester ensures proper utilization, minimum felling and skidding damage, and accurate scaling of forest products. Plan main skid roads in advance, with the intention of using them in the future, as well as for the present operation.

SILVICULTURAL INVESTMENTS

Silvicultural investments are expenditures for treatments which will improve the composition, rate of growth, or quality of the forest for timber management. The release of established white pine seedlings is desired in order to give them the head start they need to reduce hardwood competition. Monitor these areas and release desirable seedlings from

excessive competition as needed. Federal and state cost share funds **may** be available for these practice to offset their expense, but are often lacking. Many areas throughout Stands A and B would be eligible for this type of treatment.

WILDLIFE

Evidence of a number of important wildlife species were noted during the field exam including: white-tailed deer, moose, black bear, and ruffed grouse. The critical habitat features of food, water, and shelter are available on the property to meet the needs of these, as well as, a variety of other wildlife species.

Vegetative food sources found on the property include: hardwood saplings for browse, red oak acorns, various tree seeds and fruits, as well as, grasses, forbs, berries, and mushrooms.

Several brooks on the property provide a water source for drinking, as well as, a riparian corridor which may often be used by bats and birds to feed on the abundant insects found there.

Dense softwood stands, such as areas A, E and F and portions of area D, provide cover and shelter for white-tailed deer and other forest mammals. There are also scattered snags and cull trees with cavities that provide shelter for a variety of wildlife species, found throughout the property. Many of these trees are suitable for nest and den sites.

The terms "horizontal" and "vertical" diversity are used to describe the biological richness of an area. Horizontal diversity refers to the degree to which different habitats are intermixed over an area. For example, a property that is pure northern hardwoods, with no other types present, has a very low horizontal diversity. In contrast, a property that is broken up by small fields, and is composed of numerous different forest types, has a very high horizontal diversity.

Vertical diversity refers to the number of layers of vegetation within a stand. A stand with all pole size trees of about the same height, with few other layers, has low vertical diversity. However, a stand that has small patches of ground cover plants, saplings, poles, and dominate sawtimber trees has very high vertical diversity.

Horizontal and vertical diversity is important to wildlife because the more diverse an area is, the greater the variety of habitats that are available. High diversity may lead to a higher number of different wildlife species capable of inhabiting an area. The activities completed since the last plan will serve to increase the vertical and horizontal diversity of the property.

The Page Pond property is rated as high for horizontal diversity and moderate for vertical diversity. There is a good mix of forest types, having a diversity of species and age classes. Vertical diversity will be highest on the property where there has been relatively recent harvesting. Openings that are created develop diverse layers of ground cover, understory, and midstory vegetation.

Recommendations:

Managing for wildlife is a high priority for the property. Improvements to wildlife habitat can be made in conjunction with timber harvests, as well as through more intensive practices. The following general recommendations should be considered when harvesting anywhere on the property. Strive to create a diversity of timber age classes and types; this will increase both vertical and horizontal diversity. Create openings of various sizes to increase the amount of browse available for deer and moose. Leave oak and beech of seed producing age to provide mast for food. Aspen is not common on the property, but whenever it is found (as in a portion of Area B), encourage its regeneration for grouse and woodcock habitat . Leave dense patches of hemlock and other conifers for winter deer cover.

Dead, dying and decaying trees provide den and nesting sites for both birds and mammals. Deferred cutting and wildlife tree protection during harvests can greatly enhance wildlife habitat. Adequate numbers of trees with wildlife value should be left; generally, 6 to 8 snag trees per acre is acceptable. One-quarter acre, with at least 1 snag or large cull tree, out of every 10 acres should be reserved from harvesting operations. Reserving areas of with large diameter trees, and other "old growth" characteristics, can help fulfil multiple objectives such as providing scenic beauty, and important wildlife habitat.

Landing sites and wide skid roads may be limed and seeded, and kept open between harvests to create permanent openings. After the completion of a harvest, smooth and grade landings and main skid roads. Apply lime and a conservation seed mix. Continue to maintain the existing fields and other openings on the property.

An excellent reference for further information regarding the specific habitat needs of New Hampshire wildlife species, and how to improve them through management, is the UNH Cooperative Extension publication, "Forester's Guide to Wildlife Habitat Improvement", 2nd Edition, by Scot J. Williamson, revised by David E. Langley.

The NH Fish and Game department was asked to review the forest inventory cruise notes used to develop this plan, and to offer some specific recommendations. To date, those recommendations are only addressing the areas designated as high priority management areas, namely stands A, C and D. Below are those recommendations:

The following comments are related to your recent cruise notes and our field visit of Page Pond Forest in Meredith. My comments are specific to the timber harvest objectives in stands A, C and D (all labeled high priority) and impacts to deer wintering areas and vernal pools.

<u>Stand A</u>

Retaining wildlife trees (collectively snags and dens) is a good recommendation for all treated stands. It is unclear if the thinning recommendation is for both pine and oak. It is very likely the riparian corridor in this stand is

a travel corridor for deer and other wildlife. Softwood canopy cover should be maintained to allow deer to travel south along the riparian corridor and access the area of deer activity seen this past winter in stands C and D. I recommend leaving dense lanes of softwood cover at least 200 feet wide as sheltered travel corridors that will provide deer mobility and access throughout the wintering area. Use existing networks of softwood riparian habitat wherever possible. Timber management goals can improve and manage the deer wintering areas on the property. Timber harvest should provide at least 50% of the area in functional shelter at all times. Maintaining a crown closure between 65 to 70% is recommended. Providing areas of hardwood browse intermixed with the softwood would be very beneficial for wintering deer.

The mast producing oak in this stand are providing an important food source for wildlife and should be managed to provide food over the long term. Bear clawed beech trees on the property should be retained. These marked trees are the best mast producers and will likely be used by bears in the future.

Management of vernal pools should include maintaining the integrity of the forest immediately surrounding the pool and within 100 foot zone to maintain a shaded, moist forest floor with ample loose leaf litter and coarse woody debris. Appropriate forest buffers around identified vernal pools will continue to provide important breeding habitat for various amphibians. Maintain a partially closed canopy within 100-400 foot zone to provide suitable habitat for breeding amphibian populations to disperse. Maintain a relatively closed canopy between pools, or clusters of pools that are less than ¼ mile apart. Avoid putting skid roads and hiking trails near vernal pools.

Stand C

Deer activity in the form of tracks, trails, browsing on hemlock, recent bark scars on hemlock and the pawing up of acorns were observed in this stand during our field visit. The past bark scars on hemlock indicate an historical use of this area. The deer wintering area recommendation previously mentioned also applies for this stand; the area should be managed by maintaining at least 50% of the area in functional cover with 65%-70% crown closure.

A review of the aerial photo and topographic map you provided coupled with the GPS location of deer activity taken this winter shows a likely wildlife travel corridor that connects the softwood cover in Stand C and D to the more dense softwood cover in stands E and G. The softwood corridor between stand C and D near the beaver dam should be maintained as a travel corridor. I have enclosed a photocopy of your maps indicating this location (highlighted in pink).

Stand D

The oak/pine mix in this stand is important to wildlife because of the shelter and food values it provides. During our field visit deer were travelling in a northwest/southeast direction into stand D from the snowshoe trail we travelled (the lane with stonewalls that leads out to Blueberry Lane). There was a good amount of deer activity in the mix of hemlock and white pine. Deer were digging up acorns and browsing hemlock and striped maple. The recommendation is to leave areas of dense softwood crown closure to allow deer to have long term access to important hard mast.

Thank you for the opportunity to comment on important wildlife habitat at Page Pond Forest. Please do not hesitate to contact me if you have any questions.

Sincerely,

Karen A. Bordeau
Wildlife Biologist

RECREATION

Opportunities for recreation on the property include walking, hunting, observing wildlife, snow shoeing and cross-country skiing. The property is open to the general public for all forms of non-motorized recreational use. In addition to the main roads, several hiking trails are either on the ground or being developed. The property management plan details recreation in greater detail than is done here.

Recommendations:

Upgrade skid trails and construct new trails to create a recreation trail system on the property. Connect existing trials and new trails to form loops for walking and cross country skiing. Plan routes to include interesting features of the property such as the old mill site, cellar holes, stone walls, vistas, and interesting wildlife trees or habitats.

WATER RESOURCES

There are several brooks and seasonal drainages which flow through the property. Page Pond, from which the property's name is derived, is located along the north east corner of the lot. Page Pond Brook, which flows out of the pond and joins with several lesser brooks, creates the conglomeration of water impoundments and swamps labelled as Area W1 on the map. Additionally there are two areas of small water impoundment. One is an old quarry that his filled with water. This is located along the northern access road that continues from the terminus of Quarry Road. The second is adjacent to the other northern access road, at the junction of Areas A and B.

Recommendations:

Follow Best Management Practices for erosion control during all timber harvesting operations. Maintain buffer strips, as directed in the Property Management Plan. Avoid logging in wet periods of the year. Minimize soil erosion by properly locating and constructing skid roads and landings. Utilize appropriate means such as culverts, bridges, or stone fords to cross main streams. The crossing of any stream or wetland generally requires notifying the New Hampshire Wetlands Board. File a "Notification of Forest Management Activities Having Minimum Wetlands Impact" prior to constructing the access road or harvesting timber.

Refer to the publication "Best Management Practices for Controlling Soil Erosion on Timber Harvesting Operations in New Hampshire", available through New Hampshire Timberland Owners Association, or UNH Cooperative Extension, for detailed information on these practices.

AESTHETICS

The natural scenic qualities of the forest can be maintained, despite the impact of harvesting, by following some basic guidelines.

Recommendations:

The same recommendations for minimizing soil erosion, described above, will also minimize the aesthetic impact of logging. In addition to these practices, other measures can be taken, generally with little reduction of the expected stumpage prices for a timber sale. Cut stumps as low as possible, utilize tops down to 4 inches if markets permit, lop tops to 2-4 feet above the ground, cut and lop leaning and damaged trees in the understory. Clean-up landings by removing all trash on a daily basis, and disposing of blocks and other wood debris by burying or pushing to a depression at the end of the landing.

There are many other details that can make a world of difference in the appearance of a logging job. An excellent resource that describes many of these is the publication, " A Guide to Logging Aesthetics" available through the Society for the Protection of New Hampshire Forests.

CULTURAL RESOURCES

Throughout the woodlot are numerous old stone walls, wells, barbed wire and remnants of past agricultural use and former land ownership lines. Specifically, there is a cellar hole complex at the terminus of the old Class VI road extending from Blueberry Hill Road.

Recommendations:

During harvest operations, avoid damaging stone walls. Use existing barways where possible and keep wall crossings to a minimum. Do not disturb any cellar holes other cultural items noted above.

ENDANGERED SPECIES

No rare, threatened or endangered plant or animal species and exemplary natural communities were noted on the property, although since a formal inventory for rare species was not conducted, it is possible some may be present.

Recommendations:

Contact the New Hampshire Natural Heritage Inventory in Concord, NH to review the property for rare, threatened and endangered plant species and habitats. If notable plants are found, the NHNHI can help to develop strategies for their protection.

FOREST PROTECTION

The Town has stated their desire to protect this property to the best of their ability, including hiring a forester to oversee all aspects of the forest. A comprehensive approach regarding harvesting methods and equipment limitations helps to accomplish these goals. In the case of catastrophic loss, the landowners will determine, based on costs and needs whether to facilitate regeneration via plantings. Wherever feasible, in a case of catastrophic loss, any merchantable timber will be salvaged.

All landings and main skid trails are maintained as recreation trails, but are also good fire breaks and access trails for fire fighting efforts.

SUMMARY

To achieve the owners' objectives, it will be necessary to balance a variety of forest uses. By modifying practices where they conflict, and implementing management activities where they are complementary, an attractive and productive forest can be maintained. By carrying out the recommendations outlined in this report, the goals and objectives of the landowner can be achieved.

This is a working document, intended to be revised as conditions and objectives change. The property should be re-examined +\- 2020 so that stocking data can be compared, and prescriptions updated. Review conditions and revise recommendations at that time.

If desired, New England Forestry Consultants, Inc. will gladly carry out any of the recommendations of this report. All work is subject to the approval and written authorization of the owners.

COMPARTMENT INFORMATION

Page Pond Conservation Forest

COMP ID **2** TOTAL ACRES *198.8*

Comp. 2 Page Pond Expansion

COMPARTMENT DESCRIPTION / MANAGEMENT

LOCATION AND ACCESS

This compartment is located in Meredith, New Hampshire, on Barnard Ridge and Meredith Neck Roads. Access to the compartment is via the frontage. A landing located in the southern end of the large, lower field, would be used for access to Areas B, C & D, while a landing in the upper, northern portion of the same field would access all of Area A. Both would require a good crossing on Bickford brook, preferably a skidder bridge, versus a simple poled ford crossing. This access has been used in the past but will require some moderate upgrading for future use. The Conservation commission has inquired as to the feasibility of developing a road system through this compartment to the Old Mill site. While technically feasible, it would be very costly and likely prohibitively so.

Recommendations:

Access quality is a major factor in the cost of forest management operations and the value of stumpage. Good access is critical for effective fire control, and good roads and trails can add much to the use of this property by the general public. Care should be taken to design, maintain, and improve effective roads, landings and skid trails.

BOUNDARIES

The boundary lines in this compartment need attention. They need to be reblazed and painted. Some sections of the lines are delineated by stone walls and/or barbed wire fence. Interestingly, a small section (approximately 200+ feet) of line along the boundary line adjacent to Area B is delineated by vertical granite fencepost stones.

Recommendation:

Maintain blazed lines by cutting new blazes on trees that have old healed-over blazes. Re-paint blazes before they start to fade. Clearly marked boundaries facilitate management activities, and can help prevent boundary disputes and timber trespass.

Recommendations:

All faded property lines should be blazed and painted. Maintain boundaries by blazing and painting as needed at ten to fifteen year intervals. Use a bright and durable exterior oil based paint formulated especially for boundaries. Clearly and consistently marked boundaries facilitate management activities, and can help prevent boundary disputes and timber theft.

FOREST HEALTH

The forest health on this property is relatively good. The most common tree species on the property are white pine, red oak, hemlock and mixed hardwoods. The issues to be concerned with regarding theses species is Blister rust, canker, annual ring shake and insect or disease infestation, respectively. Some of the pine areas have shown very small symptoms of blister

rust. These stems have been removed in previous sale areas and will continue to be salvaged in future sales. It is not such a problem as to change planned harvest times in these areas. With hemlock, the major concern is ring shake. The hardwood populations on the lot appear to have withstood the most recent gypsy moth infestations pretty well. As with Compartment 1, there are very few standing dead stems throughout the lot.

Overall the forest is fairly healthy in terms of insects and diseases. However, an ever present feature in any hardwood stand where beech is present will be beech bark disease. There is no way to keep this from becoming an issue. This problem will degrade beech stems but may take many years to kill the tree. This disease has relegated beech to a forever low grade market.

Some considerations for the future include hemlock wooly adelged and Emerald Ash Borer.

SOILS

There is only one major soil classification on the woodland portion of the property. From the county soil description: "The soils in this group are generally sandy or loamy over sandy textures and slightly less fertile than those in group IA. These soils are moderately well and well drained. Soil moisture is adequate for good tree growth, but may not be quite as abundant as in group IA soils. Soils in this group have successional trends toward a climax of tolerant hardwoods, predominantly beech. Successional stands, especially those which are heavily cutover, are commonly composed of a variety of hardwood species such as red maple, aspen, paper birch, yellow birch, sugar maple, and beech, in combinations with red spruce, balsam, fir, and hemlock. Hardwood competition is moderate to severe on these soils. Successful softwood regeneration is dependent upon hardwood control."

GENERAL TIMBER RECOMMENDATIONS:

HARVESTS

All harvesting should be on a marked tree basis, under the supervision of a professional forester. This ensures that the selection of trees for harvest is in the best long-term interests of the landowner. The forester ensures proper utilization, minimum felling and skidding damage, and accurate scaling of forest products. Plan main skid roads in advance, with the intention of using them in the future, as well as for the present operation.

SILVICULTURAL INVESTMENTS

Silvicultural investments are expenditures for treatments which will improve the composition, rate of growth, or quality of the forest for timber management. The release of established white pine seedlings is desired in order to give them the head start they need to reduce hardwood competition. Monitor these areas and release desirable seedlings from excessive competition as needed. Federal and state cost share funds **may** be available for these practice to offset their expense, but are often lacking. Many areas throughout Stands A and B would be eligible for this type of treatment.

WILDLIFE

Evidence of a number of important wildlife species were noted during the field exam including: white-tailed deer, moose, black bear, and ruffed grouse. The critical habitat features of food, water, and shelter are available on the property to meet the needs of these, as well as, a variety of other wildlife species.

Vegetative food sources found on the property include: hardwood saplings for browse, red oak acorns, various tree seeds and fruits, as well as, grasses, forbs, berries, and mushrooms.

One major brook runs through this compartment and provides a water source for drinking, as well as, a riparian corridor which may often be used by bats and birds to feed on the abundant insects found there. Densely regenerating stands, such as areas B and D, provide cover and shelter for white-tailed deer and other forest mammals. There are also scattered snags and cull trees with cavities that provide shelter for a variety of wildlife species, found throughout the property. Many of these trees are suitable for nest and den sites.

The terms “horizontal” and “vertical” diversity are used to describe the biological richness of an area. Horizontal diversity refers to the degree to which different habitats are intermixed over an area. For example, a property that is pure northern hardwoods, with no other types present, has a very low horizontal diversity. In contrast, a property that is broken up by small fields, and is composed of numerous different forest types, has a very high horizontal diversity.

Vertical diversity refers to the number of layers of vegetation within a stand. A stand with all pole size trees of about the same height, with few other layers, has low vertical diversity. However, a stand that has small patches of ground cover plants, saplings, poles, and dominate sawtimber trees has very high vertical diversity.

Horizontal and vertical diversity is important to wildlife because the more diverse an area is, the greater the variety of habitats that are available. High diversity may lead to a higher number of different wildlife species capable of inhabiting an area. The activities completed since the last plan will serve to increase the vertical and horizontal diversity of the property.

The Page Pond Expansion compartment is rated as high for horizontal diversity and moderate for vertical diversity. There is a good mix of forest types, having a diversity of species and age classes. Vertical diversity will be highest on the property where there has been relatively recent harvesting. Openings that are created develop diverse layers of ground cover, understory, and midstory vegetation.

Recommendations:

Managing for wildlife is a high priority for the property. Improvements to wildlife habitat can be made in conjunction with timber harvests, as well as through more intensive practices. The following general recommendations should be considered when harvesting anywhere on the property. Strive to create a diversity of timber age classes and types; this will increase both vertical and horizontal diversity. Create openings of various sizes to increase the amount of browse available for deer and moose. Leave oak and beech of seed producing age to provide mast for food. Aspen is not common on the property, but whenever it is found, encourage its regeneration for grouse and woodcock habitat . Leave dense patches of hemlock and other conifers for winter deer cover.

Dead, dying and decaying trees provide den and nesting sites for both birds and mammals. Deferred cutting and wildlife tree protection during harvests can greatly enhance wildlife habitat. Adequate numbers of trees with wildlife value should be left; generally, 6 to 8 snag trees per acre is acceptable. One-quarter acre, with at least 1 snag or large cull tree, out of every 10 acres should be reserved from harvesting operations. Reserving areas of with large diameter trees, and other "old growth" characteristics, can help fulfil multiple objectives such as providing scenic beauty, and important wildlife habitat.

Landing sites and wide skid roads may be limed and seeded, and kept open between harvests to create permanent openings. After the completion of a harvest, smooth and grade landings and main skid roads. Apply lime and a conservation seed mix. Continue to maintain the existing fields and other openings on the property.

An excellent reference for further information regarding the specific habitat needs of New Hampshire wildlife species, and how to improve them through management, is the UNH Cooperative Extension publication, "Forester's Guide to Wildlife Habitat Improvement", 2nd Edition, by Scot J. Williamson, revised by David E. Langley.

RECREATION

Opportunities for recreation on the property include walking, hunting, observing wildlife, snow shoeing and cross-country skiing. The property is open to the general public for all forms of non-motorized recreational use. The Conservation Commission is currently working on developing recreational trails that will tie in with the existing system in Compartment 1.

Recommendations:

Upgrade skid trails and construct new trails to create a recreation trail system on the property. Connect existing trials and new trails to form loops for walking and cross country skiing. Plan routes to include interesting features of the property such as the old mill site, cellar holes, stone walls, vistas, and interesting wildlife trees or habitats.

WATER RESOURCES

Bickford Brook is the one major brook which flows through the property. Page Pond, from which the property's name is derived, is located along the eastern edge of the compartment and Area C. There is also a very significant vernal pool located in Area A, in the north-eastern corner of the lot.

Recommendations:

Follow Best Management Practices for erosion control during all timber harvesting operations. Maintain buffer strips, as directed in the Property Management Plan. Avoid logging in wet periods of the year. Minimize soil erosion by properly locating and constructing skid roads and landings. Utilize appropriate means such as culverts, bridges, or stone fords to cross main streams. The crossing of any stream or wetland generally requires notifying the New Hampshire Wetlands Board. File a "Notification of Forest Management Activities Having Minimum Wetlands Impact" prior to constructing the access road or harvesting timber.

Refer to the publication "Best Management Practices for Controlling Soil Erosion on Timber Harvesting Operations in New Hampshire", available through New Hampshire Timberland Owners Association, or UNH Cooperative Extension, for detailed information on these practices.

AESTHETICS

The natural scenic qualities of the forest can be maintained, despite the impact of harvesting, by following some basic guidelines.

Recommendations:

The same recommendations for minimizing soil erosion, described above, will also minimize the aesthetic impact of logging. In addition to these practices, other measures can be taken, generally with little reduction of the expected stumpage prices for a timber sale. Cut stumps as low as possible, utilize tops down to 4 inches if markets permit, lop tops to 2-4 feet above the ground, cut and lop leaning and damaged trees in the understory. Clean-up landings by removing all trash on a daily basis, and disposing of blocks and other wood debris by burying or pushing to a depression at the end of the landing.

There are many other details that can make a world of difference in the appearance of a logging job. An excellent resource that describes many of these is the publication, "A Guide to Logging Aesthetics" available through the Society for the Protection of New Hampshire Forests.

CULTURAL RESOURCES

Throughout the woodlot are numerous old stone walls, wells, barbed wire and remnants of past agricultural use and former land ownership lines. Specifically, there is a cellarhole complex along the brook, where areas A, E, F & G come together. Another cultural artefact of note is approximately 200 feet of granite posts along the boundary line in the southeast corner of the lot.

Recommendations:

During harvest operations, avoid damaging stone walls. Use existing barways where possible and keep wall crossings to a minimum. Do not disturb any cellar holes other cultural items noted above.

ENDANGERED SPECIES

No rare, threatened or endangered plant or animal species and exemplary natural communities were noted on the property. Additionally, a search of the NH Natural Heritage Database shows zero results. However, since a formal inventory for rare species was not conducted, it is possible some may be present.

Recommendations:

Contact the New Hampshire Natural Heritage Inventory in Concord, NH to review the property for rare, threatened and endangered plant species and habitats. If notable plants are found, the NHNHI can help to develop strategies for their protection.

FOREST PROTECTION

The Town has stated their desire to protect this property to the best of their ability, including hiring a forester to oversee all aspects of the forest. A comprehensive approach regarding harvesting methods and equipment limitations helps to accomplish these goals. In the case of catastrophic loss, the landowners will determine, based on costs and needs whether to facilitate regeneration via plantings. Wherever feasible, in a case of catastrophic loss, any merchantable timber will be salvaged.

All landings and main skid trails are maintained as recreation trails, but are also good fire breaks and access trails for fire fighting efforts.

SUMMARY

To achieve the owners' objectives, it will be necessary to balance a variety of forest uses. By modifying practices where they conflict, and implementing management activities where they are complementary, an attractive and productive forest can be maintained. By carrying out the recommendations outlined in this report, the goals and objectives of the landowner can be achieved.

This is a working document, intended to be revised as conditions and objectives change. The property should be re-examined +\- 2029 so that stocking data can be compared, and prescriptions updated. Review conditions and revise recommendations at that time.

If desired, New England Forestry Consultants, Inc. will gladly carry out any of the recommendations of this report. All work is subject to the approval and written authorization of the owners.

ESTIMATED TIMBER INVENTORY AND VALUE

Page Pond Conservation Forest

Comp. 1 Page Pond

YEAR OF INVENTORY	END YEAR OF ESTIMATE	ESTIMATED GROWTH RATES % PER YEAR
2009	2018	SFTWD .03 HDWD .025 PULP .025

SPECIES /PRODUCT	VOLUME		$/UNIT	TOTAL $
White Pine	1,098.1	MBF	190.0	208,647.9
Spruce /Fir				
Hemlock	549.9		40.0	21,994.4
Red Pine				
Other softwood				
Softwood Pal/Tie	270.5		25.0	6,762.0
Red Oak	789.6		425.0	335,569.3
Black Oak				
White Oak	35.5		225.0	7,997.9
Sugar Maple	15.1		250.0	3,764.7
White Ash	32.7		150.0	4,900.9
White Birch	38.2		60.0	2,292.7
Yellow /Black Birch	15.0		225.0	3,381.2
Black Cherry				
Red Maple	76.1		110.0	8,372.6
Beech				
Other Hardwood	61.0		60.0	3,657.3
Hardwood Pallet	487.6		75.0	36,570.5
Softwood Pulp	809.0	CORDS	3.0	2,426.9
Spruce/Fir pulp				
Hemlock Pulp	1,624.2		3.5	5,684.6
Hardwood Pulp	6,417.4		15.0	96,260.5
Gr Stock: Softwood				
Gr Stock: Hardwood				
		ESTIMATED TIMBER VALUE		$748,283.37

NOTE: This table displays the estimated timber inventory at the “end” year. It is based on the following:

1. Starting inventory volumes are from the year of the cruise displayed.
2. Growth of the starting volume using the percentages displayed, compounded annually.
3. Less any harvest occurring in the interim years, and subsequent changes in compounded growth.

INVENTORY METHODS: 74 variable plots using a 20 BAF prism. Points taken on a 500 foot grid. All trees greater than 4.5 inches DBH tallied. Softwood sawlogs tallied to an 8 inch top diameter. Hardwood sawlogs tallied to a 10 inch top diameter. All pulpwood tallied to a 4 inch top diameter. Points taken on approximately 389.1 acres of commercial (operable) timberland. Updated with Growth and harvest volumes and current values.

ESTIMATED TIMBER INVENTORY AND VALUE

Page Pond Conservation Forest

Comp. 2 Page Pond Expansion

YEAR OF INVENTORY	END YEAR OF ESTIMATE	ESTIMATED GROWTH RATES % PER YEAR
2018	2018	SFTWD .03 HDWD .025 PULP .025

SPECIES /PRODUCT	VOLUME		$/UNIT	TOTAL $
White Pine	875.7	MBF	180.0	157,631.6
Spruce /Fir				
Hemlock	18.4		40.0	736.6
Red Pine				
Other softwood				
Softwood Pal/Tie	150.8		30.0	4,524.6
Red Oak	152.4		450.0	68,599.8
Black Oak				
White Oak				
Sugar Maple	7.2		275.0	1,978.6
White Ash				
White Birch				
Yellow /Black Birch				
Black Cherry				
Red Maple	14.6		110.0	1,606.1
Beech				
Other Hardwood				
Hardwood Pallet	113.0		90.0	10,169.2
Softwood Pulp	895.0	CORDS	3.0	2,685.0
Spruce/Fir pulp				
Hemlock Pulp	158.0		8.0	1,264.0
Hardwood Pulp	1,182.0		13.0	15,366.0
Gr Stock: Softwood				
Gr Stock: Hardwood				
		ESTIMATED TIMBER VALUE		$264,561.52

NOTE: This table displays the estimated timber inventory at the “end” year. It is based on the following:

1. Starting inventory volumes are from the year of the cruise displayed.
2. Growth of the starting volume using the percentages displayed, compounded annually.
3. Less any harvest occurring in the interim years, and subsequent changes in compounded growth.

INVENTORY METHODS: 39 variable points (15 BAF) on 161.9 commercial acres. Hardwood sawlogs tallied to a 10” TOP, Softwood logs to a 8” top. Pulpwood tallied to a 4” top.

HABITAT OPPORTUNITY CLASSIFICATION AND COMPOSITION GOALS

Page Pond Conservation Forest

Comp. 1 Page Pond

For properties larger than 250 acres, the cover characteristics described in the table below are suggested guidelines for maintaining habitat which will support the widest variety of New England's native species (DeGraff et al. 1992). For smaller properties, consideration can be given to available habitat on surrounding lands, and how the ownership fits into the larger landscape.

Reference: New England Wildlife: Management of Forested Habitats (Degraaf, Leak, Lanier, and Yamasaki) , 1992, USDA Forest Service, General Technical Report NE 144.

HABITAT OPPORTUNITY CLASS for this Compartment: **IV**

HABITAT OPPORTUNITY CLASS

	I	II	III	IV	
COMPOSITION		*----------PERCENT----------*			
Habitat Breadth:					
Forest	>90	>90	70-90	70-90	
Non forest	0-10	<5	5-30	5-30	
Water	<5	>5	<5	>5	
Krummholz	P/A	P/A	P/A	P/A	(Present/absent)
GOALS:					
Size Class Distribution:					
Regeneration	5-15	5-15	5-10	5-15	
Sapling-pole	30-40	30-40	25-35	30-40	
Sawtimber	40-50	40-50	55-65	40-50	
Large Sawtimber	<10	<10	<10	<10	
Cover Type Distribution:					
Deciduous (not Oak)					
Short rotation	5-15	10-25	5-10	5-20	(aspen-birch)
Long rotation	20-35	15-30	20-40	10-20	(N hdwd, swamp hdwd)
Hard mast (oak types)	1-5	1-5	5-25	1-15	(oak pine, oak hickory)
Coniferous	35-50	35-60	10-35	25-50	(pines,hem,sp-fir, & mixes)
Non forest					
Upland openings	3-5	3-5	15-30	5-10	
Wetlands	1-3	1-3	1-3	3-5	

HABITAT OPPORTUNITY CLASSIFICATION AND COMPOSITION GOALS

Page Pond Conservation Forest

Comp. 2 Page Pond Expansion

For properties larger than 250 acres, the cover characteristics described in the table below are suggested guidelines for maintaining habitat which will support the widest variety of New England's native species (DeGraff et al. 1992). For smaller properties, consideration can be given to available habitat on surrounding lands, and how the ownership fits into the larger landscape.

Reference: New England Wildlife: Management of Forested Habitats (Degraaf, Leak, Lanier, and Yamasaki) , 1992, USDA Forest Service, General Technical Report NE 144.

HABITAT OPPORTUNITY CLASS for this Compartment: **III**

HABITAT OPPORTUNITY CLASS

	I	II	III	IV	
COMPOSITION		*----------PERCENT----------*			
Habitat Breadth:					
Forest	>90	>90	70-90	70-90	
Non forest	0-10	<5	5-30	5-30	
Water	<5	>5	<5	>5	
Krummholz	P/A	P/A	P/A	P/A	(Present/absent)
GOALS:					
Size Class Distribution:					
Regeneration	5-15	5-15	5-10	5-15	
Sapling-pole	30-40	30-40	25-35	30-40	
Sawtimber	40-50	40-50	55-65	40-50	
Large Sawtimber	<10	<10	<10	<10	
Cover Type Distribution:					
Deciduous (not Oak)					
Short rotation	5-15	10-25	5-10	5-20	(aspen-birch)
Long rotation	20-35	15-30	20-40	10-20	(N hdwd, swamp hdwd)
Hard mast (oak types)	1-5	1-5	5-25	1-15	(oak pine, oak hickory)
Coniferous	35-50	35-60	10-35	25-50	(pines,hem,sp-fir, & mixes)
Non forest					
Upland openings	3-5	3-5	15-30	5-10	
Wetlands	1-3	1-3	1-3	3-5	

AREA DESCRIPTIONS

Page Pond Conservation Forest

This Section of the management plan contains descriptive information about each of the land areas that collectively make up a Compartment. Each Area was delimited based on key attributes which make it reasonable to treat that acreage as a management unit. The key attributes can be related to one or more of a variety of features from human defined land uses, to distinct or limiting natural features. Some examples are:

Land Use Characteristics: Timber management, Agriculture, Wildlife management, recreational use, reserve or buffer lands, historic and esthetic sites.

Natural Features: Soil types, terrain, accessibility, or biological features, such as plant communities, wetlands, water bodies, and habitat types.

The attributes are not necessarily exclusive, and are more frequently interrelated than discreet features. The size of the areas is also dependent on the key attributes. Generally the higher the value or importance of the attribute, the smaller the area can potentially be. For general timber management purposes the upper size is limited by what is a practical planning unit as determined by operations layout/timing and by the forester's ability to manage the area within a single operating interval. In simple terms the Area unit defines the "where" in the standard " where, what, how much, and when" management query.

Comp. 1 Page Pond

Area Id	***A***	*Total Acres*	77.8	*Timber Mgmnt Acres*	74.0

Land Use Forest, Pine/Hardwood *Soil Type(s)* 380C,

Mgmnt Priorities Wildlife, Timber - W Pine

Restrictions Aesthetic

Timber Management Data

Size Class Sawlog

Crop Tree Stocking Adequately

% Seedling	Sapling	Pole	Sawlog	Lg Dia 26+
2%	**20%**	**26%**	**41%**	**11%**

Total Basal Area	113	*Ba Ags*	75	*Ba Ugs*	35	*Mean Stand Diameter*	11.3
Volume / Acre Mbf	10	*Volume/acres Cords*	16.5			*Trees/acre*	138.0

Major Tree Species	*Ba Ft2*	*% Total Ba*
White Pine	62	55%
Red Oak	15	13%
Hemlock	12	11%
Red Maple	8	7%
Beech	7	6%

Narrative

This area, located in the northern end of the property, is composed of a mixed white pine and hardwood overstory. Predominant hardwood is red oak. Access to this stand is via the good access roads off of Quarry Road. Soils are well drained and fertile, allowing bare ground operations. Located in this stand are several vernal pools which are shown on the TPL wetland map. Also located within the bounds of this area are the old field along the northern boundary, a small water filled quarry and the larger quarry complex and water impoundment. Terrain in this area is flat to gently sloped. The understory is comprised of a mix of hardwood and white pine saplings. Some areas of heavy pine regeneration are present and should be protected as much as possible during operations.

This area is adequately stocked as it was thinned during the 2009 timber sale. Red oak stems should continue to be favored for long term crop trees, however, some stems are now mature and should be harvested along with the pine. Buffers should be left in tact near vernal pools. Mast trees should be retained to the extent possible. In general, softwood stands should not be thinned below a 65-70% canopy crown closure level. A further thinning, in approximately 2024.

Recommended Treatment(s)

2023	Harvest Inter	First Shelterwood	75 acres
	Shelterwood where advanced regen is not present. Thinning where it is.		

Area Id	**B**	Total Acres	106.5	Timber Mgmnt Acres	104.5

Land Use: Forest, Hardwood/Pine

Soil Type(s): 380C, 380D

Mgmnt Priorities: Wildlife, Timber - Hardwood

Restrictions: Aesthetic

Timber Management Data

Size Class: Sapling Pole

Crop Tree Stocking: Good

% Seedling	Sapling	Pole	Sawlog	Lg Dia 26+
2%	**15%**	**32%**	**41%**	**10%**

Total Basal Area	101	Ba Ags	61	Ba Ugs	29	Mean Stand Diameter	10.8
Volume / Acre Mbf	5	Volume/acres Cords	16.7			Trees/acre	138.0

Major Tree Species	Ba Ft2	% Total Ba
Red Oak	37	37%
Hemlock	17	17%
Red Maple	17	17%
Beech	12	12%
Aspen	6	6%

Narrative

This large stand, located in the northeast section of the property, is accessible via the northern access roads. Species composition if a mix of hardwood and white pine. Hardwood is predominantly red oak, however, other species are present as well, including red maple and beech. Soils are generally well drained but areas of wetter soils are included. There are several vernal pools located throughout the stand. Tree quality is generally good with little notice of major insect or disease issues present. There are areas of significant aspen stocking as well, notably in the south east corner of the stand. This area has been treated in various operation by the previous owners. Most recently in the southern end of the stand. Understory in this stand is comprised of a mix of hardwood and softwood species. White pine regeneration is heavily concentrated in certain areas and should be protected to the extent possible during any operations. The red oak component is generally medium to high quality and should be managed for long term timber and mast production. Retain large mast trees for wildlife use.

This stand is well stocked. Approximately 30 acres was thinned as part of the 2009 timber sale. Treatment in this stand can be done in a couple of entries if smaller sales are desired. Harvests should focus on removing mature and poor quality stems, favoring red oak over white pine as time goes by. Vernal pools should be protected by buffers. Areas of large aspen concentrations should be patch cut for wildlife habitat improvement purposes.

Recommended Treatment(s)

2019	Harvest Regen	Patch Cut	10 acres
	Patch cut areas of aspen concentrations. Wildlife habitat improvement project. May invovle one large opening or two smaller openings		
2019	Harvest Inter	Thinning	50 acres
	Thin overstory, retaining 65 - 70% crown closure. Favor red oak sawtimber for future crop trees.		

Area Id	**C**	*Total Acres*	44.7	*Timber Mgmnt Acres*	40.0

Land Use Forest, Hardwood

Soil Type(s) 380D, 295

Mgmnt Priorities Wildlife, Timber - Hardwood

Restrictions Aesthetic

Timber Management Data

Size Class Sawlog

Crop Tree Stocking Excellent

% Seedling	Sapling	Pole	Sawlog	Lg Dia 26+
0%	0%	0%	0%	0%

Total Basal Area	148	*Ba Ags* 80	*Ba Ugs* 55	*Mean Stand Diameter*	12.5
Volume / Acre Mbf	11	*Volume/acres Cords*	22.6	*Trees/acre*	151.0

Major Tree Species	*Ba Ft2*	*% Total Ba*
Beech	35	24%
Hemlock	30	20%
Red Oak	28	19%
White Pine	23	16%
White Oak	13	9%

Narrative

This stand is located adjacent to the southern shore of Page Pond and included the old mill site. Conditions vary from the north and south ends of this stand due to the former (now interior) boundary line which runs east-west through the stand. The northern portion was harvested in the mid 80's by the previous owner, while the southern end has been unmanaged for some time, although there is evidence of past cutting practices. The northern end has more hardwood composition, including some very mature red oak stems. The southern end is a very mature stand across the board, but with a more diverse species mix including white pine, hemlock and red maple. Soils in this stand are generally well drained but caution will be need when working in some areas, especially adjacent to the Page Pond outlet and associated wetland area. Access to this stand is variable, most likely through the landing located in Area B, south of the rock quarry.

This stand was hinned as part of the 2007 timber sale and will be ready for further treatment +/- 2024. A buffer shall be retained along Page Pond as directed by the property plan. The prescription for this plan will vary by area. In the north, where stocking is less, individual tree harvest is likely, focussing on over mature red oak and scattered white pine stems. In the south, the plan is for a basic, thinning, modified by NH Fish and Game recommendations, attached. Retain as much crown closure as possible, as well as significant mast producing stems.

Recommended Treatment(s)

2024	Harvest Inter Thinn stand	Thinning	30 acres

Area Id	***D***	*Total Acres*	115.1	*Timber Mgmnt Acres*	114.0

Land Use Forest, Hardwood/Pine

Soil Type(s) 380C, 295

Mgmnt Priorities Wildlife, Timber - Hardwood

Restrictions Aesthetic

Timber Management Data

Size Class Sawlog

Crop Tree Stocking Excellent

% Seedling	*Sapling*	*Pole*	*Sawlog*	*Lg Dia 26+*
1%	**21%**	**27%**	**28%**	**23%**

Total Basal Area 121 *Ba Ags* 71 *Ba Ugs* 43 *Mean Stand Diameter* 9.9

Volume / Acre Mbf 10 *Volume/acres Cords* 17.7 *Trees/acre* 172.0

Major Tree Species	*Ba Ft2*	*% Total Ba*
White Pine	36	30%
Red Oak	34	28%
Red Maple	18	15%
Hemlock	9	7%
White Birch	7	6%

Narrative This large area is comprised of the entire area accessible via the Blueberry Hill access route. The old class VI town road portion will have to be upgraded by the next logging operation. This area is comprised of a mix of hardwood and white pine concentrations. Overall, the stand is predominantly comprised of mostly maturing white pine stems, however, the lower slopes of the stand are more heavily comprised of good red oak stocking. Soils in this stand are generally well drained but get wetter the closer you get to the Page Brook wetland complex. The softwood component of this stand is providing valuable travel corridor habitat for wildlife while feeding on the acorn mast. To the extent possible, especially along the edge of the wetland complex and open water, these areas should retain a high crown closure, preferably 65-70%. In other areas, where the pine component is more scattered, this will not be possible as it currently doesn't exist in those quantities.

The northwestern section of this stand was thinned during the 2009 timber sale. The eastern section is well stocked and ready for harvest still. Areas of high pine stocking can be thinned from below in order to retain crown closure. Areas of scattered, over mature pine should be harvested to release other growing trees.

Recommended Treatment(s)

2019	Harvest Inter	Thinning	40 acres
	Thin hardwood areas, removing poor quality stems and some mature red oak.		

Area Id	**E**	Total Acres	28.7	Timber Mgmnt Acres	22.8

Land Use: Forest, Hemlock/Hardwood

Soil Type(s): 380D, 295

Mgmnt Priorities: Wildlife - Wetlands, Timber - Mixed Type

Restrictions: Aesthetic

Timber Management Data

Size Class: Pole Sawlog

Crop Tree Stocking: Adequately

% Seedling	Sapling	Pole	Sawlog	Lg Dia 26+
2%	**12%**	**34%**	**41%**	**11%**

Total Basal Area	137	Ba Ags	67	Ba Ugs	67	Mean Stand Diameter	9.9
Volume / Acre Mbf	7	Volume/acres Cords	27.0			Trees/acre	221.0

Major Tree Species	Ba Ft2	% Total Ba
Hemlock	63	46%
Red Oak	23	17%
Aspen	10	7%
Beech	13	9%
Red Maple	7	5%

Narrative

This stand, located south east of Area B, is a narrow area of low lying ground which includes two wooded swamps as well as the operable acreage in the stand. Species composition is predominantly hemlock, with some smaller hardwood component as well. A portion of this stand, between the wooded swamps, was most recently harvested by the previous owner and hardwood browse is prevalent wherever the harvesting occurred. Soils in this area are poorly drained and should be only operated in the winter, with frozen conditions. There is a main skid trail which originates at the landing in Area B, runs through this stand.

This stand should be operated in conjunction with Stand B. Cutting should concentrate on hardwood stems while retaining hemlock overstory. The regenerating hardwood browse will provide good wildlife habitat, especially adjacent to Area F.

Recommended Treatment(s)

2019	Harvest Inter	Thinning	20 acres
	Harvest hardwood stems to create more browse.		

Area Id	***F***	*Total Acres*	6.8	*Timber Mgmnt Acres*	

Land Use Forest, Hemlock

Soil Type(s) 380D,

Mgmnt Priorities Wildlife - Deer Yard, Reserve

Restrictions Wildlife Habitat

Timber Management Data

Size Class Pole Sawlog

Crop Tree Stocking Over-Stocked

% Seedling	*Sapling*	*Pole*	*Sawlog*	*Lg Dia 26+*
0%	**0%**	**35%**	**55%**	**10%**

Total Basal Area	210	*Ba Ags*	140	*Ba Ugs*	60	*Mean Stand Diameter*	9.7
Volume / Acre Mbf	7	*Volume/acres Cords*	39.2			*Trees/acre*	367.0

Major Tree Species	*Ba Ft2*	*% Total Ba*
Hemlock	110	52%
Red Maple	30	14%
White Pine	20	10%

Narrative This small area is located south east of Areas B and E, tucked up against two boundary lines. It is a nearly pure stand of fully stocked hemlock. This area is the quintessential Deer Yard. It sits atop a height of land area that overlooks much of the surrounding terrain, affording the opportunity for deer to see what is approaching. Additionally, the canopy is nearly entirely closed which allows for lesser snow depth in this area in the winter time. No antler sheds were found at the time of the cruise, but this would be the spot for that.

No treatment is recommended for this area. This area could be retained as a reserve.

Recommended Treatment(s) No treatments are recommended at this time.

Area Id	**G**	*Total Acres*	28.8	*Timber Mgmnt Acres*	28.8

Land Use Forest, Hardwood

Soil Type(s) 143B, 143C

Mgmnt Priorities Wildlife, Timber - Hardwood

Restrictions Aesthetic

Timber Management Data

Size Class Seedling Sapling

Crop Tree Stocking Fair

%	*Seedling*	*Sapling*	*Pole*	*Sawlog*	*Lg Dia 26+*
	0%	**0%**	**0%**	**0%**	**0%**

Total Basal Area	115	*Ba Ags* 55	*Ba Ugs* 55	*Mean Stand Diameter*	9.4
Volume / Acre Mbf	3	*Volume/acres Cords*	24.6	*Trees/acre*	211.0

Major Tree Species	*Ba Ft2*	*% Total Ba*
Red Oak	35	30%
Beech	25	22%
Red Maple	15	13%
White Birch	15	13%
White Pine	10	9%

Narrative

This area is located along the western boundary, adjacent to Area W1. It is predominantly hardwood with a slight white pine stocking. Hardwood includes red oak, beech, red maple and white birch. This area was thinned by the previous owner. Hardwood browse is prevalent throughout the stand. Access to this stand is through the skid trail beginning at the landing located in Area B and coming through Area E. Soils are predominantly well drained.

This stand should be operated, if needed along with Areas B and E. Single tree selection of hardwood stems is likely the best course, However, it may be desirable for small harvests to be made along the wetland area for beaver habitat improvement if the hardwood sapling food source is not enough.

Recommended Treatment(s)

2019		22 acres
	Single tree selection of hardwood stems throughout stand. Potential clearing sections along water edge for beaver habitat.	

Area Id **W1** Total Acres 153.1 Timber Mgmnt Acres 0.0

Land Use Unproductive, Wetlands Soil Type(s) ,

Mgmnt Priorities Wildlife - Wetlands, Esthetics & Recreation

Restrictions

Timber Management Data

Size Class	% Seedling	Sapling	Pole	Sawlog	Lg Dia 26+
Crop Tree Stocking	0%	0%	0%	0%	0%

Total Basal Area Ba Ags Ba Ugs Mean Stand Diameter

Volume / Acre Mbf Volume/acres Cords Trees/acre

Major Tree Species Ba Ft2 % Total Ba

Narrative This area comprises the entire Page Brook wetland complex including the open water area to the south east and the marsh/swamp areas to the north west. No management is needed in these areas.

Recommended Treatment(s) No treatments are recommended at this time.

Page Pond Conservation Forest

Comp. 2 Page Pond Expansion

Area Id	***A***	*Total Acres*	69.7	*Timber Mgmnt Acres*	69.7

Land Use Forest, Pine/Hardwood — *Soil Type(s)* 559C, 542C

Mgmnt Priorities Timber, Wildlife

Restrictions Recreation

Timber Management Data

Size Class Sawlog

Crop Tree Stocking Good

% Seedling	Sapling	Pole	Sawlog	Lg Dia 26+
6%	**13%**	**18%**	**35%**	**28%**

Total Basal Area	98	*Ba Ags*	60	*Ba Ugs*	30	*Mean Stand Diameter*	11.7
Volume / Acre Mbf	7	*Volume/acres Cords*	16.9			*Trees/acre*	113.0

Major Tree Species	*Ba Ft2*	*% Total Ba*
White Pine	49	50%
Red Oak	19	19%
rEd Maple	18	18%
Sugar Maple	5	5%
Hemlock	4	4%

Narrative

This area is located northeast of the large, main field and comprises the acreage on both sides of Bickford brook which flows through this compartment. Soils in this stand are moderately well drained and could be operated during dryer times of the year. The overstory is comprised of a mix of white pine and hardwood stems, with pine making up one-half of the stocking. Both pine and hardwood stem quality is fair to good, with some red oak veneer present. The understory does have a mix of pine and hardwood seedlings. Also present in the northernmost corner of the stand is a significant vernal pool.

This stand was thinned by the previous owner. The residual stand is adequately stocked at the moment but could be treated toward the end of this planning window. Small Patch cuts and group selections are recommended to compliment the open field area (E,F&G).

Recommended Treatment(s)

2025	Harvest Regen	Patch Cut	20 acres
	3-5 acre patches spread around field edges.		
2025	Harvest Inter	Group Selection	20 acres
	Groups of +/- one acres spread throughout stand		

Area Id	**B**	*Total Acres*	39.2	*Timber Mgmnt Acres*	39.2

Land Use Forest, Hardwood C/O

Soil Type(s) 380B, 143D

Mgmnt Priorities Wildlife, Timber - Mixed Type

Restrictions

Timber Management Data

Size Class Large

Crop Tree Stocking Poor

% Seedling	Sapling	Pole	Sawlog	Lg Dia 26+
6%	**69%**	**0%**	**8%**	**18%**

Total Basal Area	48	*Ba Ags*	38	*Ba Ugs*	10	*Mean Stand Diameter*	15.4
Volume / Acre Mbf	7	*Volume/acres Cords*	5.8			*Trees/acre*	35.0

Major Tree Species	*Ba Ft2*	*% Total Ba*
White Pine	28	58%
Red Oak	15	31%
Red Maple	3	6%
Hemlock	2	4%

Narrative

This area comprises the large overcut stand between areas A and B. It was cut very heavy by the previous owner, likely an attempt at a shelterwood or seed tree cut but in my opinion, was not done correctly as not enough stems were left in the overstory. The understory is very thick with pine and hardwood saplings. Soils are generally well drained but certain areas can be very wet. Access to this stand is currently through the southern end of Area A, across the wet area. This is not a great access due to soil conditions.

There are two options for future management in this stand. The first is to leave it alone for this planning period and allow the regeneration to advance. The downside of this approach will be the degradation of the advanced regen if the overstory is removed at a later date. USFS research has indicated it is better to remove the overstory as soon as the regeneration has been established so as to lessen the mortality of the seedlings/saplings. Therefore, an overstory removal is recommended for early in the planning period.

Recommended Treatment(s)

2019	Harvest Regen	Overstory Removal	35 acres
	Overstory removal of scattered large stems.		

Area Id	**C**	*Total Acres*	45.7	*Timber Mgmnt Acres*	45.7

Land Use Forest, Pine/Hardwood

Soil Type(s) 380C, 543C

Mgmnt Priorities Timber, Wildlife

Restrictions

Timber Management Data

Size Class Sawlog

Crop Tree Stocking Good

% Seedling	Sapling	Pole	Sawlog	Lg Dia 26+
4%	**19%**	**9%**	**29%**	**40%**

Total Basal Area	109	*Ba Ags*	78	*Ba Ugs*	25	*Mean Stand Diameter*	11.2
Volume / Acre Mbf	10	*Volume/acres Cords*	18.6			*Trees/acre*	134.0

Major Tree Species	*Ba Ft2*	*% Total Ba*
White Pine	52	48%
Red Oak	23	21%
Red Maple	14	13%
Beech	7	6%
Hemlock	7	6%

Narrative

This area is located in the eastern section of the compartment. The overstory is comprised of a mix of pine and hardwood similar to Area A but has a slightly larger oak component. The stand was thinned by the previous owner and the remaining overstory is well stocked. Soils are well drained but access to the stand is limited to winter since it runs through several wet areas to get to the stand. The stand abuts the south end of Page Pond and is adjacent to the old Mill Area.

This stand will be ready for a further treatment during this planning period. Cutting at that time should be a two-fold approach including patch cuts adjacent to the advanced regeneration in Area D and a further thinning of the remaining acreage Additionally, a small patch cut may be recommended for the edge of Page Pond for Beaver habitat improvement.

Recommended Treatment(s)

2025	Harvest Regen Two patch cuts abutting Area D	Patch Cut	10 acres
2025	Harvest Inter First shelterwood treatment of remainder of stand	First Shelterwood	30 acres

Area Id	***D***	*Total Acres*	7.3	*Timber Mgmnt Acres*	7.3

Land Use Forest, Hardwood c/o *Soil Type(s)* 380C,

Mgmnt Priorities Wildlife, Timber - Mixed Type

Restrictions

Timber Management Data

Size Class Sawlog/Sedlings/s

Crop Tree Stocking Fair

%	*Seedling*	*Sapling*	*Pole*	*Sawlog*	*Lg Dia 26+*
	15%	**30%**	**5%**	**15%**	**35%**

Total Basal Area	82	*Ba Ags* 68	*Ba Ugs* 15	*Mean Stand Diameter*	16.0
Volume / Acre Mbf	14	*Volume/acres Cords*	8.6	*Trees/acre*	55.0

Major Tree Species		*Ba Ft2*	*% Total Ba*
	White Pine	67	82%
	Hemlock	8	10%
	Red Oak	8	10%

Narrative This stand is located within the limits of Area C. This area is very similar to Area B, though it does have a slightly higher residual stocking. The general description and prescription is similar. Access to this stand is the same as Area C.

Recommended Treatment(s)

2019	Harvest Regen	Overstory Removal	7 acres
	Overstory removal of remaining stems		

Area Id	***E***	*Total Acres*	28.8	*Timber Mgmnt Acres*	

Land Use Agriculture, Fields

Soil Type(s) 542C, 142B

Mgmnt Priorities Wildlife, REC Recreation &Aesthetics

Restrictions

Timber Management Data Not applicable

Size Class N/A

Crop Tree Stocking N/A

% Seedling	*Sapling*	*Pole*	*Sawlog*	*Lg Dia 26+*
0%	**0%**	**0%**	**0%**	**0%**

Total Basal Area	*Ba Ags*	*Ba Ugs*	*Mean Stand Diameter*
Volume / Acre Mbf	*Volume/acres Cords*		*Trees/acre*
Major Tree Species		*Ba Ft2*	*% Total Ba*

Narrative This large old field area is located along Barnard Ridge/Meredith Neck Road frontage. It is the largest old field area on the property and has very productive agricultural soils. The area was, until just recently, occupied by a variety of invasive plant species. Autumn Olive, Bittersweet and Buckthorn. Hawthorne was also present. This area was treated using mechanical methods to mow the area.

While the mowing did re-clear the old filed area, it will not address the invasive situation moving forward. Periodic mowing will keep the area open but invasives will continue to regenerate and in some cases be spread by the mowing. Chemical treatment will be needed in order to eradicate.

Recommended Treatment(s) No treatments are recommended at this time.

Area Id	***F***	*Total Acres*	4.9	*Timber Mgmnt Acres*	

Land Use Agriculture, Fields

Soil Type(s) 380B, 559C

Mgmnt Priorities Wildlife, Esthetics & Recreation

Restrictions

Timber Management Data Not applicable

Size Class N/A

Crop Tree Stocking N/A

% Seedling	*Sapling*	*Pole*	*Sawlog*	*Lg Dia 26+*
0%	**0%**	**0%**	**0%**	**0%**

Total Basal Area	*Ba Ags*	*Ba Ugs*	*Mean Stand Diameter*
Volume / Acre Mbf	*Volume/acres Cords*		*Trees/acre*
Major Tree Species		*Ba Ft2*	*% Total Ba*

Narrative This is the “Upper Field” located in the western corner of the property. Access to this area is via the larger, lower field. This area also had a large population of invasive species described in Area E and received the same treatment.

This area will also continue to be managed as open, mowed field and with periodic invasive control work as needed.

Recommended Treatment(s) No treatments are recommended at this time.

Area Id	G	Total Acres	3.2	Timber Mgmnt Acres	

Land Use: Agriculture, Fields

Soil Type(s): 559C,

Mgmnt Priorities: Esthetics & Recreation, Wildlife

Restrictions:

Timber Management Data

Size Class: N/A

Crop Tree Stocking: N/A

% Seedling	Sapling	Pole	Sawlog	Lg Dia 26+
0%	0%	0%	0%	0%

Total Basal Area	Ba Ags	Ba Ugs	Mean Stand Diameter
Volume / Acre Mbf	Volume/acres Cords		Trees/acre
Major Tree Species		Ba Ft2	% Total Ba

Narrative: This small old field area is located within Area A, just south of Bickford brook. It sits on a small knoll and includes a historic, small cemetery. The area will continue to be mowed by the CC in order to keep it open. Access to this stand is via a trail and small bridge crossing that leaves the lower field (Area E) toward the western end of the field.

Recommended Treatment(s): No treatments are recommended at this time.

SOILS REPORT

Page Pond Conservation Forest

The following soil types are found on this property:

GROUP IB SOILS IN BELKNAP COUNTY,NH

The soils in this group are generally sandy or loamy over sandy textures and slightly less fertile than those in group IA. These soils are moderately well and well drained. Soil moisture is adequate for good tree growth, but may not be quite as abundant as in group IA soils. Soils in this group have successional trends toward a climax of tolerant hardwoods, predominantly beech. Successional stands, especially those which are heavily cutover, are commonly composed of a variety of hardwood species such as red maple, aspen, paper birch, yellow birch, sugar maple, and beech, in combinations with red spruce, balsam, fir, and hemlock. Hardwood competition is moderate to severe on these soils. Successful softwood regeneration is dependent upon hardwood control.

143B *143B* Monadnock sandy loam, 3 to 8 percent slopes, very stony

DRAINCLASS	Well drained			HYDROLGRP	B
SHWT	>60	-	>60	BEDROCK	From >60 to >60in.

380C *380C* Tunbridge-Lyman-Becket complex, 8 to 15 percent slopes, very stony

DRAINCLASS	Well drained			HYDROLGRP	C
SHWT	24	-	>60	BEDROCK	From 10 to >60in.

380D *380D* Tunbridge-Lyman-Becket complex, 15 to 25 percent slopes, very stony

DRAINCLASS	Well drained			HYDROLGRP	C
SHWT	24	-	>60	BEDROCK	From 10 to >60in.

GROUP SOILS IN COUNTY,

DRAINCLASS				HYDROLGRP	
SHWT				BEDROCK	

-

GROUP IA SOILS IN BELKNAP COUNTY,NH

This group consists of the deeper, loamy textured, moderately well, and well-drained soils. Generally, these soils are more fertile and have the most favorable soil moisture relationships. The successional trends on these soils are toward stands of shade tolerant hardwoods, i.e., beech and sugar maple. Successional stands frequently contain a variety of hardwoods such as beech, sugar maple, red maple, white birch, yellow birch, aspen, white ash, and northern red oak in varying combinations with red and white spruce, balsam fir, hemlock, and occasionally white pine. Hardwood competition is severe on these soils. Softwood regeneration is usually dependent upon persistent hardwood control efforts.

559C *559C* Skerry fine sandy loam, 8 to 15 percent slopes, very stony

DRAINCLASS	Moderately well drained			HYDROLGRP	C
SHWT	18	-	30	BEDROCK	From >60 to >60in.

GROUP IB SOILS IN BELKNAP COUNTY,NH

The soils in this group are generally sandy or loamy over sandy textures and slightly less fertile than those in group IA. These soils are moderately well and well drained. Soil moisture is adequate for good tree growth, but may not be quite as abundant as in group IA soils. Soils in this group have successional trends toward a climax of tolerant hardwoods, predominantly beech. Successional stands, especially those which are heavily cutover, are commonly composed of a variety of hardwood species such as red maple, aspen, paper birch, yellow birch, sugar maple, and beech, in combinations with red spruce, balsam, fir, and hemlock. Hardwood competition is moderate to severe on these soils. Successful softwood regeneration is dependent upon hardwood control.

380B *380B* Tunbridge-Lyman-Becket complex, 3 to 8 percent slopes, very stony

DRAINCLASS	Well drained			HYDROLGRP	C
SHWT	24	-	>60	BEDROCK	From 10 to >60in.

380C *380C* Tunbridge-Lyman-Becket complex, 8 to 15 percent slopes, very stony

DRAINCLASS	Well drained			HYDROLGRP	C
SHWT	24	-	>60	BEDROCK	From 10 to >60in.

542C *542C* Monadnock-Becket-Skerry complex, 8 to 15 percent slopes

DRAINCLASS	Well drained			HYDROLGRP	C
SHWT		-		BEDROCK	

Recommended Treatment Report
Page Pond Conservation Forest
2018 - 2029

By year, these are the recommended activities, with their estimated cash flow:

Comp	Area	Acres	Treatment Type, subtype Description	Net Cash Flow
2018				
All	All	765.2	Management Plan , Update Recommended Update existing management plan to reflect current status. and include expansion acreage	-$4,000
1	All	765.2	Boundary , Blaze,paint Recommended Blaze and paint all exterior boundary lines. Well maintained abutter lines may be skipped.	-$3,200
2	All		Boundary , Blaze,paint Recommended Blaze and Paint exterior boundary lines	-$1,840
2019				
1	B	10.0	Harvest Regen , Patch Cut Recommended Patch cut areas of aspen concentrations. Wildlife habitat improvement project. May invovle one large opening or two smaller openings.	$15,000
1	B	50.0	Harvest Inter , Thinning Recommended Thin overstory, retaining 65 - 70% crown closure. Favor red oak sawtimber for future crop trees.	$20,000
1	D	40.0	Harvest Inter , Thinning Recommended Thin hardwood areas, removing poor quality stems and some mature red oak.	$30,000
1	E	20.0	Harvest Inter , Thinning Recommended Harvest hardwood stems to create more browse.	$4,000

1	G	22.0	, Recommended	$8,000
			Single tree selection of hardwood stems throughout stand. Potential clearing sections along water edge for beaver habitat.	
2	B	35.0	Harvest Regen , Overstory Removal Recommended	$23,000
			Overstory removal of scattered large stems.	
2	D	7.0	Harvest Regen , Overstory Removal Recommended	$8,500
			Overstory removal of remaining stems	

2023

1	A	75.0	Harvest Inter , First Shelterwood Recommended	$37,500
			Shelterwood where advanced regen is not present. Thinning where it is.	

2024

1	C	30.0	Harvest Inter , Thinning Recommended	$18,000
			Thinn stand	

2025

2	A	20.0	Harvest Regen , Patch Cut Recommended	$22,000
			3-5 acre patches spread around field edges.	
2	A	20.0	Harvest Inter , Group Selection Recommended	$10,000
			Groups of +/- one acres spread throughout stand	
2	C	10.0	Harvest Regen , Patch Cut Recommended	$15,000
			Two patch cuts abutting Area D	
2	C	30.0	Harvest Inter , First Shelterwood Recommended	$24,000
			First shelterwood treatment of remainder of stand	

2029

All	All	765.2	Management Plan , New Plan Recommended		-$6,000
			Full cruise and management plan		

Estimated net cash flow from all compartments on this forest is: $219960

This is a proposed plan of work and subject to change based on the owner's needs and goals. Timing of activites may be changed based on market conditions or other influences. Dollar figures are based on "today's dollars" and do not reflect changes due to inflation or market fluctuations. All figures are estimates, actual costs and income are subject to change based on detailed estimates, service work orders, and contracts.

Completed Treatment Report

Page Pond Conservation Forest

2009 - 2009

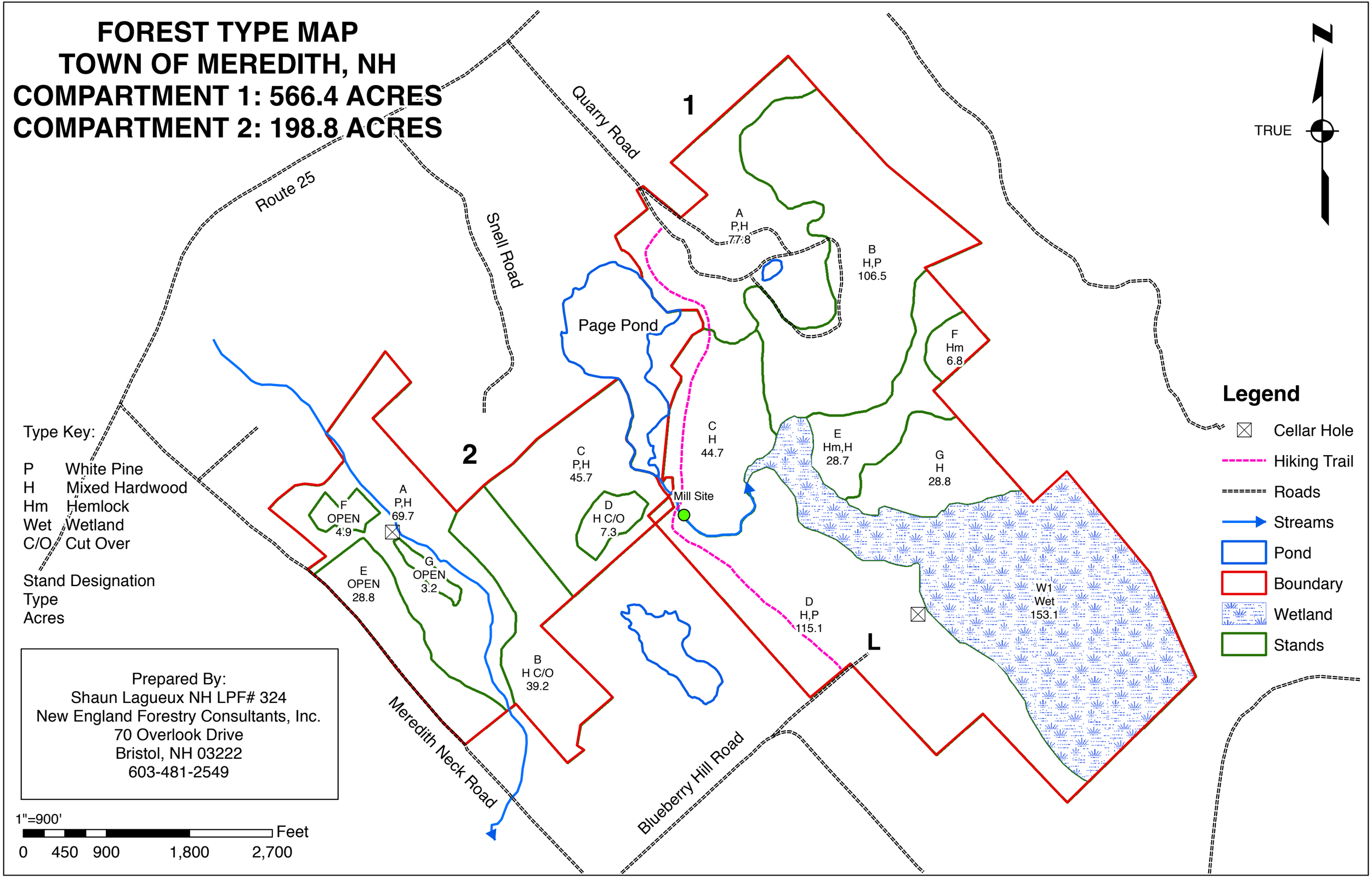
By year, these are the completed activities, with their actual cash flow:

Comp	Area	Acres	Treatment Type, subtype Description	
2009				
1	A	50.0	Harvest Inter , Thinning Completed Thin areas of white pine concentration. Harvest mature and poor quality stems. Single tree selection of mature red oak and other hardwood stems in areas of hardwood.	
1	A	4.0	Harvest Regen , Patch Cut Completed 2 Patch cuts +/- 2 acres in size.	
1	All		Harvest , Per Management Plan Completed Harvest as described in management plan in areas A, C and D and a small portion of Area B	$71,372
1	B	30.0	Harvest Inter , Thinning Completed Thin overstory, retaining 65 - 70% crown closure. Favor red oak sawtimber for future crop trees.	
1	C	30.0	Harvest Inter , Thinning Completed Single tree selection in the north end of the stand, harvesting over mature red oak and white pine stems. Light thinning in the south end of the stand.	
1	D	25.0	Harvest Inter , Thinning Completed Thin areas of well stocked pine fro below in order to retain crown closure.	
1	D	25.0	Harvest Regen , Shelterwood 2 Completed Harvest of scattered mature white pine stems.	
All	All	390.0	Management Plan , New Plan Completed Creation of a forest stewardship plan to guide forest management activities.	

$71372

Page Pond Conservation Forest

FOREST TYPE MAP
TOWN OF MEREDITH, NH
COMPARTMENT 1: 566.4 ACRES
COMPARTMENT 2: 198.8 ACRES



Type Key:

P	White Pine
H	Mixed Hardwood
Hm	Hemlock
Wet	Wetland
C/O	Cut Over

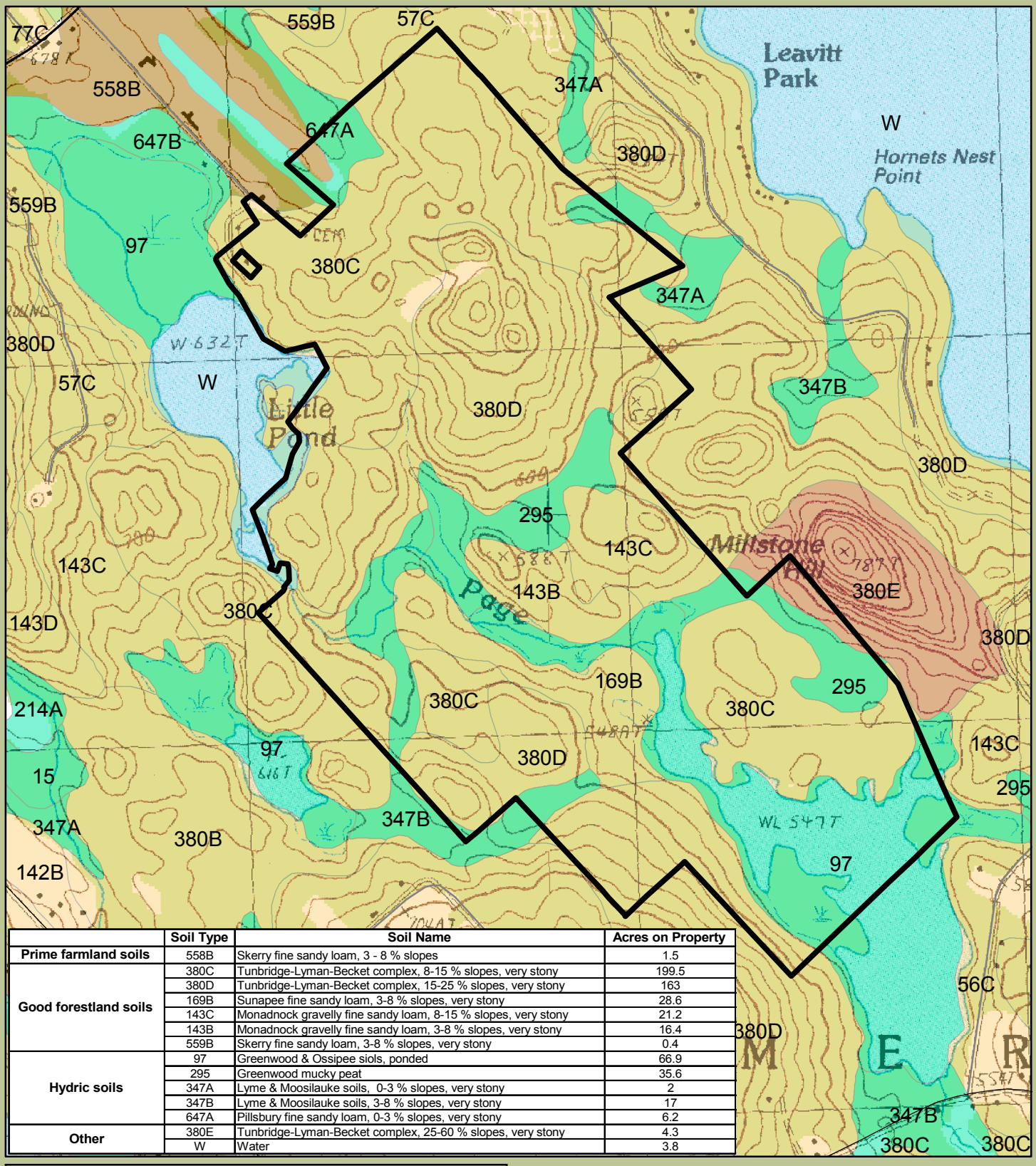
Stand Designation
Type
Acres

Prepared By:
Shaun Lagueux NH LPF# 324
New England Forestry Consultants, Inc.
70 Overlook Drive
Bristol, NH 03222
603-481-2549

1"=900'

0 450 900 1,800 2,700 Feet

Soils of Page Pond & Forest Property
Meredith NH



	Soil Type	Soil Name	Acres on Property
Prime farmland soils	558B	Skerry fine sandy loam, 3 - 8 % slopes	1.5
Good forestland soils	380C	Tunbridge-Lyman-Becket complex, 8-15 % slopes, very stony	199.5
	380D	Tunbridge-Lyman-Becket complex, 15-25 % slopes, very stony	163
	169B	Sunapee fine sandy loam, 3-8 % slopes, very stony	28.6
	143C	Monadnock gravelly fine sandy loam, 8-15 % slopes, very stony	21.2
	143B	Monadnock gravelly fine sandy loam, 3-8 % slopes, very stony	16.4
	559B	Skerry fine sandy loam, 3-8 % slopes, very stony	0.4
Hydric soils	97	Greenwood & Ossipee siols, ponded	66.9
	295	Greenwood mucky peat	35.6
	347A	Lyme & Moosilauke soils, 0-3 % slopes, very stony	2
	347B	Lyme & Moosilauke soils, 3-8 % slopes, very stony	17
	647A	Pillsbury fine sandy loam, 0-3 % slopes, very stony	6.2
Other	380E	Tunbridge-Lyman-Becket complex, 25-60 % slopes, very stony	4.3
	W	Water	3.8

Page Pond and Forest

Soil Groups

- Prime farmland soils
- Hydric soils
- Good forestland soils (Soil groups 1A & 1B)
- other
- Water

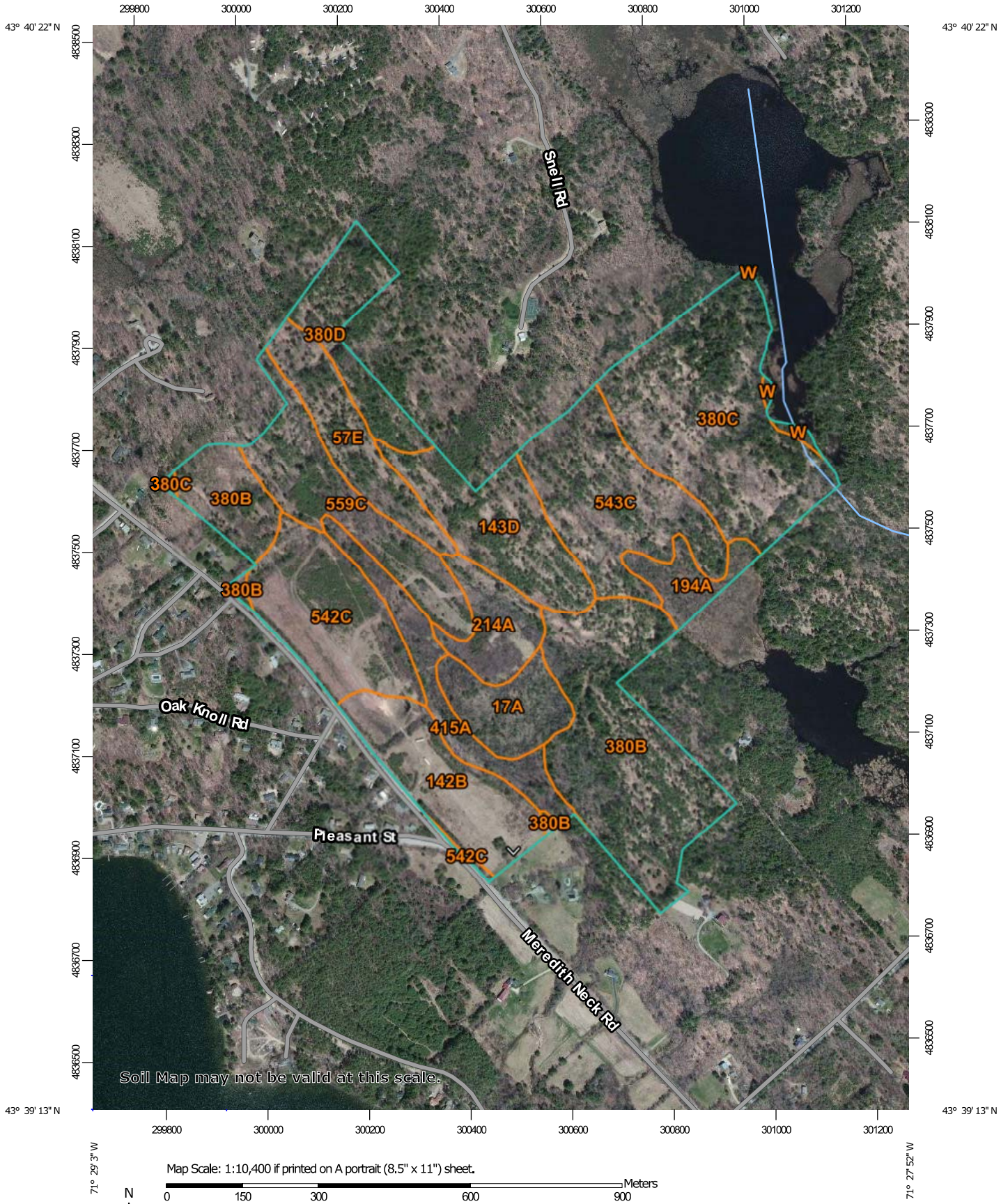
Page Pond & Forest boundaries from 7/1/2008 survey by Jones & Beach Engineers, Inc. Soil data from NRCS. All other data from GRANIT. Map created by The Trust for Public Land on July 25, 2008

Created in ArcMap 9.1®
Map Projection: NAD 1983 State Plane NH

0 0.125 0.25 0.5 Miles

THE TRUST for PUBLIC LAND

Soil Map—Merrimack and Belknap Counties, New Hampshire
(PP Expansion)



Map Scale: 1:10,400 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 150 300 600 900

Feet: 0 500 1000 2000 3000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORM

The soil surveys that comprise your AO
1:24,000.

Warning: Soil Map may not be valid at t

Enlargement of maps beyond the scale
misunderstanding of the detail of mappi
line placement. The maps do not show
contrasting soils that could have been s
scale.

Please rely on the bar scale on each ma
measurements.

Source of Map: Natural Resources Co
Web Soil Survey URL:
Coordinate System: Web Mercator (E

Maps from the Web Soil Survey are bas
projection, which preserves direction ar
distance and area. A projection that pre
Albers equal-area conic projection, shou
accurate calculations of distance or are

This product is generated from the USD
of the version date(s) listed below.

Soil Survey Area: Merrimack and Belk
Hampshire
Survey Area Data: Version 22, Sep 11

Soil map units are labeled (as space all
1:50,000 or larger.

Date(s) aerial images were photograph
2011

The orthophoto or other base map on w
compiled and digitized probably differs f
imagery displayed on these maps. As a
shifting of map unit boundaries may be

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
17A	Searsport-Chocorua-Naumburg complex, 0 to 1 percent slopes	8.4	4.1%
57E	Becket fine sandy loam, 25 to 35 percent slopes, very stony	10.9	5.3%
142B	Monadnock fine sandy loam, 3 to 8 percent slopes	14.8	7.2%
143D	Monadnock fine sandy loam, 15 to 25 percent slopes, very stony	15.0	7.2%
194A	Catden mucky peat, 0 to 1 percent slopes, ponded	4.8	2.3%
214A	Naumburg loamy sand, 0 to 5 percent slopes	7.6	3.7%
380B	Tunbridge-Lyman-Becket complex, 3 to 8 percent slopes, very stony	38.1	18.4%
380C	Tunbridge-Lyman-Becket complex, 8 to 15 percent slopes, very stony	32.6	15.8%
380D	Tunbridge-Lyman-Becket complex, 15 to 25 percent slopes, very stony	10.1	4.9%
415A	Moosilauke fine sandy loam, 0 to 3 percent slopes, very stony	9.2	4.4%
542C	Monadnock-Becket-Skerry complex, 8 to 15 percent slopes	17.9	8.7%
543C	Monadnock-Becket-Skerry complex, 8 to 15 percent slopes, very stony	21.2	10.3%
559C	Skerry fine sandy loam, 8 to 15 percent slopes, very stony	15.4	7.4%
W	Water	0.8	0.4%
Totals for Area of Interest		**206.7**	**100.0%**

FOREST TYPE MAP
TOWN OF MEREDITH, NH
COMPARTMENT 1: 566.4 ACRES
COMPARTMENT 2: 198.8 ACRES

1

2

Quarry Road

Route 25

Snell Road

Meredith Neck Road

Blueberry Hill Road

Leavitt Park

Hornets Nest Point

Beaver Island

Millstone

Page Pond

Little Pond

Mill Site

A
P,H
77.8

B
H,P
106.5

C
H
44.7

C
P,H
45.7

D
H C/O
7.3

D
H,P
115.1

E
Hm,H
28.7

F
Hm
6.8

G
H
28.8

A
P,H
69.7

F
OPEN
4.9

E
OPEN
28.8

G
OPEN
3.2

B
H C/O
39.2

W1
Wet
153.1

L

TRUE

Type Key:

P White Pine
H Mixed Hardwood
Hm Hemlock
Wet Wetland
C/O Cut Over

Stand Designation
Type
Acres

Prepared By:
Shaun Lagueux NH LPF# 324
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70 Overlook Drive
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603-481-2549

1"=900'
0 450 900 1,800 2,700 Feet

Legend

- Cellar Hole
- Hiking Trail
- Roads
- Streams
- Pond
- Boundary
- Wetland
- Stands

FOREST TYPE MAP
TOWN OF MEREDITH, NH
COMPARTMENT 1: 566.4 ACRES
COMPARTMENT 2: 198.8 ACRES

1

2

Quarry Road

Route 25

Snell Road

Page Pond

Mill Site

Meredith Neck Road

Blueberry Hill Road

A
P,H
77.8

B
H,P
106.5

C
H
44.7

C
P,H
45.7

D
H,C/O
7.3

D
H,P
115.1

E
Hm,H
28.7

F
Hm
6.8

G
H
28.8

A
P,H
69.7

F
OPEN
4.9

E
OPEN
28.8

G
OPEN
3.2

B
H,C/O
39.2

W1
Wet
153.1

L

N
TRUE

Type Key:

P	White Pine
H	Mixed Hardwood
Hm	Hemlock
Wet	Wetland
C/O	Cut Over

Stand Designation
Type
Acres

Legend

- Cellar Hole
- Hiking Trail
- Roads
- Streams
- Pond
- Boundary
- Wetland
- Stands

Prepared By:
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1"=900'

0 450 900 1,800 2,700 Feet

Forestry Terms Glossary

A

Area — As used in this management plan, a unit of land that is delineated by the forest manager based on the characteristics of the land. The defining characteristics may be vegetation type, soil type, management prescription, or the dominant land use. Also see Forest and Compartment

B

BAF — Basal Area Factor. Sampling tools for variable plot cruising are set at standard intervals. Each tree tallied with the tool is multiplied by the BAF to give an estimate of the square feet per acre represented by that one sample tree.

Basal Area — The cross sectional area of a tree, or group of trees, at a height of 4.5 feet above the ground. Basal area is generally expressed in square feet/acre. Measure of tree density / stocking.

biodiversity, diversity — The sum total of plant and animal species which occur in a given environment.

biomass — The entire mass of plant material above the ground, expressed in tons / acre. Also refers specifically to a low grade chip product which is burned for power generation.

blaze — An axe mark made on a tree denoting a boundary line or a trail.

board foot — Unit of measurement represented by a board one foot long, one foot wide, and one inch thick or variations thereof. Timber is generally estimated, measured in MBF/acre.

boltwood — Wood used for the specialized production of items such as buttons, golf tees, and dowels. Boltwood mills usually buy the raw material in short lengths, from 4-8' in length. Only white birch markets (shrinking) utilize this boltwood category.

buffer zone — An area along a designated corridor or boundary in which treatments are modified or excluded so as to reduce the impact on the corridor or boundary; generally applied for water course protection, wildlife travel corridors, etc.

butt — The first cutting off of a tree, or the lower (large) end of a single log.

C

capital gains — Profit derived from the increase in value of an asset. For taxes, the sale price of an eligible asset less its cost.

chain — A unit of measurement 66 feet long. When the size of an area is expressed in square chains, dividing by 10 will give the acreage.

clearcut — When used as a specific silvicultural definition, the cutting of all trees, 2" and larger in DBH, in a designated location for the purpose of preparing the site for forest regeneration. In common usage, it is the cutting of all merchantable trees in an area.

Compartment — As used in this management plan: A group of Areas (stands) that are delineated by the forest manager based on the collective character of the areas. The defining characteristics of a Compartment may be timber volume yield, habitat, access, or any combination thereof.

coniferous — Tree species that do not drop all of their leaves annually. Also commonly referred to as softwoods.

cord — A unit measurement for tree products, usually pulpwood or firewood, occupying 128 cubic feet (4x4x8) of space. Estimates of solid wood content in a cord vary from 80 to 90 cubic feet, depending on how tightly the wood is stacked.

cover type — Refers to the type of dominant vegetation on a piece of land. Cover type distribution refers to the balance of cover types in an area, a compartment, or a forest. (softwood, hardwood, field)

crop tree — A tree which is suitable for the production of some value, which is left to grow for future harvest or value production. Most commonly, it is used to refer to potential sawtimber, but it can include trees favored for wildlife food production such as acorns.

crown — The live branches on a tree which support the tree's foliage.

crown – co-dominant — A tree whose crown receives full sunlight on the top and indirect sunlight on at least two of the sides.

crown – dominant — A tree whose crown receives full sunlight on the top and all sides.

crown – intermediate — A tree whose crown receives only indirect sunlight.

C - Continued

crown – suppressed A tree that has always been in the lower crown level, getting minimum sunlight, thus thwarting its growth.

cruise A survey of forest land to locate timber and estimate its quantity by species, product, size, and quality.

cull removal The removal of poor quality and large-size trees that have no economic value, to enhance the overall vigor of the stand.

D

DBH Diameter at Breast Height: The diameter of a tree at 4.5 feet above ground, expressed in inches (“).

deciduous The group of trees species which drop their leaves annually. Commonly referred to as hardwoods.

defect Internal rot, knots, or other characteristic which reduces the value of a standing tree or a log.

depletion allowance A tax benefit given to all depletable assets, i.e., oil, timber, etc.

dominant Trees whose live crowns are above the general level of the forest.

E

economic maturity A time when a tree has achieved its assumed maximum rate of value growth. Based on a specie’s biology and growth potential.

exclusion As used in this forest plan, an area which is not managed for renewable natural resource values.

F

flagging The practice of hanging plastic ribbon as temporary markers in the woods. Generally used for boundary location and skid trail layout.

FSA Farms Service Agency – United States Department of Agriculture. This agency administers farm and forest subsidy programs established by the federal government, to provide incentives to landowners to apply sustainable practices.

G

girdle — A series of cuts made around the stem of a living tree with the intention of killing the tree (cull removal, TSI).

growth — The amount of fiber added to a tree or stand of trees over a period of time. Usually measured in cubic feet per acre / per year or board feet per acre / per year.

H

habitat breadth — From the DeGraaf, et al. model. Describes the range of basic habitat types found in a specified land unit.

habitat layers — Zones in forest vegetation which occur at different heights above the ground. Animals, particularly birds, frequently utilize specific layers depending on their habitat needs and life cycle.

hard mast — Nut-like seeds from trees which are utilized as food by wildlife. Oak and beech are most important mast producers.

hardwood — Broad-leafed deciduous trees.

herbaceous — Plants with a soft structure, non-woody, usually low-growing (eg. Grasses, forbes).

I

Increment — The amount of timber growth or volume measured during a specific period, usually per year or 10 years.

Intermediate harvesting — Any one of the income-producing commercial harvests, which occur prior to final (regeneration) harvesting. The exact Silvicultural objectives of intermediate harvests vary, but all leave a residual stand which can be harvested at a later time.

Interplant — To plant trees among existing natural growth.

Inventory — To identify, sample, measure, and quantify renewable natural resources on a piece of land.

K

Krummholz — Extremely thick, generally short, and usually very old forest growth which occurs near timberline.

L

landing, log landing — A location to which trees are transported (skidded) by off-road forestry equipment. At this location, the trees are further processed, sorted, and briefly stored before being loaded on to trucks for delivery to the processing mills.

logging chance — The degree of difficulty of conducting harvesting on a given site.

lopped — The process of cutting tree tops down to a specified level, for fire hazard reduction and esthetics.

M

mean stand diameter (MSD) — The average diameter of a group of trees measured at DBH.

merchantable — A tree of portion of a tree which can be sold for any kind of wood product.

merchantable height — Height at which the salable portion of a tree ends.

mixed wood — A stand condition in which significant amounts of both softwood and hardwood are present.

multiple use — Concurrent use of the forest resources for more than one goal, i.e., timber production, wildlife habitat, watershed management, etc.

N

NH Natural Heritage — A bureau of the New Hampshire Division of Forests and Lands, which is responsible for maintaining information about rare and endangered plants, animals, and habitats in New Hampshire.

NH Yield Tax (timber tax) — A property tax levied on standing trees, which is paid at the time of harvest; generally 10% of assessed stumpage value.

non-commercial — A stand condition in which a timber harvest is determined to be economically unprofitable due to terrain, or size, or value of the timber.

O

operable volume — Minimum volume of timber required for a stand to be logged on a commercial basis. This volume varies from one geographical area to another.

O- Continued

operating interval The planned interval between harvesting or silvicultural operations in the same stand or area. Generally 10+ years for softwood, 15+ years for hardwood.

overmature A tree or stand which has grown past its peak economically or biologically.

P

patch cut Harvesting a group of trees to create an opening in the forest canopy which is large enough to allow for the establishment and survival of tree seedlings. Generally 2 – 5 acres.

point sampling Another name for variable plot sampling.

pole size Trees measuring 4 to 10 inches DBH.

pre-commercial Used to describe a tree, a stand of trees, or a type of silvicultural treatment, where the trees are too small or poor quality to be marketable.

prism A calibrated wedge of glass which deflects light rays at a specific offset angle. Used for selecting sample trees during variable plot cruising.

pruning The artificial removal of limbs from the main stem (bole) of a crop tree. This process increases the production of clear lumber, raising the value of the tree when it reaches maturity.

pulpwood Low quality trees or woods which are ground or chemically broken down into the cellulose fiber used to manufacture paper products.

R

regenerate The process of treating an area of forest so as to create conditions where seedlings can become established. Regeneration also commonly refers to the young trees which occupy a site after it has been regenerated.

regeneration harvest A harvest where the silvicultural objective is to establish a new stand of trees (eg. Selection, shelterwood, clear cut.)

release treatment A silvicultural treatment to adjust the spacing of seedlings and saplings by killing competing vegetation. The goal of a release treatment is to stimulate the growth of the remaining crop trees.

reproduction Seedlings and saplings, also called regeneration.

R – Continued

rotation age The age to which a stand of trees is grown to before harvesting.

S

salvage Harvesting timber which is dead or damaged before the economic value of the timber is completely lost.

saplings Trees over 4.5 feet in height and up to 4.5 inches DBH.

sawlogs Logs which are suitable for sawing into boards and lumber.

sawtimber Trees over 10 inches DBH (variable by species.)

scale Number of board feet or cords in a log or trees.

scarify To scrape, overturn, or disturb the surface of the forest floor so as to create a seedbed which will favor the germination and survival of a particular species or species group.

seedlings Young trees up to 4.5 feet in height.

selection harvest The removal of single trees or small groups of trees with the purpose of regenerating new forest growth.

shake The separation of wood between annual growth rings, usually caused by wind or stress. Shake is considered a defect when it occurs in sawlogs.

shelterwood A method of regenerating a forest by leaving a partial overstory of trees to provide seed and shelter for the regeneration to be established below it.

silvicultural investment Any one of a variety of treatments where the forest owner invests money in improving the productivity or value of crop trees, so as to yield a higher return at the time of harvesting (eg. weeding, TSI, site prep.)

silviculture The care and cultivation of a forest for the purpose of growing a crop of trees, from establishment to final harvest.

site index A measure of the ability of an area to grow timber based on the average height that a tree can grow in 50 years.

S – Continued

size class distribution The range of tree size classes which currently occupy a designated area or compartment.

slash Branches, tops, and small stems left in the forest or on a landing following harvesting.

softwood Trees with needles or scalelike leaves, i.e., evergreen or conifers.

soil suitability The general quality of the soil to provide a good medium for the growth of timber products, or management thereof.

stand The traditional unit by which forests are delineated, a stand includes a collection of trees with common characteristics, or a pattern in species mix, age, or size classes.

stocking A measure of how fully trees occupy a given site.

stocking – adequate A favorable stand condition where growth and site occupancy are near optimum levels.

stocking – overstocked A condition in which too many trees are present, thereby preventing optimum tree growth and yield.

stocking – under stocked A stand condition in which all growing space is not adequately utilized.

stumpage The dollar value of standing timber. What a buyer will pay a landowner per MBF/CD/TN, for the right to cut, remove and market timber products.

T

tally (log) A written **r**ecord of logs measured by log rule.

thinning An intermediate harvest where a percentage of trees in a stand are cut so as to provide more space for the residual trees to grow.

thinning from above A thinning where trees with crowns which rise above the average crown layer are removed.

thinning from below A thinning where trees with crowns which fall below the average crown layer are removed.

tie and pallet grades Logs that are too rough, short, small, or crooked to be marketed as high quality sawlogs, but which can be sawn into lower grade railroad ties or pallet stock.

timber cruise See cruise.

timber liquidation value The value of all standing trees in commercially operable stands. Varies with logging costs and delivered mill prices, and may fluctuate from month to month.

timber stand improvement TSI. Any method of improving a young (0 to 30 years old), small (0 to 6 inches DBH) stand of trees to increase their growth and vigor, i.e. weeding and thinning. Generally pre-commercial in nature. Also see silvicultural investment.

U

upland Generally describes site with relatively well-drained soil.

V

variable plot cruise A timber inventory method by which the sample trees are selected based on their diameter.

W

water bars A mound of dirt placed diagonally across a road or trail to divert water runoff and prevent erosion.

weed tree A tree of a form or species with little or no commercial value.

weeding and thinning The killing of certain trees in an area so as to improve the spacing of designated crop trees. This term generally refers to treatments in pre-commercial forest, and is a silvicultural investment. (See timber stand improvement.)

whole tree chips A low value wood-chip product which may include the tree bole, branches, twigs, and any foliage not otherwise merchantable. Also see chips.

windthrow The act of (or trees which have been subjected to) tipping and uprooting trees by the wind.

Y

yarding The transport of logs or whole trees from the stump to a landing (yard).