

Trescott Water Supply Lands ~ Recreation Management Plan ~

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prepared by
Upper Valley Trails Alliance
in collaboration with
Hanover Conservancy

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Trescott Water Supply Lands

~ Recreation Management Plan ~

The *Trescott Recreation Management Plan* is intended to provide an initial recreational management framework for the Trescott Company, Trescott Recreation Committee, and stakeholders. As further policies are developed, this Plan should be updated to include more details on trail standards, project implementation and maintenance scheduling, and future goals for recreational use. The Plan integrates related legislation, rules and regulations, policies, and area-specific information into a single document that works as a consistent reference for users now and into the future. It further provides a mechanism to clarify key issues, identifies management procedures and policies, and provides a protocol to resolve concerns. It is not a static document, and should be reviewed and amended periodically.

History, Rules and Management

History

In the 1800s, ten farms thrived on the Trescott lands owing to the fine soils and ready access to water. One became the town's Poor Farm, where the community's indigent citizens lived and worked. The farm included an ice-cutting operation and busy sawmill. Local children attended the one-room District No. 4 School at Mason's Four Corners.

Disastrous downtown fires in 1880 and 1890 revealed the need for a better water supply for fire-fighting. In 1893, the village precinct and college formed the Hanover Water Works Co., damming Camp Brook to create the first reservoir (Fletcher). News of a typhoid epidemic in Ithaca, NY, prompted buy-out of the entire watershed by 1912. The farms were dismantled and human occupation ended, but their cellar holes and impressive stone walls remain. In 1924, the second reservoir (Parker) was built. Together, the two reservoirs contain approximately 425,000,000 gallons of water (*Trescott Forest Management Plan*). Public access to these lands has been restricted for over 40 years. However, interest in recreational access to these lands has been prevalent for many years and occasional unauthorized use has been reported and managed appropriately.

At the 2010 Town Meeting, Hanover residents voted in favor of restructuring the former Hanover Water Works holdings, then owned 47.2% by the Town and 52.8% by the College, into a framework that provided town water reservoir protection while providing more flexibility in the management of 1,165 acres of land. The 178 acres within 250' of the reservoirs and the water treatment infrastructure remained in Town ownership, while the newly formed Trescott Company, composed of the Town and College each holding 50% interests, took control of the remaining 1,165 acres. At the time, the Town and College declined to consider permanent

conservation of the public water supply lands, although much interest in this idea was expressed within the town.

Following water treatment upgrades, the Trescott Company board agreed in 2014 to work towards opening the lands for low-impact recreational use. (Lands surrounding the Hanover Center Reservoir are not to be opened.) The board consulted several local conservation and recreation groups, both public and private, who urged a carefully controlled process rather than simply opening the gates, in order to have time to educate users. A Quabbin to Cardigan Partnership grant awarded to the Hanover Conservancy in 2015 enabled the Trescott Company to partner with the Hanover Conservancy and the Upper Valley Trails Alliance to develop a plan to move towards implementing public recreation.

As it has since the end of the 19th century, water for Dartmouth College and the heavily settled parts of Hanover flows off these lands, into the reservoirs that provide drinking water for the Town.

For additional historic details, see pages 3-6, Appendix A: Trescott Co. Forest Management Plan

State Law and Rules

NH RSA 485:24 Rule [Env-Dw 902.15 Protection of the Purity of Camp Brook Including the Upper & Lower Hanover Reservoirs and Hanover Center Reservoir and their Watersheds](#) is included as Appendix B. The State Rule details land use restrictions associated with the water supply reservoirs, their tributaries, and a minimum 75' buffer around them. These rules helped to provide direction in the development of Public Use Guidelines for both the 1,165 acres of Trescott Company lands now open for low-impact recreation, and identified what restrictions needed to be in place for the Town of Hanover's 178 acres immediately surrounding and including the reservoirs.

Local Rules (Which lands are open, which are not)

Non-motorized public access is provided to all visitors of the Trescott Company's 1,165 acre landscape who respect and follow Public Use Guidelines approved by the Trescott Recreation Committee. The guidelines for public recreation use are be posted at kiosks, described in brochures, and included on Town of Hanover/Hanover Conservancy/ Trail Finder/websites. The Town of Hanover's 178 acres surrounding the Fletcher and Parker Reservoirs and Camp Brook

are not open to the public. Additionally, the Hanover Center Reservoir, also mentioned in NH RSA 485:24, is not open to the public.

As an added measure of protection, the town has enacted, where possible, a 250’ buffer zone around the reservoirs. It is paramount that visitors to the Trescott Water Supply Lands stay out of the restricted zones by obeying “No Trespassing” signage and keep out of the orange blazed 250’ restricted buffer zone. Failure to follow this direction will put recreational use of the Trescott Company lands in jeopardy.

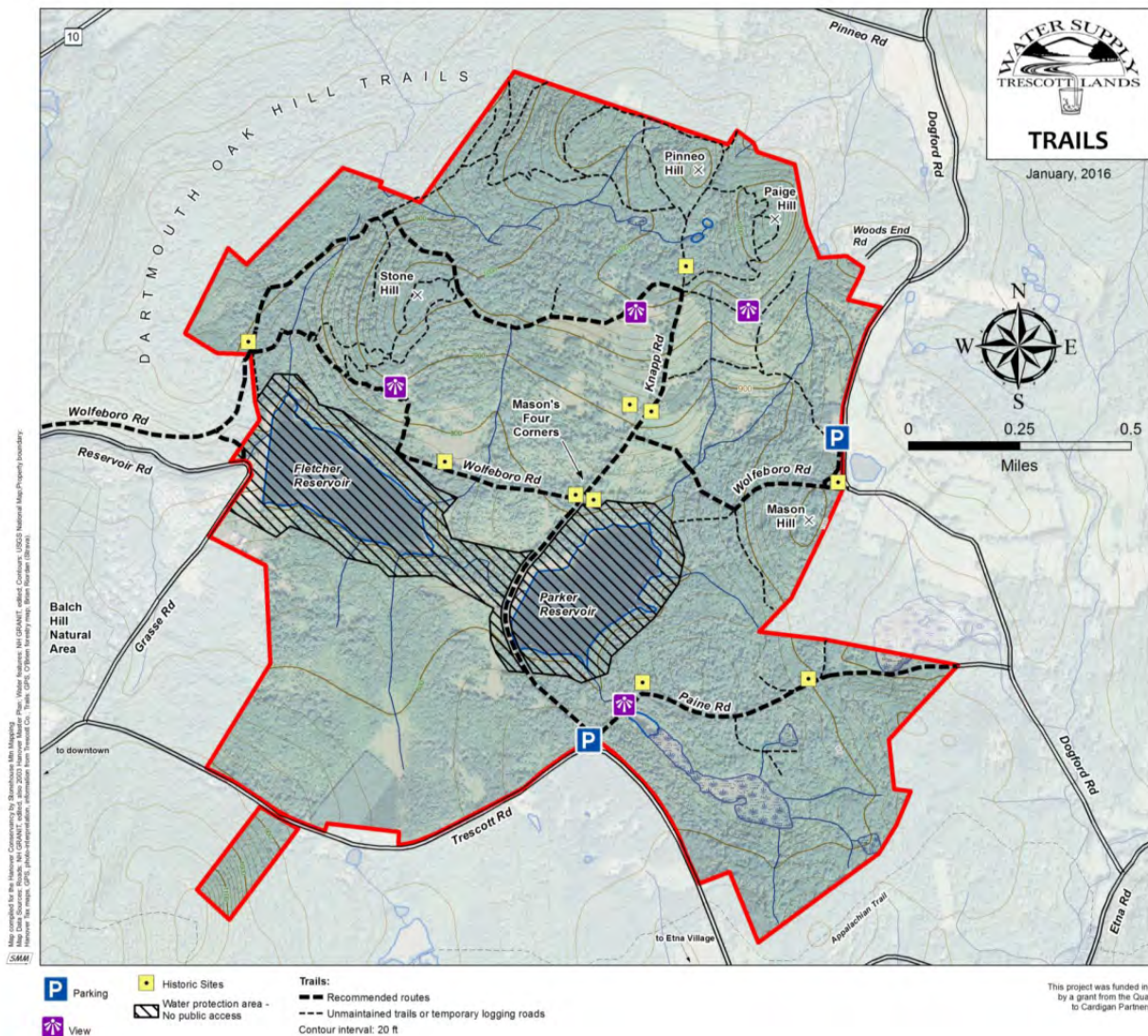


Figure 1: Current Recreation Resources Map. Hatchmarked area indicates restricted “NO PUBLIC ACCESS” zone, the exception being the portion of Knapp Road near the Trescott gate to Mason’s Four Corners.

Public Use Guidelines

From the beginning, the Trescott Company has made clear its intention that the primary use of the lands will remain the provision of pure drinking water for the community. A secondary use is forest management conducted with the specific goals of providing clean water, operating income, and enhancing wildlife habitat. Public recreation may occur as long as it does not interfere with these primary uses.

The primary public use concepts promoted at the Trescott Water Supply Lands are “Clean Fun = Clean Water”, and “Shared-use” of the property for many low-impact activities. A brochure has been made available at two primary access points, and on the websites listed above, to provide public use guidelines to protect the drinking water supply, along with an historical overview of the property. The brochure identifies both Welcomed Uses and Prohibited Activities. Visitors are asked to “Visit with care today – you may drink this water tomorrow!”

See Appendix C: Trescott Water Supply Lands brochure, for Public Use Guidelines.

Welcomed Uses

Low-impact activities, including:

- walking
- hiking
- running
- snowshoeing
- XC skiing
- bicycling
- horse-back riding
- in-season hunting

Dogs are permitted on the property as long as they remain leashed, to prevent them from entering the reservoirs or tributaries. Owners must pick up after their pets and carry out the waste.

The property is also a great location for geo-caching, orienteering, photography, birding, nature study, and exploring tangible reminders of Hanover’s past history, such as cellar holes and stone walls. Use guidelines will be established to maximize positive experiences of all users. This may require some users to keep to the trail edge or avoid particular trails during some seasons to minimize use conflicts.

Prohibited Activities

- motorized vehicles
- camping
- fishing
- boating
- swimming
- alcohol
- disturbing historic sites
- open fires

Should the Trescott Recreation Committee or the Hanover Department of Public Works (DPW) determine that a specific use or trail has become a threat to water quality or to forestry operations, the Committee and/or DPW may eliminate that use or trail, and a notice will be posted on the kiosks and websites. The closure may be temporary if a solution to the concern can be identified and implemented.

General Shared-use Guidelines

- All users should be considerate and polite to other users, and share the trails
- Do not reach out to touch a dog or horse without the owner's permission
- Follow standard yield policy – hikers and bikes yield to horses, while bikes yield to both hikers and horses. Horseback riders should use common sense and may choose to yield if it provides easier access for others but it is not required under the general yield policy.
- Snowshoers, hikers and “fat-tire” bikes should share the trails with x-country skiers by staying to the side of track-set winter trails where possible
- Hunters must adhere to State hunting laws as per NH Fish and Game Department regulations
- Wearing of blaze orange outer wear (hat or vest for example) by both hunters and other recreational users during hunting seasons is recommended. It provides enhanced safety of all parties by visually informing others of your presence. Hunting season information will be posted on kiosks, and is available online at www.wildlife.state.nh.us.



Figure 2: This bright yellow “yield” sign can be modified to fit a natural setting and further promote respect amongst users by modifying color palette and adding the words “Trail Courtesy” as per <http://www.lifesuccessfully.com/pets--animal-advocacy-articles/horses-bikes-and-hikers-sharing-the-trails>



Management Structure

Trescott Company Managing Board

Provides overall direction and decision-making for the Trescott Company and has tasked the Trescott Recreation Committee with Recreation Management

Trescott Company Ownership –

- 50% Dartmouth College
- 50% Town of Hanover

Trescott Recreation Committee

Responsibilities: Meet 4 times per year (or as needed) to

- Review recreation improvement proposals and develop appropriate use policies
- Seek policy and recreation improvement approval from DPW/Trescott Company
- Address conflicts that may arise
- Provide opportunities for stakeholder groups and general public to participate in planning and management decision-making
- Consider requests for new trails or trail sections
- Consider requests for both special and major events
- Promote broad public understanding of rules for use of the property using a variety of media. Keep signage on kiosks updated (i.e., add hunting signs in season)

Representation:

- Hanover Department of Public Works (with input from Trescott foresters)
- Hanover Parks & Recreation Department
- Dartmouth Outdoors Program
- Hanover Conservation Commission's Trails Committee
- Upper Valley Trails Alliance
- Hanover Conservancy
- Neighbors of the Trescott property
- Other representation as may be deemed appropriate; 6-8 Committee members is recommended for efficiency

Stakeholders/Recreation Groups

Responsibilities:

- Submit recreation improvement recommendations to Trescott Recreation Committee
- Adopt maintenance responsibilities and recruit volunteers
- Recommend recreation policy considerations
- Provide advisory capacity to the Recreation Committee

Representation:

- DOC's Mountain Biking Club
- Equestrian
- Ford Sayre x-country ski program
- Geo-cachers
- Hikers - Kendal, and other organized groups
- Hunters
- Upper Valley Mountain Bike Association
- Upper Valley Running Club/Upper Valley Trail Runners
- Other user groups to be determined

Public participation is important to give interested parties the opportunity to learn, evaluate, provide advice, and influence decisions about how recreation on the Trescott lands should be managed. The Trescott Recreation Management framework provides opportunities for all stakeholders to voice their opinions about how this area should be managed.

Trail Maintenance and Project Budgeting

- The Trescott Recreation Committee will work with user groups to identify a matrix of funding sources that will meet maintenance needs of recreational facilities.
- Various trail user groups may raise and provide funds to achieve their preferred project goals that have been approved by the Committee.
- The Hanover Conservation Commission's Trails Committee may also consider allocating some funds to improve and maintain recreational facilities on the Trescott Water Supply Lands as part of the Hanover Conservation Commission's annual budgeting process.
- Application to the NH Department of Environmental Services' Drinking Water Source Protection Program, NH Recreational Trails Program, NH Charitable Foundation and other grant options that support outdoor recreation and healthy active lifestyles could be considered to bring in project revenue.
- Volunteers will be recruited by the various user groups to support construction and/or maintenance of recreational facilities. If there is to be a well maintained trail network,

volunteers/user groups will be essential as the Town of Hanover and the Trescott Company have not provided ongoing funds for trail construction/maintenance.

Existing Recreation Infrastructure

Primary Access Points

In the fall of 2015, trailhead parking facilities were established by the Town of Hanover in a log landing off Dogford Road and at the main gate at Trescott Road. Other locations, such as Paine Road, are possible options to expand parking facilities in the future. Another option to consider is to create an entrance using the AT parking lot on Trescott Road. Most of the property remains surrounded by barbed wire fencing, which will largely remain in place to help guide users to entry points where they will encounter signage informing them of rules for use of the property. Secondary entrances for foot and bicycle access may also be considered near the corner of Reservoir Road/Grasse Road intersection just west of a trail entrance off Reservoir road, and at Paine Road.

Oak Hill Access point(s) should be clearly marked to identify that there are different management policies on those Dartmouth College and Hanover Improvement Society lands. In particular it is important to note that a winter trails pass is required to x-country ski and/or fat-tire bike on this adjacent groomed trail system managed by the Dartmouth Cross Country Ski Center. Passes are available at the Cross Country Ski Center's two facilities. One is based out of the DOC House on Occom Pond, which provides equipment rentals for skiing, skating, and other winter activities, as well as group and private instruction. The other facility is at Oak Hill, located in the north-east corner of Hanover off Reservoir Road.

Signage/Kiosks

Kiosks - In the fall of 2015, kiosks were installed at the two primary access points off Dogford Road and Trescott Road. Materials posted on these kiosks include:

- Property Map showing major access points and trails
- Public Use Guidelines
- Contact information
- Brochure holder for map/guide
- Temporary notices such as trail closures, hunting season signs, notices about logging operations underway



Figure 3: TreScott Co. Water Supply Lands Kiosk at TreScott gate

Interpretive Signage will be posted at several key locations to share information on water quality, forest management, natural resource and historic features.

Interpretive subject and locations:

- Drinking Water Protection: Near the Parker Reservoir on Knapp Road, interpretive details on water reservoirs/watershed/drinking water quality/forest management
- Mason's Four Corners: Interpretive sign displaying historic photographs of District 4 schoolhouse and Mason Farm with interpretation of local farming history
- Town Poor Farm: sign mounted along Knapp Road, showing historic photos of the Poor Farm with interpretation

Trail/Road Signs

- Adopt standard wooden routed signage. Include trail name and distance to a destination point. The destination can be a trail name, trailhead such as TreScott Road Trailhead, or other linked trail system such as Oak Hill Trails.
- A sign plan should be established to provide useful installation guidance.
- Consider saw damage or timber staining from steel hardware. The use of aluminum nails for installation will remedy those concerns, however, signs may be more easily vandalized (removed). The use of carefully placed sign posts is another option to consider.



Figure 4: Wooden Routed Sign - Franklin Gothic FONT size 110 bold (approx. 1 1/8" letters) cut with plunge router using 1/4" round-nose bit

Map Boxes

- Nine “You-Are-Here” maps in framed boxes were installed at key intersections in February 2016.
- Additional map boxes may be useful at other key intersections.



Figure 5: Trescott map boxes

Trail Marking – The general standard for trail marking in the Upper Valley is 2” x 6” painted blazes, often bright blue in color. Since foresters on the Trescott lands use a bright blue paint to mark trees for removal during timber harvesting operations, the color of the blaze should be chosen to avoid confusion – use colors such as red, or yellow. Wide road-like corridors may be obvious to follow and not require any blazing.



Figure 6: L: Blue blazing standard used elsewhere in the Upper Valley for trail marking; C: red blaze example; R: wide access road corridor where no blazing would be needed.

Excluded Areas

The Fletcher and Parker Reservoirs, Camp Brook, and the 250' buffer surrounding them comprise a “No Access Zone” marked with No Trespassing signs and orange blazes that delineate the boundary. Knapp Road cuts through this zone between the two reservoirs and provides a narrow corridor for public access. All visitors using Knapp Road must stay on the road while passing through the Reservoirs’ “No Access Zone”. While every effort will be made by the Trescott Recreation Committee to educate and encourage visitors towards respecting the “No Access Zone” signage, the view of water from the road may be enticing to recreational users. A viewing platform at the edge of the road way should be considered to enable people to capture a view while also respecting the Restricted Access requirements.



Figure 7: No Trespassing signs and orange blazes mark the restricted area boundary

New Trail or other Recreation Infrastructure

New trail or recreation infrastructure improvements require approval of the Trescott Recreation Committee and the Hanover Department of Public Works. The Committee encourages new trail designs that include beginner or novice level standards (not to the exclusion of other trail users).

During the review of the proposed improvements, the Committee will:

- identify compliance with water quality goals of the property,
- compare recreation proposals to forest management plans,
- continue to adapt and adopt appropriate public use guidelines,
- manage carrying capacity for minimum acceptable landscape change and potential use conflicts, and
- avoid disturbance to sensitive ecological features and cultural artifacts (e.g., cellar holes)

Trail Design Standards

Trail design standards will be developed by the Trescott Recreation Committee to minimize erosion issues associated with trail drainage and runoff. Key elements will include maximum running slope, minimum outslope, frequency of drainage, trail width, and surfacing. Best management practices (BMPs) will be applied in all trail building and maintenance to minimize soil erosion. Initial BMP guidance will be provided through “*Best Management Practices For Erosion Control During Trail Maintenance and Construction*,” NH Trails Bureau, Copyright 1994, Updated 2004 and “*Trail Solutions, IMBA’s Guide to Building Sweet Singletrack*,” International Mountain Bicycling Association, Copyright 2004.

Forest Management and Recreation Facilities

While the opening of 1165 acres of land previously closed to public access provides great opportunity for public outdoor recreation, it is important to develop recreational facilities that fit well with forest management activities. Forest management for water quality and operating income will remain a higher priority use of the Trescott property than recreation. Tree canopies, leaf litter, and root mass of a healthy forest shield soils from erosion during rain events and seasonal runoff. Silviculture (forest management) prescriptions will be applied to ensure regeneration of the forest stands, meet wildlife and water quality management objectives, and provide continued revenue for the Trescott Company. For further Forest Management details see Appendix A: *Trescott Co. Forest Management Plan, August 2010*, prepared by O’Brien Forestry. The plan includes timber harvest entry cycles and schedules for 18 forest stand types (Silvicultural Treatment Schedule - Appendix F). However, the specific implementation timeframe will be impacted by timber market strength, salvage harvesting (due to major blowdowns, insect impact, drought), and invasive plant control needs.

The public should not expect that trails and recreational facilities will guide forest management activity. Property foresters have offered to work towards limiting impacts to new recreational trails during harvest operations where possible; however, the more dense a trail network is, the harder it will be for machinery to avoid trail impact. Scenic view management will also be considered as part of the overall forest management considerations. Skid roads used for timber harvesting can also be used for many recreational activities provided the design takes into account slope needs of various trail users. Trail planners and trail users should understand that most timber harvesting takes place during winter months, and adjust their plans and expectations accordingly. Primary skid roads may be closed or “trail” use impacted annually, while other secondary skid roads may not be used for timber harvest for a decade or more. Collaboration on trail design with foresters will be important to facilitate this potential for trail/skid road compatibility.

Future forest management activity should be carefully considered before time and energy are invested in new recreational trails or other facilities. Simple “raked in” treadways and use of skid roads may be the most cost-effective approach for improving recreational opportunities where silviculture cycles are less obvious or more frequent. Investment of time and energy to develop and maintain trail improvements will result in a sense of invested ownership (“sweat equity”) of some recreational resources by volunteer builders. It will be important, therefore, for the Trescott Recreation Committee to carefully manage expectations. Based on the *2010 Forest Management Plan*’s forest stand treatment schedule and discussions with forester, Jeff Smith, primary harvesting activities will soon (within 3-5 years) lead to a 20-30 year period with a focus mostly on tree growth with occasional thinning. That timber management schedule may allow for more recreational infrastructure without impacting forest management activities.

Topography

The higher elevations of the Trescott Company lands lend themselves to slightly longer seasons of snow cover than in downtown Hanover, and the variable topography provides a variety of recreational skill level (novice to expert) opportunities. Attendees at a September 2015 public meeting, held in Hanover regarding potential recreational use of the Trescott Company lands, expressed an interest in seeing more novice opportunities for both x-country skiing and mountain biking.

Soils

The Trescott lands are underlain by several soil types that result in a range of soil conditions from dry and well-drained to wet, with standing water features on the property. Natural Resources Conservation Service (NRCS) soil type data combined with soils details described in Appendix A: *Trescott Co. Forest Management Plan*, and field observations provide some

guidance for locating trails. It is best to avoid poorly drained soils such as Sissing and areas of the property that contain soil underlain with hardpan (clay deposit or bedrock) which restricts drainage, resulting in wet areas. Cardigan-Kearsarge soils and Bernardston are well drained soils that are most suitable for trail building. Pittstown is a moderately to moderately-well drained soil. Use of the NRCS soil type map (Appendix E) will be useful to help define these soil locations for trail planning purposes. For further detail, see *Custom Soil Resource Report*, Natural Resources Conservation Service (NRCS), Grafton County, NH, May 25, 2010 re Trescott Company Forest Management Plan development.

Wetlands, Sensitive Habitats and Water Quality

Wetlands and Siltation - To minimize potential silt and nutrient loading of the water reservoirs and to protect wetland functions and values, wetlands should be avoided and the number of stream crossings should be minimized in any trail design. Bridges or culverts shall be used where possible to avoid siltation by trail users. Boardwalks or bog-bridging may be considered to provide some wetland education opportunities or to provide short trail crossing points over wet soils

Sensitive Habitats - During trail design planning, efforts will be made to refer to the Ecological Assessment Report by Brett Engstrom and Trescott Co. Forest Management Plan (See Appendix A) to avoid impacts to rare, threatened and endangered plant communities, and sensitive or high value wildlife habitat features such as vernal pools (seasonal breeding ground for spotted salamanders and spring peepers) and wetlands. Seeking advice from the Hanover Conservation Commission or other natural science professionals may be helpful for on-the-ground review of proposed trail layouts or other recreational facilities.

Dog Waste - If dog waste becomes a problem, the Committee may consider posting dog bag dispensers at primary entry points, along with a small trash receptacle, out of view of the nearby road, to collect waste. Alternatively, the Committee may choose to ban dogs from the property.

Horse Waste – If horse waste becomes a problem, the Committee may consider asking horse owners to employ “bun bags” on their animals, or to take responsibility for cleaning up waste left by horses.

Appendix A:

Trescott Co. Forest Management Plan, August 2010, Prepared by O'Brien Forestry

(provided as an electronic attachment)

Appendix B:

NH DES RSA 485:24

RULE(S) ENV-WS 902.23 ADOPTED BY N.H. DEPARTMENT OF ENVIRONMENTAL SERVICES MAY 20, 2014 IN ACCORDANCE WITH RSA 485:24

Env-Dw 902.15 Protection of the Purity of Camp Brook Including the Upper & Lower Hanover Reservoirs and Hanover Center Reservoir and their Watersheds

(a) The purpose of this section is to protect the purity of the water of Camp Brook, the Upper and Lower Hanover Reservoir and Hanover Center Reservoir, which constitute the principal drinking water supply for the town of Hanover.

(b) This section shall apply within:

(1) The Camp Brook watershed above the dam that is located at approximate latitude 43° 43' 11", longitude 72° 14' 57", in the town of Hanover; and

(2) The Hanover Center watershed above the dam that is located at approximate latitude 43° 42' 53", longitude 72° 14' 15", in the town of Hanover.

(c) Any person violating this section shall, in accordance with RSA 485:26, be guilty of a misdemeanor if a natural person or guilty of a felony if any other person.

(d) In accordance with RSA 485:24, the health officer and the board of health of the town of Hanover and their duly authorized agents may act as agents of the department for the enforcement of this section in cooperation with the department.

(e) Where any provision of this section is in conflict with local ordinances, the provision that is more protective of the surface water shall apply.

(f) Any deviations from this section shall be by written consent of the department in accordance with Env-Dw 902.05. The provisions of this section shall not apply to members of the board of selectmen engaged in the performance of necessary duties for the protection and control of said brook and reservoirs.

(g) **In addition to any prohibitions adopted by local ordinance**, the prohibitions that apply in the Camp Brook, Upper and Lower Hanover Reservoirs, and Hanover Center Reservoir watersheds described in (b), above, shall be as follows:

1. A person shall not build, continue or maintain any building or structure of any kind in which animals or fowls are kept, within 75 feet of Camp Brook, the Upper and Lower Hanover Reservoirs and the Hanover Center Reservoir in the town of Hanover or within 75 feet of any inlet thereto, or within 75 feet of any tributary to said brook or reservoirs;
2. A person shall not run any sewage, wastes or waters that have been used for washing or cleansing materials, persons, or food into said reservoirs or brook or any inlet thereof or tributary thereto;
3. A person shall not throw or deposit any dead animal or fish or parts thereof, food, perishable or decayable material, manure, or human wastes into said reservoirs or brook or any inlet thereof or tributary thereto, or leave or allow any such materials to

remain on the surface of ground within 75 feet of said reservoirs or brook or any inlet thereof or tributary thereto;

4. A person shall not throw any sawdust or allow any sawdust to fall, into said reservoirs or brook or any inlet thereof or tributary thereto;
5. A person shall not boat, bathe, swim, fish or carry on any activity of a recreational, occupational, or other nature, in the waters or on the ice of Camp Brook, the Upper and Lower Hanover Reservoirs, or the Hanover Center Reservoir, or tributaries thereto; and
6. A person shall not throw, deposit, or allow to remain upon the ice of the waters of said reservoirs or brook or any inlet thereof or tributary thereto upstream of the water works intake, any matter, waste, or materials such as are described in (2), (3), and (4), above.
7. The town of Hanover shall post a summary of the prohibitions contained in (g), above, at all public access locations where persons might reasonably be expected to access Camp Brook, the Upper and Lower Hanover Reservoirs and the Hanover Center Reservoir or their tributaries. This posted summary may also contain any prohibitions enacted by local ordinance.

Source. (See Revision Note at part heading for Env-Dw 902) #10602, eff 5-20-14

APPENDIX C:

Trescott Water Supply Lands map & guide

LEAVE NO TRACE

Drinking water for Dartmouth College and much of Hanover flows off these lands, into the reservoirs, and out of your faucet.



Help keep your water pure

Reservoirs and the 250' orange-blazed buffer around them are off limits to the public.

Share the trail & respect posted closures. Trails may change with forest operations – check kiosk for updates.

Yield to forestry vehicles – forest management is key to ensuring clean water into the future.

NH Rule Env-Dw 902.15 protects Hanover's public water supply by prohibiting recreation access to the waters and ice of Camp Brook, reservoirs, and their tributaries, and requiring pick-up of dog manure and other waste. Violation is a misdemeanor. RSA 485:24

About the Water Supply Lands

The Trescott Company (Town of Hanover and Dartmouth College, 50/50, established in 2010), owns 1,165 acres here in the upper watershed of Camp Brook. The Town separately owns 178 acres around the reservoirs and water filtration plant, closed to the public. Professional foresters manage the lands to ensure a healthy forest and pure water for tomorrow. Hunting is necessary to protect native tree growth from over-browsing by deer.

History: In the 1800s, ten farms thrived here on fine soils and ready access to water. One became the town's Poor Farm, where the community's indigent citizens lived and worked. The farm included an ice-cutting operation and busy sawmill. Local children attended the one-room District No. 4 School at Mason's Four Corners.

Disastrous fires in 1880 and 1890 revealed the need for a better water supply for fire-fighting. In 1893, the village precinct and college formed the Hanover Water Works Co., damming Camp Brook and buying 50 acres for a reservoir. News of a typhoid epidemic in Ithaca, NY, prompted buy-out of the entire watershed by 1912. The farms were dismantled and human occupation ended, but their cellar holes and impressive stone walls remain.

The 2007 Patriot's Day Windstorm blew down much timber that had been planted to protect water quality. Reforestation efforts, including control of invasive plants that followed the blowdowns and protection of rare plants, continue under a new forest management plan.

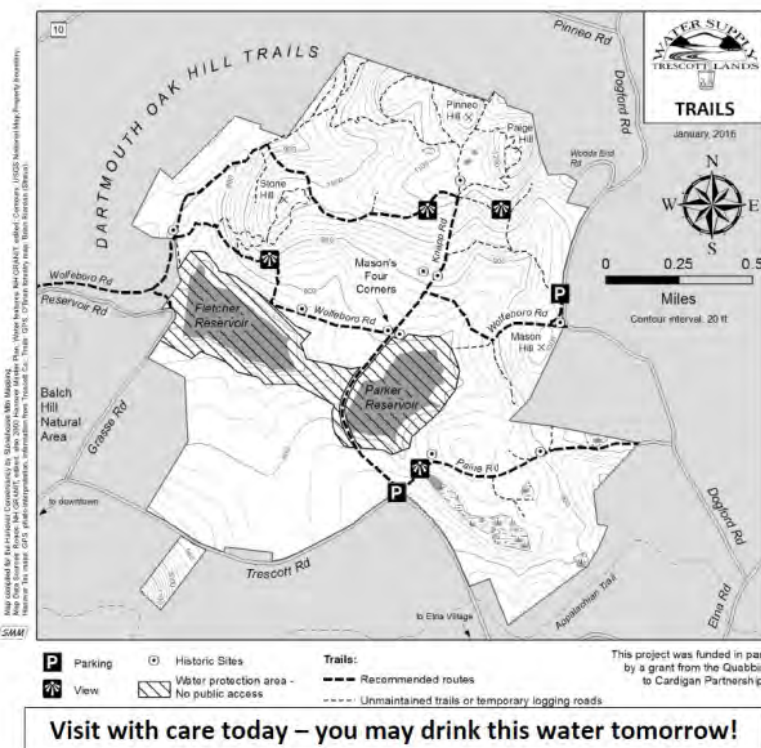


HANOVER CONSERVANCY
Protecting land of water in New Hampshire

This guide was prepared by the Hanover Conservancy with funding from the Quabbin to Cardigan Partnership and the Trescott Company. The Conservancy gratefully acknowledges the assistance of the Upper Valley Trails Alliance, Hanover Department of Public Works, and Hanover Conservation Commission.

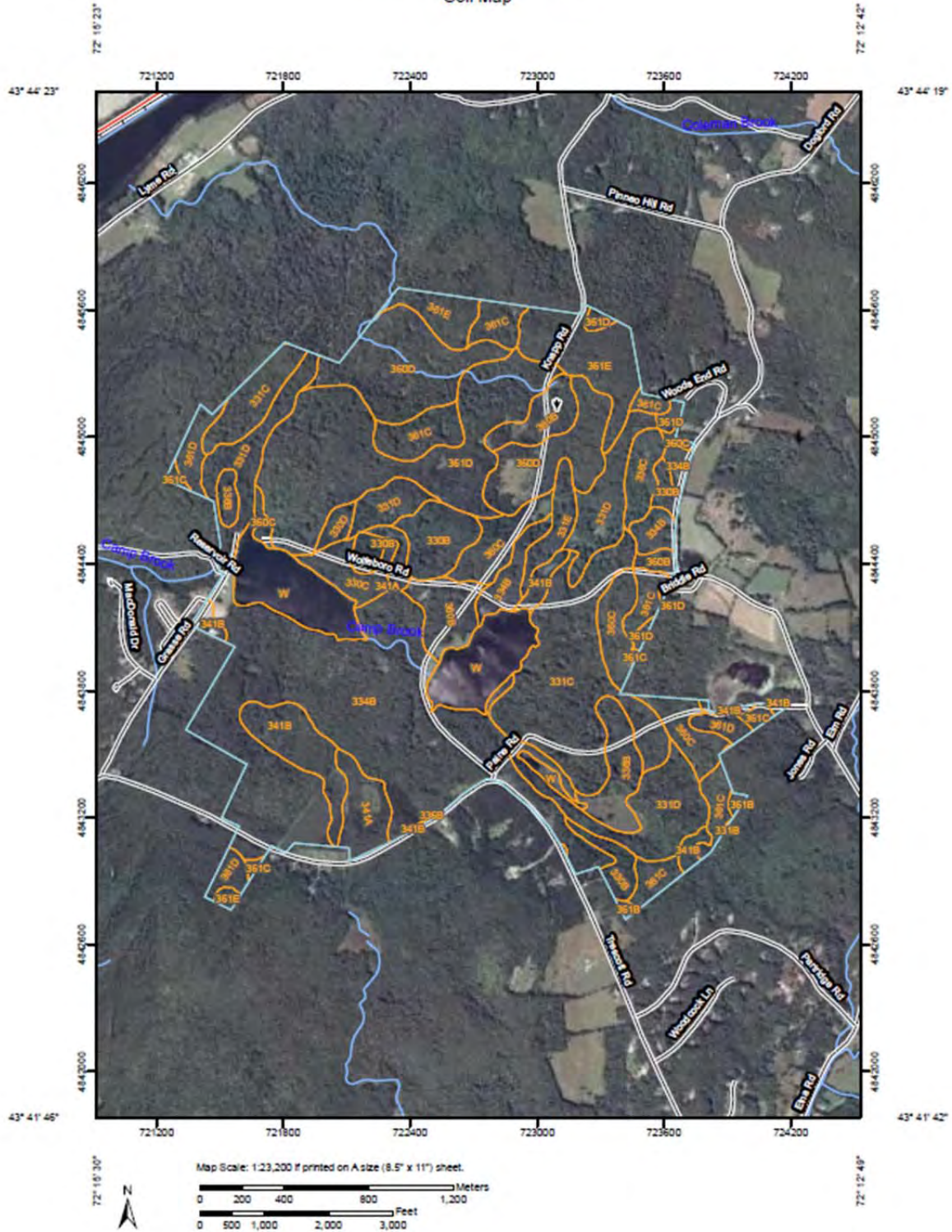
For more information, visit www.hanoverconservancy.org or www.hanovernh.org/Pages/HanoverNH_PublicWorks/Water

January 2016



APPENDIX D: NRCS Soil Type Map

Custom Soil Resource Report
Soil Map



Custom Soil Resource Report

Map Unit Legend

Grafton County, New Hampshire (NH009)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
330B	Bernardston silt loam, 3 to 8 percent slopes	47.0	3.4%
330C	Bernardston silt loam, 8 to 15 percent slopes	17.6	1.3%
330D	Bernardston silt loam, 15 to 25 percent slopes	5.8	0.4%
331B	Bernardston silt loam, 3 to 8 percent slopes, very stony	0.1	0.0%
331C	Bernardston silt loam, 8 to 15 percent slopes, very stony	132.9	9.8%
331D	Bernardston silt loam, 15 to 25 percent slopes, very stony	124.2	9.1%
331E	Bernardston silt loam, 25 to 35 percent slopes, very stony	14.6	1.1%
334B	Pittstown loam, 3 to 8 percent slopes	301.7	22.1%
336B	Pittstown loam, 3 to 8 percent slopes, very stony	31.2	2.3%
336C	Pittstown loam, 8 to 15 percent slopes, very stony	14.8	1.1%
341A	Stissing silt loam, 0 to 3 percent slopes, very stony	27.7	2.0%
341B	Stissing silt loam, 3 to 8 percent slopes, very stony	47.0	3.4%
360B	Cardigan-Kearsarge complex, 3 to 8 percent slopes	46.1	3.4%
360C	Cardigan-Kearsarge complex, 8 to 15 percent slopes	61.8	4.5%
360D	Cardigan-Kearsarge complex, 15 to 25 percent slopes	105.9	7.8%
361B	Cardigan-Kearsarge-Rock outcrop complex, 3 to 8 percent slopes	2.7	0.2%
361C	Cardigan-Kearsarge-Rock outcrop complex, 8 to 15 percent slopes	66.9	4.9%
361D	Cardigan-Kearsarge-Rock outcrop complex, 15 to 25 percent slopes	170.2	12.5%
361E	Cardigan-Kearsarge-Rock outcrop complex, 25 to 60 percent slopes	63.2	4.6%
W	Water	81.4	6.0%
Totals for Area of Interest		1,362.7	100.0%

APPENDIX E:

Forest Stand-Type Map, Treseott Co.



APPENDIX F:

Silviculture Treatment Schedule, Trescott Co.

**TRESCOTT COMPANY PROPERTY
SILVICULTURAL TREATMENT SCHEDULE**

This schedule is only meant to be a guide to prioritize treatment areas. All treatments may be rescheduled due to variable weather and market conditions.

Stand #	Type	Acres	Treatment	Year
1	SH3A	57	Group Selection / I. Tree Selection	2015 - 2020
2	H3A	62	Group Selection/Crop Tree Release	2018
3	SH3A	10	None	-----
4	SH3/4A/B	13	Group Selection / I. Tree Selection	2015
5	SH4A	31	None	-----
6	H2/3A	58	Group Selection/Crop Tree Release	2018
7	SH4B	136	Group Selection / I. Tree Selection	2015 - 2020
8	HS3A	151	Group Selection / I. Tree Selection	2013 - 2015
9	SH3/4A	87	Group Selection / I. Tree Selection	2013 - 2018
10	S3B	48	Overstory Removal with Reserves	2013 - 2018
11	S1/2A	5	Crop tree Release	2013 - 2018
12	S3/4A/B	125	Overstory Removal with Reserves	2013 - 2018
13	S3A	11	Individual Tree Selection	2015 - 2018
14	SH3A	154	None	-----
15	HS3A	97	Group Selection / I. Tree Selection	2015 - 2018
16	S1/2C	42	None	-----
17	S2A	10	None	-----
Aspen	S2A	8	Brontosaurus Work	2018 – 2020
All			Develop Invasive Control Plan	2010 – 2011
Selected areas			Invasive Control Work	2011 – 2020
All			Update this plan	2020

ACCOMPLISHING TREATMENTS

There are many treatments scheduled. As in the past, these treatments should be laid out and supervised by a licensed professional forester. The most crucial part of good forest management takes place on the ground, not in this document. The science of forest management is still in its infancy, and the intuition of the forester on the ground is crucial to success. There are many components of a timber harvesting operation that need to fall into place if the treatment is to be successful. The two most important components are a knowledgeable, willing seller and a willing, competent buyer. A stable market for the product being sold is also important.

If an agreement can be made between the seller and buyer through a timber sale contract, the logistics of the operation need to be fully considered. Suitable access and landing areas need to be located; the timing of the operation, payment schedules, and other issues need to be addressed. Patience is often required, as well as good weather conditions. Market conditions will play an important role as well and rarely are all conditions in alignment. The scheduling of all of the treatments can be adjusted such that positive conditions exist to implement a successful timber harvest.

APPENDIX G:

Recreational Stakeholder Input

Trescott Water Company Lands Recreation Planning – Meeting of September 2, 2015

Hanover Town Office

PRESENT: Julia Griffin, Hanover Town Manager; Peter Kulbacki, Hanover Dept. of Public Works; Liz Burdette, Hanover Parks and Recreation Department; Amber Boland, Upper Valley Lake Sunapee Regional Planning Commission; Jeff Graham, Hanover Improvement Society; Sarah Clarke, Morton Trails; Don Cutter, neighbor and hunter; Joe Danna, geo-cacher and HC trails volunteer; Cami Thompson Graves, Dartmouth Women's Nordic ski coach; Ryan Johnson, hunter; Brian Kunz, Dartmouth and DOC; Peter and Ashley Milliken, Ford Sayre K-8 Nordic ski program; Ross Smith, Hypertherm; Jed Williamson; Russ Hirschler and John Taylor, Upper Valley Trails Alliance; Tom Jack and Adair Mulligan, Hanover Conservancy

ALSO INVITED: Ed Chamberlain, Hanover Conservation Commission; Doug McIlroy, Hanover Trails Committee; Bruce Hathorn, Brian Riordan, Kevin O'Leary, and Preston Kelsey, mountain biking; Sally Batton, Dartmouth Morgan Farm, horseback riding; David Lindahl, Nordic skiing; Dan Nelson, Dartmouth Outdoor Programs; Hank Plaisted, dog mushing.

1. Welcome – Julia Griffin welcomed the group, noting that the Trescott Company had determined that the vast acreage of the public drinking water supply lands could be opened to low-impact public recreation, but that the primary uses of the land will continue to be to provide safe drinking water and conduct good forest management toward that goal. A draft plan for managing recreation will be presented to the Trescott Company board on September 24 for approval. Those present introduced themselves.
2. Introduction – Adair Mulligan observed that an effort had been made to invite a representative of every possible recreational user group to participate in the discussion. She provided a brief history of the land, which totals 1344 acres (1,165 acres owned by the Trescott Company, and 178 acres owned by the Town surrounding the reservoirs and Camp Brook flowing between them. This area was a busy neighborhood by 1807 and included a one-room schoolhouse. Ten farms had been established by 1890s, the land cleared, and sheep pastured. The Town Poor Farm was also located here. Some of Hanover's best agricultural soils are located on the property.

The Water Company was established in 1892, and the first reservoir (Fletcher) was built and land purchased the following year. By 1912, the Water Company had acquired most of the upper

Camp Brook watershed and removed all structures. In 1924, the second reservoir (Parker) was built; together, the two reservoirs hold 425 million gallons. At this time, about 70 acres were planted with trees; 440 acres had been planted by 1946, and more since. An active forest management program began in 1977 and the property is currently managed by foresters John O'Brien and Jeff Smith. In April 2007, a strong nor-easter blew down much of these plantations – 2 million board feet of logs and 3100 cords of pulp wood were salvaged; natural stands were largely unaffected. Invasive buckthorn and other non-native plants quickly colonized the blowdowns and are now a problem.

The Trescott Company was formed as a result of Town Meeting action in 2010, conveying a 250' reservoir buffer and buildings to the Town, and a new filtration plant was built. Current activities are focused on forestry and invasives management, and most recently deer hunting, all in pursuit of excellent water quality. The Hanover Conservancy has been part of the advisory committee for the property's forest management. Assisting the Trescott Company in opening up its lands to low-impact, compatible recreation is a goal of HC's new strategic plan. With permission, HC applied for and won a grant from the Quabbin to Cardigan Partnership in Spring, 2015 for this project. The grant will cover kiosks, interpretive signage, mapping, and a recreation management plan prepared with the expertise of the Upper Valley Trails Alliance. The goal is to balance the recreation interests of the community with the need to protect drinking water quality. Adair reminded that the planning involves only the 1165 acres owned by the Trescott Company, but not the Town's land around the reservoirs, and that these lands are not yet open for public recreation.

3. Recreation Planning – John Taylor and Russ Hirschler of the Upper Valley Trails Alliance invited discussion of an array of topics. Russ noted that the Trescott Company has already set some ground rules for public use, and that state statute also carries rules for use of this watershed.
 - a. Maps – reviewed draft maps showing topography and orthophotos as background, with the property limits. Noted that the northern extension of Knapp Road was designated an “historic road” by Town Meeting.
 - b. Signage – should indicate destinations and distances. There will be kiosks at two primary access points. May need signage to present rules of use at other access points.
 - c. Uses – John noted some possible uses: trail walking and running, dog walking (on leash only, per Trescott Company), public education and nature walks, mountain biking, snowshoeing, bird watching, dog mushing, hunting, Nordic skiing, horseback riding. Other uses mentioned were geo-caching, orienteering, ski-joring, trail running, and fat tire biking. Frisbee golf is offered at Oak Hill; one course is likely enough.
 - i. Hunting – some suggested separating hunting from other uses by rotating zones or time of day. It was noted that the deer population on this property has exploded as a result of long closure, and that heavy deer browsing is favoring growth of invasives over the native forest regeneration that is so critical to water quality protection. Rifle season lasts only one month. Oak Hill and other surrounding lands are already open to both hunting and other recreation. Agreed that the property should be kept open for

- the entire season to hunting and that the public should be educated with good signage that they are sharing the land with hunters and that deer population control is the next priority after forest management. Spring hunting for turkey occurs in the early morning and likely does not present a conflict.
- ii. Nordic skiing – This area, being higher in elevation than Oak Hill and Garipay Field, tends to hold snow longer than those areas. There is hope that trails might be groomed for skiing. At Oak Hill, trails are groomed 16-20' wide for ski race training. The groomer is 16' wide. What is the minimum width needed to avoid forestry impact? Trees near the trail could be limbed to allow more snow to fall on the trail. There is demand for both classic and skate skiing and a need for more areas for training. Young Ford Sayre skiers want to learn both styles of skiing and need access to more gentle terrain than they can currently reach. This area is close to schools and offers safe terrain. Noted that the logging vehicles use the interior roads in winter. There is a barbed wire fence near the Oak Hill trail that is a threat to skiers; this could be replaced in this location with a less dangerous material.
 - iii. Horseback riding – riders seek out interesting challenges like trail obstacles that require a horse to step or jump over them, and will welcome trails that are more difficult for hikers and walkers. Most riders are likely to come from the north or east side of the property. There is a logical connection between the Forward Farm and Pinneo Hill.
 - iv. Motorized vehicles – a motorized groomer should be allowed, but no other motorized vehicles such as motocross, snowmobiles, or ATVs to protect the land against erosion that could affect water quality. Only forestry or emergency vehicles will be permitted on the property. Forestry vehicles usually operate on frozen ground when there is little risk of erosion.
 - v. Mountain biking – There is interest in single track bike trails. A group uses the trails at Boston Lot. Several local bike groups (that were invited to this meeting) have developed trails in the area. There are some bootleg trails near Oak Hill. Trails for novice bikers are needed, and building/maintaining them presents a good community service opportunity. Access at Dogford Road was recommended as it would provide a good 30 minute loop from Hypertherm. The Town and Conservancy hope to be able to conserve the nearby Hudson Farm and Leavitt properties, which would expand the potential.
 - vi. Orienteering and Geo-caching – these users sometimes use trails but often move off-trail.
 - vii. Wheelchairs/strollers – UVTA has completed an accessible trail at the Vermont Institute of Natural Science. The surface of woods roads that have been stabilized with coarse stone for logging vehicles may be difficult for these users.
- d. Trail design standards – UVTA will consult an array of technical manuals that provide design standards. Trail planning should consider steep and wet areas to avoid water quality impacts. Cross-country running trails at Thetford Academy were designed by Morton Trails and are used in winter for XC skiing.
 - e. Perceived conflicts - it is difficult to have horses and walkers using groomed ski trails. Horseback riders do not want to share trails with mountain bikers. Since skiers are required to pay a fee to use trails at Oak Hill, it is important to notify them of the change in liability if they cross onto free trails on the Trescott lands. Ski-joring, with disruption of a groomed ski track by dogs, may present a conflict.
 - f. Preferred access points and parking – the primary planned access points are at the main gate at the sharp curve in Trescott Road, and from the log landing off Dogford Road. Cleaner

access from Oak Hill/Storrs Pond is needed. Paine Road was mentioned. There is a potential parking area just south of Woods end Road. Horse trailers do not need to be accommodated because only local riders will likely use the property. Hunters need parking, as will mountain bikers. Ford Sayre's younger skiers have trouble navigating steeper terrain. They travel by passenger car and it would be ideal to drive them up the hill to park at the Trescott gate or at town land on Grasse Road near the ball field.

- g. Events – The Hanover Parks and Recreation Department likes to hold large events at places where people feel a sense of ownership, and would use this area. The college might want to bring its carnival back to town.
- h. Destinations (inside or outside property boundaries)
- i. Information needed by users and ways to share it – First message should refer to use of land to produce clean drinking water, that user is a guest whose first obligation is to protect the quality of the water. Use image of a glass of water as gateway to information – click on image to find a map. Provide information on how many gallons/day are produced here, and the number of residences and restaurants served by the system. Also cover: hunting seasons, where to get permits, what animals are hunted on the property, and why there is a need for hunting there; photo of dog with dog-related rules; leave no trace principles and literature; must pay if cross onto Oak Hill trails; don't post-hole on a groomed trail; snowshoers and dogs should use a snowshoe lane on the side of a ski track; discontinue or at least discuss use of trails during mud season. Post on websites; kiosks; on back of trail map; share in college and Ford Sayre networks. Use partnerships to spread information, and repeat it annually. May need a third kiosk at the ballfield parking area.
- j. Reservoirs – liberal signage will indicate the 250' boundary around the reservoirs. Fencing them off entirely is too expensive. May also blaze this boundary.
- k. Recreational improvements and maintenance – a warming hut was mentioned for winter sports, and the Ford Sayre club may be able to help with a facility. Dartmouth did a master plan for the area in 2002 that could be useful, and pointed to the importance of elevation of this property for keeping snow cover. Volunteer-driven trail effort. Develop base of volunteers from parents of kids benefitted.
- l. Historical features – will be interpreted for the public. There is a need for help in researching the history of the farms and poor farm that stood here. Should alert teachers at Ray and Richmond Schools, who may help.

Notes by Adair Mulligan, Hanover Conservancy



Trescott Trails

September 28, 2015

PRESENT: Trescott Company Board: Julia Griffin, Peter Christie (chair), Athos Rassias, Rick Mills, Ellen Arnold (absent: Lisa Hogarty); Peter Kulbacki, John Taylor, Adair Mulligan, Tom Jack, Hugh Mellert; public: Denis Rydjeski, Bill Mlacak, Tom Linell, Gail Rickards, Carol Weingeist

1. Handout – two-sided planning map (for Trescott board only)
2. Presentation – John and Adair gave a presentation that described the project to date, Q2C source of funding, components, and approach, with emphasis on inclusive nature of outreach to user groups.
3. Trescott Public Use Management Committee – The board established a committee that could, among other responsibilities, consider requests for new trails and address problems associated with public use. Members proposed were: Peter Kulbacki, Vicki Smith, Jeff Smith (forester), Bill Mlacak/Hanover Conservation Commission, Hanover Conservancy, UV Trails Alliance, Kevin Evans, Dan Nelson, DOC student.
4. Timetable – agreed to shoot for an opening around December 15, the end of hunting season. Footings and/or the kiosks need to be installed before frost. Parking can be easily prepared for 4-6 cars at Trescott gate and at Dogford Road.
5. Roll-out – we proposed to begin with guided trips into the property for various user groups to give an opportunity for first-hand discussion of the rules for use and reasons behind them.
6. Funding – HC's initial proposal to the Quabbin to Cardigan Partnership included \$1000 cash match from the Trescott Company. However, all projects in that grant round were only 75% funded, meaning that the fabricated interpretive signs (for water supply and forest management and for historic sites) would have to be dropped. The board discussed this and agreed to contribute \$5000 to the project to allow all to go ahead.
7. Approval – the board gave permission for the project to go ahead.