

2012

Mt. Agamenticus Public Access and Trail Plan



Prepared by the
Southern Maine Regional Planning
Commission

For the
Mount Agamenticus Steering
Committee

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Introduction

The Mt. Agamenticus Conservation Region comprises over 9,000 acres of public and quasi-public lands in York County, the most heavily populated county in Maine. The area supports the largest assemblage of species at or near the northern limit of their range within the state and contributes significantly to Maine's biological diversity. Mt. Agamenticus is also a popular recreational destination for the sub-region as well as for recreational enthusiasts from Massachusetts and New Hampshire. The area is dramatically growing in popularity, and more and more people are expanding their recreational pursuits beyond Mt. A's "First Hill" (the focus of the 1999 plan).

Purpose and Scope of Plan

A cooperative planning process has been established to develop a trail management plan that will allow continued compatible public use of the expanded area while protecting the significant natural features of the site. This process is supported by a diverse group of partners who wish to see the area used in an appropriate and sustainable fashion.

The purpose of the project is to develop a visitor use and trail management plan with a particular focus on recreational use and access for the public, quasi-public and non-profit conservation landholdings within the defined area. These lands are owned by the Town of York, the York Water District (YWD), the state of Maine managed by the Maine Department of Inland Fisheries and Wildlife (MDIFW), The Nature Conservancy (TNC), the Great Works Regional Land Trust (GWRLT), the York Land Trust (YLT) and the Town of South Berwick.

Cooperative Management

The project is overseen by the Mt. Agamenticus Steering Committee (MASC) comprised of representatives from each of the non-profit organizations and public agencies with fee holdings noted above. While the mission of these groups varies, the goal of resource preservation (whether it be water, wildlife or natural features) and maintaining sustainable public access for recreation is a common theme. A Conservation Coordinator position aids the Mt. Agamenticus Steering Committee in guiding the sensible and sustainable use of the Mt. Agamenticus area. The Coordinator manages a Conservation Program, a seasonal stewardship staff and volunteers that carry out trail improvement, habitat restoration, and environmental education projects while carefully balancing water quality, wildlife and recreation.

This Public Access and Trail Plan will allow the Steering Committee to implement trail and public access development projects without compromising the integrity of the area's ecologically significant habitats.

I. General Overview

Mt. Agamenticus has been the subject of a great deal of attention since the early 1970s. At that time, a proposal for a 3000 unit condominium/planned development was presented to the Towns of South

Berwick and York. Both towns soundly rejected the plan. In so doing, a focus on the Mt. Agamenticus region began which ultimately led to land purchases, studies, additional land purchases and finally the establishment of the Mt. Agamenticus Steering Committee and this planning effort. In reality, the Mt. Agamenticus planning effort has been in process for over 40 years.

Ownership

In 1979, approximately 84% of the land was privately owned, either by individuals or corporations; with 64% (13,300 acres) owned by 550 individuals and 20% (4,000 acres) by 14 private corporations. The remaining 16% (3,000 acres) was in semi-public ownership. Of the 3,000 acres in semi-public ownership, the York Water District owned about 1,500 acres, and the Kittery Water District owned about 1,500 acres.

As of 2011, approximately 9,400 acres, 44% of the land located within the Mount Agamenticus Conservation Region, are either in public, quasi-public, or non-profit ownership (See Appendix F Map 1 – Greater Mt Agamenticus Conservation Lands).

Acquisition History

Since the late 1800s, the York and Kittery Water Districts have been acquiring lands to ensure the protection of drinking water supplies for the residents of York, Kittery, and Eliot. The residents of southern York County also have a long and impressive history of conservation. Since the 1970s, engaged and concerned citizens have helped to protect land from Wells to Kittery. York residents, for example, voted to spend \$200,000 in 1980 to protect the summit of Mt. Agamenticus, which was slated for the development of 3,000 residential housing units on 3,500 acres.

Between 1999-2001, The Nature Conservancy, Great Works Regional Land Trust and the York Land Trust completed The Mt. A. Challenge, a conservation effort that raised over \$3.2 million and protected 1,652 acres of land around Mt. Agamenticus. This combined with previously protected land resulted in a total of 5,529 acres.

The successes of the Mt. Agamenticus Challenge, combined with the increasing threat of development, inspired the formation of the current land protection effort: the Mt. Agamenticus to the Sea Conservation Initiative (MtA2C). This coalition of ten national, regional and local partners representing federal and governmental agencies, statewide land protection organizations and three local land trusts have collectively protected an additional 2,864 acres of land since October 2002. The group continues the mission of protecting a network of connected conservation lands and natural resources within a 48,000-acre focus area in Southern Maine for the benefit of people and wildlife.

Collectively, the region has more than 8,390 acres of permanently protected lands. These lands, combined with the York and Kittery Water Districts' 4,500 acres, make up nearly 12,900 conserved acres of open space within the MtA2C focus area.

Trail Management Area

The area encompassing the scope of this project is situated in southern York County, Maine, approximately 65 miles south of Portland, and straddles the line between the Town of York and the Town of South Berwick. One-third of the area is located in South Berwick and two-thirds in York.

The Mount Agamenticus Conservation Region is a roughly rectangular shaped parcel of land 6 miles long by 5 miles wide containing about 20,530 acres generally bounded on the east by Josiah Norton Road, Clay Hill Road, Greenleaf Parsons Road and Scituate Road; on the southwest by State Route 91; on the northwest by Witchtrot Road, Belle Marsh and Emerys Bridge Road; and on the northeast by Ogunquit Road. The planning area for this effort has a narrower focus to include just the areas north of Mountain Road, encompassing nearly 4,400 acres of conservation land that contains approximately 15 miles of managed trail. (See Appendix F Map 2 – Mt. Agamenticus Trail Management Area by Conservation Land and Trail Use Type)

There is good access to all sections of the trail management area via perimeter roads and other smaller roads that bisect the area. The majority of the terrain in the area is gently rolling to steep with about 92% of the land forested and dotted with numerous ponds and streams. Near the center of the area, rising 692 feet above sea level, stands Mount Agamenticus, the highest point on the coastal plain of southern Maine; Second (rising 555') and Third Hills (rising 526') lie just to the northeast.

Previous Studies

The development pressures on and surrounding Mt. Agamenticus along with an increased awareness of its regional significance prompted a series of planning efforts focusing on the natural resources, water quality, and recreational benefits of the region. These studies included the following:

- **1979 Mount Agamenticus U.S.D.A. Cooperative Study**, prepared by the Southern Maine Regional Planning Commission and United States Department of Agriculture.

The 18 month study collected, organized, and analyzed information to assist the communities in making decisions about the future concerning ownership and control of the area; management of the water, land, forest, fish and wildlife, and recreational resources of the area; and location and distribution of new residential development. The major recommendations of the study called for key parcel acquisition on an available basis, more public and private resource management, stronger land use controls, and increased regulation of new housing.

- **Toward a Mount Agamenticus Reservation** by Tri-Town Agamenticus Coalition, 1988, A Proposal to Land for Maine's Future Board.

The three towns involved in the proposal for a Mount Agamenticus Reservation were York, South Berwick, and Eliot. The original proposal to the Land for Maine's Future Board included an area from Ogunquit Road in South Berwick, southwestward over Third Hill and Mt. Agamenticus, encompassing areas such as Round Pond and Warren Pond in South Berwick, extending further southwestward through the Kittery Water District lands and the York Pond area in Eliot. Due to the size (and potential costs) of

the project, the scope of the project was reduced. In late 1989, the state gave this application the highest rating of the initial group of applications, and purchase and sales negotiations began soon after that.

- **Mount Agamenticus Chronology 1997** by Roger P. Cole for the Town of York, May 1997.

This 25-year chronology compiles in a single volume, the information, decisions and actions concerning the Mount Agamenticus property. It also provides valuable information from the Town of York's perspective on the thoughts and deliberations that went into the town's purchase of the top of Mt. Agamenticus.

- **Mount Agamenticus Public Use and Trail Management Plan, 1999**, prepared by Southern Maine Regional Planning Commission for the Mt A Steering Committee

By 1999 and after years of acquisitions, it became obvious that Mt A was becoming more well known and popular for a wide variety of recreational pursuits. The increased usage raised fears that many of the features – such as rare and endangered plant and animal life, water quality and the miles of wilderness near the populated cost line – would be lost without some guidelines for use in place. The existing public and non-profit land holders took this charge and with funding from a number of sources began the development of the Mt Agamenticus Trail and Usage Plan.

Trails were GPSed and mapped. The trails could then be viewed in their relationship to existing sources. The different existing trail uses were determined. Problem areas related to erosion and water quality were identified. Access points were mapped and areas where trails crossed private lands were noted. Finally guidelines for trail use were developed including some restrictions on STV, bike and equestrian uses. Major trail improvements were identified including approximate costs.

The resulting Plan was adopted by the Steering Committee and served as the vehicle for grant applications and the resulting funding as well as the establishment of the Trail Coordinator position and the collaborative funding of that position by the various municipal and non-profit stakeholders. By all accounts the management of the uses within the Mt A region has led to fewer conflicts among users, less damage to the natural environment and the resources for which the area is known while also providing for a rich variety of recreational pursuits.

It is clear however, that the time is right for an update of what is now a twelve year old plan. Mt A is still a popular destination and visitors to the mountain have increased since that time (according to traffic counts conducted near the entrance to the summit road). The Steering Committee has also noted that it is critical to protect not only the natural resources of the area while providing for recreation, but also to protect the investments that have been made to the trails (such as bridges, erosion control measures, signage, etc). This plan is a logical step from that effort in 1999.

- **A Conservation Plan for the Mount Agamenticus Region, 2004**

This plan lays forth the community's vision of timely and effective strategies to achieve lasting conservation results within the 33,000-acre Mt. Agamenticus region. It was developed with extensive public input from a broad range of citizens and stakeholders- including landowners, conservation

commission members, recreational users, a forester and other resource professionals, town Selectmen, and others.

This plan was developed using a planning process in which a group of core conservation values are identified; conservation goals are set for these targets; the major threats to these targets are evaluated; and strategies to reduce the threats and achieve conservation goals are developed. The strategies and accompanying recommendations that are put forth are the result of a year-long planning process.

- **Mount Agamenticus Summit Guidelines for Usage**, 2009, by Mt A Steering Committee with assistance from Southern Maine Regional Planning Commission.

Increased use at the top of the mountain in addition to a number of new structures being located at the summit became a concern for the Steering Committee during the time frame of 2005. With a small grant for the Piscataqua River Garden Club, the Steering Committee developed a plan for the Summit that outlined a process for new structures, addressed use at the lodge, access and parking and additional signage. The Plan outlined a process for the Steering Committee to address many of the activities – both existing and potential uses – as essentially the “gatekeeper” for maintaining the character of the Summit itself. The Committee developed the following mission statement to guide decision making on the Summit:

The summit of Mt A will be used to educate and present to the public the many uses and aspects of the Mt A region and its recognition as one of nature’s “Last Great Places.” As the gateway to the Mt A region, the summit shall reflect the history and culture of the area, its importance to water quality and the physical and economic health of the region, its nationally recognized diversity of plants, animals, and habitats, the many recreational opportunities and finally the collaborative nature of the organizations and people who cooperatively manage the area.

See Appendix A for the Executive Summary of the adopted Summit Guidelines for Usage

While not specifically a use and trail plan, these recommendations should be seen as part of the general overall approach in addressing use and visitation at Mt A.

II. Regional Significance, Natural, Cultural and Scenic Resources

General

The Mt. Agamenticus area is one of the few remaining large tracts of relatively undeveloped woodland in coastal New England. Interspersed among the forested area are numerous wetlands that include the highest concentration of vernal pools – up to 40 vernal pools per square mile - and pocket wetlands in Maine which provide important feeding and breeding habitat for several state-rare species. There are 12 animal species and 21 plant species found in this area that are considered rare in Maine. In addition, the Mt. Agamenticus region has been identified as a focus area of statewide ecological significance with 9 rare and exemplary natural communities and 3 significant wildlife habitats identified by the Maine

Natural Areas' Beginning with Habitat Program. Five watershed systems have tributaries which originate in the area, and the towns of York and Kittery depend on the Mt. Agamenticus region for their drinking water supply. The rugged topography and granite outcrops have contributed to the low rate of development and lack of forest fragmentation in the area.

A 1979 Mount Agamenticus U.S.D.A. Cooperative Study and two Site Conservation Plans developed by the Maine Natural Areas Program and MDIFW, and by The Nature Conservancy collected and compiled considerable information about the regional importance of the area and the natural, cultural and scenic resources that are present here. See Appendix B for the Inventory of Natural Resource Features within the Mt. Agamenticus Conservation Region.

III. Public Use, Access and Recreational Resources

Past and Current Uses

The region has a long track record, shaped and reshaped by the many people that have come through this area. A walk down old logging roads reveals evidence of past land use practices such as stonewalls, old gravesites, foundations and rock piles.

Native Americans settled the Mt. A region along coastal waterways, using the Mt. A region for hunting, food gathering, agriculture and ceremonial purposes. By 1630, with beginning of European settlement in the York area, Mt. A supported colonial industries, such as timbering and farming. Streams were dammed for sawmills and gristmills. Substantial timber harvesting continued to occur around Mt. A and throughout the state after the Colonial era. Well into the 1800's, Mt. A continued to be used as a common grazing ground for cattle and sheep

Mt. A itself has undergone many additional changes in modern history. From the early 1900's, the U.S. government recognized the strategic value of Mt. A. In 1918 the U.S. Forest Service constructed a fire watchtower at the summit, replacing it in 1981. The 1981 tower remains in operation today, run by the York Beach Fire Department. In the 1940's during the World War II years, the U.S. Army established the country's first radar tower on Mt. A. The 551st Signal Battalion manned the station, with 25 men housed in barracks on the summit. During the winter of 1944, a fire on the summit destroyed the army complex. Footings of the radar tower are evident today. In the early 1960's, construction began for "The Big A Ski Hill." In December 1964, The Big A opened with a rope tow, T-bar, and a chair lift, with capacity for 25,000 skiers per day. Due to warm Atlantic winds and low snow-packs for consecutive winters, the ski operation shut down in 1974. Remnants of ski lifts can be seen at the northern base of the mountain, the base of Sweet Fern Trail, and the summit.

Prior to the last trail management plan, both the summit and the former ski slopes were experiencing tremendous amounts of stress due to impacts from ATV's and horse-back riding, and to a lesser degree mountain biking. As a result of the management plan, restrictions were put in place to exclude ATV's and horses from the trails on and leading to the summit of Mt. A and later all three summits. In addition, three trails on Mt. A, or "First Hill" were limited to pedestrian use only. Parking areas and trailheads were defined. An informational brochure with map was developed to guide visitors around to designated trails. Kiosks and trail boxes were constructed and installed at access points around Mt. A to

display the trail map and other important information. Trails on First Hill were marked, remediated, or closed to improve drainage, protect sensitive habitats and reduce fragmentation.

Today, the area is a popular destination for sightseers and outdoor enthusiasts with an estimated 30,000 annual visitors. Typical authorized uses in the Mt. Agamenticus Trail Management are and on the summit access road include: Pedestrian (Walking/Hiking/Jogging/Dog Walking), Bicycling (Mountain Biking –long distance/down hilling- shuttling/road cycling), Equestrian (base backside parking and multi use trails), ATVs to include dirt bikes (on Mt. A’s multi-use trails only), Hunting (mostly outside of First Hill), Bird watching (trails, road, summit), Rock Climbing, and winter activities such as Skiing (backcountry, telemark, Nordic or cross country), Snow boarding, Snow shoeing, and Sledding. Other common uses occurring primarily at the summit include: sight seeing, picnicking, kite flying, various ball games, frisbee, hawk migration bird counts, school & summer camp activities, and ceremonies.

Pedestrian trails are located throughout the Conservation Region. Mountain biking is permitted on almost all trails within the region with exceptions being the few specifically designated Hiking-only trails leading to the summit of Mt. A. ATV’s and horses are currently permitted to use large portions of the public lands within the area (shown as multi-purpose trails). There are restrictions on usage around the summits of Mt A, Second Hill, and Third Hill.

It should be noted that the York & Kittery Water Districts do allow the use of ATV’s (by permit only) but do not allow dirt bikes. Trails on York and Kittery Water District property and trails that cross private property are not shown on the published Trail Map.

User Surveys

Each year the conservation crew surveys visitors and trail users at several sites around Mt A. The survey is used as a tool for gathering and analyzing data pertaining to the visitors of the Mount Agamenticus conservation region. The survey captures historical data that is tracked annually relating to individuals and their purpose for visiting. Data is also used to evaluate the public’s opinion of the condition of trails and facilities and overall operations in the Mt. A. region. Additionally, every participant is asked for general feedback regarding recommendations or suggestions to enhance the visit to Mt. A.

In 2012, there were a total of 286 surveys conducted over the course of seven days in late July/early August. This represents a 25% increase over last year. This is likely a direct result of increased use of the area as survey logistics did not alter from last year, and weather conditions were not a factor.

The study found that 41% of visitors were first timers while 31% answered that they came up once-few times per year. This represents a 10% increase in first time visits, with a substantial number of people saying “I wish I knew of this place before.” Monthly visitors averaged 10% while more frequent users (weekly, and more often) comprised 9% each. The responses for how far away our visitors lived from Mt. A were once again almost 50/50 regarding relative distance. This year we had 53% from nearby - less than 30 miles away, and 47% from further reaches.

In rating the trails from 1 to 5 (5 = best) we had less than 1% rate the trails with a 1 or 2. 5% of our visitors gave the trails a rating of 3; 36% a rating of 4; and 59% rated the trails with a 5. In response to the current trail signage questions over 90% of visitors considered sign posting “just right.” We did have 8% of the responses indicate not enough signs, and 2% suggest too many signs.

Hiking again dominates as the most common activity that visitors engage in at the mountain. The study found a 10% increase from last year with more than half of all visitors (55%) focused on a walk through the woods. Several comments recognizing and commending the increase in “signed” trails may correlate with the greater use for hiking. Picnic/sightseeing increased by 10% to 35% of the visitations. Cycling reached a high of 20% while 9% of our visits were from trail runners. Winter activities of snow-shoeing at 5%, and cross-country skiing at 2%, remain constant. Again, we had less than 1% of visitors who use the mountain for ATV purposes. See Appendix C for a complete summary.

Trends

Anecdotal observations were gathered from staff and volunteers who have been involved over the last 10 years implementing the previous trail management plan. Here are some of the highlights:

- Less vandalism/dumping/new unauthorized trails/unauthorized use of designated trails

This is likely due to increased presence by staff, signage, and immediate action to repair, clean up, and/or close impacted areas. Some theorized that because the area now looks cared for and well maintained it may send a different message about how to treat it.

- Less need for Search & Rescue

Although visitation seems to be on the rise, Mt. A staff, York Water District Patrol Officer & local Police/Fire Departments) are receiving fewer calls requesting assistance or reporting that people are lost. This is likely due to improved trail markers/blazes and directional signage on Mt. A and a coordinated effort with Mt. A Steering Committee, York Water District, and Kittery Water District to design and install a standard trail marking system complete with new trail signage, color-coded blazes, gates, etc. in the expanded area beyond “First Hill”.

- Less complaints/ user conflicts

The public seems to be more accepting of trail designations (compared to when first management plan was implemented in 1999). Now we infrequently find evidence of people using trails inappropriately or for undesignated purposes and are not receiving reports of user conflicts or complaints about new trail work projects.

- Improved trail conditions

This is especially true on “First Hill” trails where we have made a priority focus area for trail improvements due to intense visitation. Since the last trail plan crews and volunteers have installed and constructed numerous dirt dips, knicks, outsloping/deberming, boardwalks, rock pavers, etc. Now visitors have noticed and often praise all of the improvements. We have received feedback in the form of unsolicited comments directed toward the crew, in emails, and during visitor use surveys.

- Increased visitor awareness

Public awareness & support have been demonstrated through unsolicited praise given to crew when seen working on trails, comments during visitor use surveys, active participation on volunteer workdays, monetary contributions, and thru town referendum/vote to support programs. This may be attributed to seeing results of work completed on the ground, reading signage & outreach materials in trail boxes, brochures, kiosks, on the website, during presentations, and/or in press releases. Outreach has greatly improved more recently by the conversion of the summit lodge into an educational facility now referred to as the “Learning Lodge”. The Lodge is open during the warmer months to the public on weekends and to school groups, summer camps and other organized events scheduled throughout the week.

- Increased use by visitors, schools, summer camps, organized groups

We are seeing more and more individuals and groups take advantage of the summit, trails, and Learning Lodge. Though we are better able to track this use through a voluntary group registration and permitting system, it is still unclear how many people visit each year. It would be beneficial to be able to track use at all access points more accurately. Increased use is likely due to increased visitor awareness (from above) and our outreach efforts.

It is clear that in the last 10 years conditions in the Mt A Conservation Region have improved considerably. Natural resources are better protected, severe impacts have been mitigated (particularly erosion on the former ski slopes), and user conflicts are now almost nonexistent. This can be directly attributed to the adoption and continuing implementation of the initial Mt A Trail Use & Management Plan (1999) by the Mt A Steering Committee partners. It is also evident that these efforts have created users that are more conscientious of the areas unique resources and potential allies in fighting for its stewardship.

Trail Assessments

The conservation crew assesses the conditions of the recreational trails in Mount Agamenticus Trail Management Area on a regular basis. These assessments are used to create annual work plans.

A detailed assessment of all the named trails in the study area was conducted this summer (June/July 2011) and can found in Appendix D.

IV. Goals and Management Guidelines

The following statement of goals and management guidelines express the Committee's long-term intent in managing the area. They form the basis for the policies, actions and proposals included in this plan.

1. General

- Collect new GPS data for parcels, trails, and resources and maintain current GIS files.
- As land is acquired review all trail connections and designate trails for future use.
- Incorporate future management plans into recreational planning process.
- New trails shall be discouraged; however if a new trail is proposed, it shall be reviewed by the Steering Committee.
- All publicly and privately sponsored recreational trail programs and event proposals shall first go through a Special Use Permit process. Sponsors will report to the Steering Committee the location and extent of their programs prior to undertaking such uses. The Steering Committee shall provide guidance on where and when such activities might take place.
- Develop and implement interpretive programs designed to increase public awareness and interest in the conservation program and resource preservation.

2. PROTECT AND ENHANCE Natural Resource and Cultural Features

Rare Plant and Animal Protection

- No new trails shall be developed within 250 feet of a point identified by the Maine Natural Areas Program as the location of a rare, endangered or threatened species.
- If any new trail is proposed, it's proximity to rare and endangered natural features or species will be examined and comments sought by natural resource professionals, to include MDIFW partners, on such a location.
- Existing trails which are located within 250 feet of such locations shall be reexamined on a yearly basis to determine any adverse effects upon the rare, threatened or endangered species.
- Updated data on listed animal species and Best Management Practices shall be incorporated into the trail planning process.

Rare Plant Communities

- No trails shall be established within rare communities associated with wetlands (such as the Atlantic White Cedar Swamp, the Perched Hemlock/Hardwood swamp and wetlands associated with Welches Pond) or other exemplary plant communities.
- Any new trails proposed within other rare communities shall be reviewed by the Steering Committee.
- Continue to develop and implement removal plans for invasive non-native plant species.
- Updated data on listed plant species and Best Management Practices shall be incorporated into the trail planning process.

Hydrology

Watersheds

- GIS system updates shall be incorporated into the trail planning process.
- Horse trails shall be kept out of the direct watershed for the York Water District.

- Current Water District regulations shall be incorporated into the trail planning process to include ATV use, prohibitions on camping, fires and fishing, etc.
- The Water District shall continue to report patrol logs and finds to the Steering Committee on a monthly basis.

Streams and Tributaries

- Stream crossings shall be limited to the maximum extent possible and one shall be eliminated if two crossings occur in close proximity.
- Any proposed new trail shall limit and avoid stream crossings, if possible.

Wetlands and Vernal Pools

- Trails crossing wetlands shall be bridged, rerouted and/or eliminated.
- No new trails shall be established over identified wetlands.
- If “spidering” of a trail has occurred to avoid a wetland, the trail over the wetland will be closed and the new trail established as the permanent trail.
- Existing trails located within 25 feet of a vernal pool shall be relocated around the vernal pool.
- No new trails shall be established within 100 feet of a vernal pool.
- Vernal Pools shall be reexamined as new guidelines and classifications become established.

Soils & Terrain

- New trails or rerouted trail sections shall avoid slopes of 25% or greater, and have a tread outslope of ~2-3%.
- Any new trail or rerouted trail section should be less than ½ the grade of the hillside, with a maximum average of 10% slope for the entire trail. Tread grade for individual sections should be kept to 15-20% or less when possible or 25-30% or less on bedrock or hardened surfaces.
- ATV use shall continue to be excluded from the trails that lead to the summits of all three hills to minimized exposure on steep slopes.
- Existing trails that show severe signs of erosion shall be evaluated for possible rerouting.

Cultural

- Identify significant cultural resources within or adjacent to trail corridors.
- Register known historic and archaeological sites.
- Protect historic and archaeological sites from disturbance by trail development and visitor use.

3. MANAGE area for long-term trail sustainability

- Preserve and maintain existing infrastructure of trails and related facilities
- Manage for level 1-4 trail priority (see Trail Functional Classifications)
- Seek to increase funding resources.
- Continue to actively recruit a dedicated volunteer base to supplement staff and to assist in trail maintenance and outreach goals.

4. ENSURE Positive Visitor Experiences
 - Maintain high maintenance standards and conduct routine inspections of trails and related facilities for safety.
 - Provide varied and enjoyable recreational opportunities such as trail circuits, loops, links when able (local, regional, statewide)
 - Provide varied, up to date, and quality educational opportunities, programs and tours.
 - Identify and address any crowding or user conflicts should they arise and encourage compatible use of the area.
 - Promote a healthy use of the area utilizing the principles of Leave No Trace and promoting a Carry In/ Carry Out trash philosophy.
 - Develop outreach tactics to encourage “enforcement thru compliance”.
 - Continue annual Visitor-Use surveys and assess patterns, preferences and obtain feedback on trail use, projects, and development.

5. Promote and FACILITATE Coordination and Cooperation between public agencies, organizations (Steering Committee), private abutting landowners and recreational users.
 - Continue to annually review and update the Mt. Agamenticus Steering Committee’s Memorandum of Understanding (MOU) to ensure it remains practical and meaningful for each agency or stakeholder.
 - Continue monthly meetings with representation from each agency or stakeholder.
 - Allow public input and participation in monthly meetings and in work on the ground.
 - Continue to develop partnership with law enforcement and emergency response personnel to assist in patrol and enforcement operations.
 - Continue to develop partnerships with other agencies and organizations to promote common goals and share resources as appropriate.

6. RESOURCE long term FUNDING for management, monitoring, maintenance and programs INTO THE FUTURE.
 - Develop funding estimates for projects and staff resources needed to implement the management plan based on these goals, objectives, and priority management activities.
 - Develop funding strategies and solutions to sustain current management level and for future growth and development.
 - Promote growth and activities of the Mt. A Friends group to enhance fund-raising efforts, grants administration, volunteerism and public support.
 - Pursue adequate funding to meet program operation needs such as corrective maintenance, visitor protection, resource management, and visitor services.
 - Seek permanent funding to support existing Conservation Coordinator position
 - Add individual(s) if/when appropriate to help with daily maintenance, enforcement, and growth.

V. Management Policies

There are several ongoing management challenges facing the recreational trails in the Mount Agamenticus trail management area. The challenges include controlling access to recreation trails from vehicles, detailing how trail maintenance is prioritized, where and how much parking is permitted, the appropriate placement of signs and trail information and the establishment and maintenance of views/scenic overlooks. After considering a number of policy changes to address these issues, the Mount Agamenticus Steering Committee (MASC) is adopting the following management policies.

1. Access Points

There are many places to access the recreational trails in the Mt A Conservation Region (See Appendix F MAP 3– Access Points and Trail Functional Classification). Though vehicle access has been restricted for most trails that intersect Mountain Rd, there are still numerous access points throughout the area that are open to all variety of motorized and non-motorized activities. As more improvements are made to protect resources, repair trails and build water crossings, there is a need to protect these growing investments from damage caused by unauthorized vehicle access.

Policy: Gates are the preferred method of access control. Boulders are an acceptable short-term solution. For access points that are shared with private landowners, informal written agreements (or memorandum of understanding) should be acquired, when possible, prior to installation of access controls. The Conservation Coordinator may enter into these agreements on behalf of the Steering Committee.

Priorities:

- Near Term -- Access point #11 (off Bennett Lott Rd) Add boulders now, replace with gate when resources available (possibly in conjunction with an IF&W forest management project).
Access Point #13 & #14 (South side of Mountain Rd) add boulders now.
- Mid Term -- Access point #7 (off Old Mountain Rd), #9 (at the end of Old County Rd) and #10 (off Bennett Lott Rd), talk with adjacent landowners to get permission to place boulders.
Access point #12, talk with landowner of in-holding parcel about adding a lock to existing gate and providing landowner a key.
- Long Term – Access points #6 (off of Old Mountain Rd) and #8 (Great Marsh Trail off Third Hill Rd). Because of the many private abutters and protracted legal issues it will take longer to reach agreements with all landowners.

2. Trail Functional Classifications

The following functional classifications identify the parameters used to maintain trails in the Mount Agamenticus Conservation Region. All trails have been designated to meet a certain functional “level” thus requiring we maintain the trail conditions (criteria) established for the respective level.

LEVEL ONE (L1): Best maintained. Frequently assessed. Immediate maintenance.

L1 Trails: All of “First Hill” and the three loops – Dragonfly, Bear, and Turtle.

Includes:	Blueberry Bluff	Cedar	Chestnut Oak
	Fisher	Goosefoot	Hairpin
	Porcupine	Ring	Rocky Road
	Sweet Fern	Vultures View	Wintergreen
	Witch Hazel		

Assessment Frequency: Weekly

Condition Requirements:

- Clearly marked with blazes, icons, and signage.
- Clear of any dead fall or other obstructions.
- Vegetation will remain brushed back.
- No long-term standing water/mud holes.
- Intersections with monitored trails only – no spider trails.

Maintenance Requirements:

- Resources will be immediately purchased and designated to maintain these trails.
- Work will be prioritized though may be scheduled appropriate with efficiency of effort.
- Water bars, knicks, dirt dips, check dams - immediate repair.
- Steps, boardwalks, bridges – repair as soon as practical (as long as safely passable.)
- Spider trails will be blocked and made as transparent as possible.

LEVEL TWO (L2): Good conditions. Periodically assessed. Scheduled maintenance.

L2 Trails: All “search and rescue” (SAR) trails, except Cedar.

Note: Cedar SAR trail is maintained at L1.

Includes:	Great Marsh	Norman Mill	Notch	Wheel
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Assessment Frequency: Monthly

Condition Requirements:

- Signed and blazed.
- Clear of dead fall or other obstructions.
- Brushed periodically.

Standing water or mud holes minimized but allowable for wet periods.
All access points managed to minimize impact.

Maintenance Requirements:

Repairs should generally be accomplished within the season.
Resources should be scheduled to accommodate work flow.
Spider trails will be blocked.
All work to prevent further damage to trail will be prioritized.
Improvement work will be scheduled until accomplished.

LEVEL THREE (L3): Always passable conditions. Seasonally assessed. Maintenance as resources allow.

L3 Trails: All remaining maintained trails. None of these trails are named. Primarily on Third Hill.

Includes: Trails leading to 3rd Hill summit.
Some trails around 2nd Hill.
Some trails north of Mountain Road.
Some miscellaneous trails primarily intersecting named trails.

Assessment Frequency: Summer, Autumn, Winter, Spring

Condition Requirements:

Passable, as a minimum, to foot traffic.
Clear of large dead fall.
Free of water where practical.

Maintenance Requirements:

Remove or repair any safety hazards.
When damage can be mitigated; schedule seasonal repair.
Other repairs and improvements as resources permit.
Must be able to keep trail open with limited work load.

LEVEL FOUR (L4): Conditions vary greatly. No scheduled assessment. No maintenance requirements.

L4 Trails: All remaining trails that we are aware of but do not maintain.

Examples: Neighborhood trails linking with a maintained trail, abandoned trails not specifically closed, hunting trails, etc.

Maintenance Requirements:

Although we have no maintenance requirements these trails may be closed or be upgraded to a higher level as deemed appropriate.

3. Trail Use Standards and Impact Assessments

Trail managers require objective information about trails and their conditions to monitor trends, direct trail maintenance efforts, and evaluate the need for visitor management and resource protection actions. By identifying desirable natural resources and visitor experiences, possible threats or impacts to those resources or experiences, trail use standards or levels of acceptable change, and management options when levels exceed what is acceptable provides trail managers with an analytical process and supporting rationale for trail management decisions.

Potential Impacts to Resources

Trails: trail deterioration, trail erosion, excessive mud holes, excessive trail width, excessive trail depth/development of tread ruts, development of social trails

Water: water pollution, contamination (fecal, chemical, food or animal remains), sedimentation

Wildlife: destruction or loss of habitat, change in species composition, introduction of exotics, harassment or disturbance of wildlife, competition for food sources, attraction of wildlife, illegal hunting or fishing

Soil: soil compaction, erosion of organic matter and soil, excessive mud holes

Vegetation: trampling, loss of herbaceous vegetation or seedlings, change in species composition, introduction of exotics, improper collection, deterioration of grazing or wintering areas, trampling of tree roots, nails in trees, peeling of bark, carving initials/words into bark, felling live trees.

Cultural Resource: deterioration, defacement, theft

Potential Impacts to Visitor Experiences

Crowding: unacceptable levels at attraction sites, encounters on the trail, in visitor center, at trailheads, congestion, unacceptable traffic on road, lack of available parking spaces

Visitor Conflicts: incompatible uses, large groups/parties, rowdiness, excessive consumption of alcohol, visitor displacement

Noncompliant Behavior: vandalism, resource destructive behavior

Inadequate/Inappropriate Levels of Access: facilities, restrooms, defined trailheads, natural areas, cultural resources, accommodations for broadest possible spectrum of people including persons with disabilities

Visitor Safety: behavior that jeopardizes the safety of the individual OR of other visitors, failure to maintain safe environment thru facility design, maintenance, or other means

Litter/Garbage: improper disposal, unacceptable evidence (trail markers/cairns), hazardous waste

Resource Impacts:

Indicator Examples	Standards or Limits of Acceptable Change - Examples	Management Options
Signs that a resource is being impacted	Can use point data collected and trail assessment information for reference and to establish priority areas for remediation.	If standards are not being met, must initiate strategies and tactics to manage. *delineates which options require further MASC review.
soil erosion/compaction	5% of soil surface samples exhibit a porosity of 50% or less of undisturbed sites	-Adjust Standards -Organize & conduct trail work projects to remediate (repair, redesign, reroute, harden, etc.) -Prohibit early season use until trail is suitable* -Temporarily close trail to one or more uses until corrective measures can be completed* -Permanently close trail to one or more uses to avoid issue.* -Explore other options*
density of social trails	10% or more additional linear ft per square mile than present in 2006	
trail widening	5 or more sections of trail widening per mile per year	
cover/frequency of vascular plants (trampling, exotics, etc.)	5% or more of sample points are exotic or have a reduction in cover	

Visitor Experience Impacts:

Indicator Examples	Standards or Limits of Acceptable Change Examples	Management Options
Signs that visitor experiences are being impacted	Can use visitor use surveys, group registration data collected to track trends.	If standards are not being met, must initiate strategies and tactics to manage. *delineates which options require further MASC review.
# of people at one time on trail segments	20 or more people at one time observed for 10% or more of peak hours of peak months	-Adjust Standards -Install or enhance trail signs/maps/brochures to inform visitors of allowed trail uses, etiquette, and safety considerations -Review established designated use areas -Redesign trail to reduce speed with control points or increase sight lines -Develop carrying capacity policy and limit access (by parking, permit, or fee)* -Explore other options*
# of parties/groups	4 or more groups per day during 10% or more of peak hours of peak months	
traffic congestion on road and parking areas	congested at a rate of steady flow, 5 or more parked cars on road at peak times	
# of conflicts reported	No greater than 5 conflict incidents reported each year.	

4. Parking

Policy: The Mt A Steering Committee agreed not to expand or improve upon parking areas at this time.

5. Signage

The Steering Committee agreed that usage guidelines should be posted at each access point. Signs will be approximately 16" x 22" and be made of metal. See Appendix E for proposed sign content and layout.

They also agreed to leave in place the sign policy for the summit access road and "park" area as detailed in the Mt A Summit Guidelines.

6. Views and Scenic Overlooks

The Steering Committee agreed that the development of views and overlooks on 2nd and 3rd Hills are appropriate maintenance projects, as long as it 1) is on partner property, 2) isn't too costly and 3) doesn't negatively impact critical resources. The focus should be on 2nd Hill, as it has more land in partner ownership. These projects will be much smaller in scale than the 1st Hill viewing project (implemented in Winter of 2011/2012).

7. Major Trail Projects List

After reviewing the trail assessments and annual work plans, the conservation coordinator and the trail crew leader created a list of trail projects that require more funding than is currently available in the annual trail maintenance budget. The list is split between "shovel-ready" projects that would be done immediately if funding became available and longer-term trail planning items that need further study to determine feasibility. The lists are ranked in order of priority.

Larger Trail Projects:

1. Establish LAYOUT for new SUMMIT LOOP trail. The majority of the trail will be designed with the intent to be handicapped accessible at final completion.
2. RE-ROUTE upper portions of "FIRST HILL" TRAILS to intersect with Summit Loop layout.
3. CONSTRUCT basic foot path following SUMMIT LOOP design.
4. Along NORMAN MILL and GREAT MARSH: MAJOR FILL PROJECT necessary at north ends.
5. Along NORMAN MILL CONSTRUCT THREE "SPLIT LOG" SINGLE TRACK SECTIONS to elevate hiker/biker people out of ATV passage. This provides a more optimal passage for hikers & bikers, but is not a substitute for standard trail maintenance
6. Build NEW Interpretive Site at old beaver dam and lodge with adjoining trail.
7. RING TRAIL – MAJOR TRAIL Modification to widen and REMOVE UNEVEN ROCKS for transition into a "beginner" or "easy" loop.

8. Create HANDICAP ACCESSIBLE TRAIL/Loop utilizing Cedar and proposed trail to beaver dam/lodge interpretive site.

Long-Term Trail Proposals requiring further review:

1. UPGRADE SUMMIT LOOP TRAIL to meet Handicapped Accessible standards.
2. Conduct major REPAIR leg below Rocky Road and TIE PORCUPINE INTO MOUNTAIN RD at trail just west of Mountain View Rd. Note: Need review/approval with YWD and address access issues.
3. CONNECT NOTCH and GREAT MARSH near the southerly 3rd hill trail head. This will facilitate a continuous loop for the future Owl Loop.
4. CREATE “OWL LOOP” traversing THRID HILL, designed as outer loop accessed from 2nd Hill.
5. Tie THIRD HILL INTO A TRAIL SYSTEM WITH GWRLT AND YLT through identified trails to the north.
6. VULTURES VIEW/SWEET FERN CLOSURE, REPLACED BY SINGLE RE-ROUTE.
7. Depending on the success of maintaining the northern portions of Norman Mill & Great Marsh Trails, study the possibility to RE-ROUTE THE NORTHERN HALF-MILE OF NORMAN MILL & GREAT MARSH. Could tie into a parking location and present some ridgeline views to the south.

VI Implementation Matrix

This is a timeline for implementing the various policy proposals in this plan. Items are categorized as either Short-term (immediately through 2012), Medium-term (2-4 years out), or Long-term (5 years +).

Short Term (immediately - 2012)

Category	Location	Description
Access Points	#11	Add boulders now, install gate when able
	#13	Add Boulders now
	#14	Add Boulders now
Signage	various	Post usage guidelines at each access point
Views	2nd Hill	Small viewscaping projects on 2nd Hill

Medium Term (2-4 years out)

Category	Location	Description
Access Points	#7	Talk with Landowners about placing boulders, obtain MOU
	#9	Talk with Landowners about placing boulders, obtain MOU
	#10	Talk with Landowners about placing boulders, obtain MOU
	#12	Talk with in-holding about locking gate, providing key
Views	3rd Hill	Small viewscaping projects on 3rd Hill
Trails	Off Mountain Rd	Build new Interpretive Site at old beaver dam
	Cedar	Create Handicap Accessible trail loop off of Cedar
	Norman Mill	Major Fill Project - North End
	Great Marsh	Major Fill Project
	Norman Mill	Build three Single track sections
	Ring	Major trail modification - trail widening / convert to beginner trail

Long Term (5+ years)

Category	Location	Description
Access Points	#6	Await resolution of legal issues, approach landowners about controlling access
	#8	Await resolution of legal issues, approach landowners about controlling access
Trails	Porcupine	Repair section below Rocky Road, explore extension to Mountain Rd
	3rd Hill	Create linkage to GWLT and YLT trail systems
	Vulture's View/ Sweet Fern	Close both and create a single re-route
	Great Marsh	Create connection to Notch at Southerly end of 3rd Hill
	Moose Loop	Create loop around 3rd Hill
	1st Hill	Create Handicap accessible loop trail at summit
	Norman Mill	Explore possible re-route of northern half mile of trail
Great Marsh	Explore possible re-route of northern half mile of trail	

Appendix A

Executive Summary of 2009 Summit Guidelines for Usage

The Mount Agamenticus Steering Committee adopted the following as a guide for immediate and future activities at the Summit:

1. It is essential to provide for more stable funding mechanisms for the conservation program at Mt A and look at long term operating, capital planning and maintenance items. Establish subcommittee to explore funding operations, plan implementation, conservation program and maintenance within the Summit Management Area.
2. Begin a comprehensive planning process for determining a long term vision and plan for the lodge, Summit Management Area and trails systems including location of parking areas, use of the lodge, a view and landscaping plan, water and wastewater issues, examining traffic flow and vehicular access to the summit as well as other issues. The comprehensive plan will thoroughly examine all existing structures such as ski equipment, the rock pile, decks, and memorials.
3. All proposals for new structures, kiosks, signs, parking facilities, sanitary facilities, memorials, landscaping and other related items within the Summit Management Area shall first go to the Mt Agamenticus Steering Committee for review, comment and recommendation. Following that the proposal should follow the appropriate town and/or landowner process as warranted. The Committee shall review proposals using the Mission Statement for the Summit Management Area (as included in this plan) as an initial filter and then forward recommendations to the Board of Selectmen or YWD Trustees for final approval.
4. Develop guidelines and criteria for all new structures or landscape material for the Summit Management Area. For example, new structures or buildings must be attached to existing structures or buildings when possible. Provide a comprehensive list of needed facilities and structures that the Steering Committee would recommend (including kiosks, signs, native plants, etc.) that can be provided for through private donations.
5. Make the summit and its surroundings an environmental/green showpiece by requiring all new proposals for structures and facilities within the Summit Management Area be of low environmental impact (composting toilets, permeable parking areas, moving parking out of the watershed for example) be energy efficient and be comprised of natural materials.
6. Additional bathroom facilities, secure and enclosed, need to be provided at the summit and entrance road. In the short term continue to provide two seasonal portable toilets at the summit and build an enclosure at the entrance road to house one more. In the long term replace these with more permanent composting toilets. Examine opportunities to move these facilities out of the watershed.
7. The summit lodge should be transformed from a private function hall based facility to a public educational facility that highlights the resources and history of the Mt A region.

8. Activities at the lodge, guided by concerns about water availability and sanitary facilities, shall be limited to a maximum of 35 people and shall be based on the guidelines for lodge usage as outlined within the plan.
9. As part of the overall transition of the lodge from an event facility to an environmental education facility, assess the opportunities to create a more visible and accessible office and contact station for the conservation operations, transition the existing conservation office into a small community based function room for school and community groups and better utilize existing space.
10. As a pilot project in the near future, close and lock the gate at the bottom of the access road in the evening and provide access with special permission after hours for approved groups and individuals.
11. Based on usage figures for 2008, develop a pilot project for a non-resident fee system, beginning in 2010.
12. Establish a moratorium for the Summit Management Area on private donations for new structures, signage, and other objects until a list of needed items and a gift acceptance policy has been developed.

Appendix B

Inventory of Natural Resource Features, Cultural and Scenic Resources

Extracted from 1999 Mt. Agamenticus Public Access and Trail Plan

Addendum with updated data will be provided when available

A. Natural Resource Features

Vegetation

Mt. Agamenticus is a large tract of relatively undeveloped woodland. The vegetation of the area is primarily transitional hardwood forest characterized by hemlock (*Tsuga canadensis*), white pine (*Pinus strobus*), black birch (*Betula lenta*), yellow birch (*B. alleghaniensis*), beech (*Fagus grandifolia*), white oak (*Quercus alba*), red oak (*Quercus rubra*), red maple (*Acer rubrum*), and white ash (*Fraxinus americana*). Oak-pine-hickory forest dominated by white pine, shagbark hickory (*Carya ovata*), chestnut oak (*Quercus montana*), and white oak represents the only such example of this forest type left in Maine (MNAP/MDIFW 1997). The York Water District has an active timber management program aimed at converting hardwood stands to softwood dominated stands in order to lower turbidity in the water (York Water District 1997). Other private landowners selectively log their properties near Mt. Agamenticus, with the major target species being white pine, hemlock and red oak.

Mt. Agamenticus has one of the highest concentrations of state rare and endangered plant species in Maine. This represents an area where many species at the southern limit of their range overlap with species at the northern limit of their range. State-rare plant species include wild leek (*Allium tricoccum*), white wood aster (*Aster divaricatus*), spotted wintergreen (*Chimaphila maculata*), Atlantic white cedar (*Chamaecyparis thyoides*), sweet pepperbush (*Clethra alnifolia*), flowering dogwood (*Cornus florida*), featherfoil (*Huttonia inflata*), smooth winterberry holly (*Ilex laevigata*), mountain laurel (*Kalmia latifolia*), spicebush (*Lindera benzoin*), alga-like pondweed (*Potamogeton confervoides*), chestnut oak (*Quercus prinus*), large beak-rush (*Rhynchospora macrostachya*), sassafras (*Sassafras albidum*), swamp saxifrage (*Saxifraga pennsylvanica*), and Columbia water meal (*Wolffia columbiana*).

In addition, there are a number of exemplary natural communities found in the planning area. These have been documented by the Maine Natural Areas Program as:

1. Atlantic White Cedar Swamp (*Chamaecyparis thyoides/Ilex verticillata* Forest) which are limited to the coastal plain of southern Maine and are found in poorly drained depressions underlain by mineral soil. A shallow sphagnum mat supports red maple (*Acer rubrum*), highbush blueberry (*Vaccinium corymbosum*), common winterberry (*Ilex verticillata*), smooth winterberry, and sweet pepperbush.
2. Oak-Pine Woodland (*Pinus strobus/Quercus (rubra, velutina)* Woodland) are found on knolls and hilltops with excessively well drained soils and bedrock outcrops. Dominant species include red oak and white pine with an herbaceous layer of woodland sedge (*Carex lucorum*). Shrub species include *Vaccinium* spp.
3. Oak -Hickory Forest (*Quercus (prinus, velutina)/Gaylussacia baccata* Forest) is a semi-open to closed canopy forest of well drained soils primarily on south to west facing slopes. Dominant overstory species include white oak, chestnut oak, and shagbark hickory. The community often includes

understory species which are common south of Maine but rare in Maine, such as sassafras and flowering dogwood.

4. Perched Hemlock - Hardwood Forest (*Tsuga canadensis*/*Sphagnum* spp Forest) forms on areas of impermeable bedrock which traps a pocket of water. Dominant overstory species include black gum, red maple, and hemlock. Spicebush is a good understory indicator of this community type.

5. Lacustrine Shallow Bottom Community (*Vallisneria americana*/*Potamogeton perfoliatum* Permanently Flooded Herbaceous Vegetation) is found on sandy or somewhat muddy shallows of lakes and ponds where sufficient sunlight allows for growth of aquatic bed vegetation.

6. Enriched Northern Hardwood Forest (*Acer saccharinum*/*Tilia americana*/*Fraxinus americana* Forest) occurs on moist nutrient rich soils where basswood and white ash make up a large component of the northern hardwood canopy.

The management of these plants and communities is perhaps the major consideration in developing a trail system in the area. Trails will be located in areas that will not negatively impact rare plant or exemplary natural communities with a suitable buffer area to prevent a trail from “creeping” towards important natural features.

A general locational map for these rare and endangered plant/animal species and communities can be found on Map 3.

Wildlife

- Game Species

Mt. Agamenticus provides significant habitat for forest and wetland wildlife species, including several that are considered state-rare. According to the 1978 USDA study, Mt. Agamenticus provides good habitat for white-tailed deer (*Odocoileus virginiana*), ruffed grouse (*Bonasa umbellus*), snowshoe hare (*Lepus articus*), red squirrel (*Tamiasciurus hudsonicus*), mink (*Mustela vison*), coyote (*Canis latrans*), fisher (*Martes pennanti*), and raccoon (*Procyon lotor*).

A deer wintering area identified by MDIFW is also located within the area. MDIFW prefers to examine land use issues within a deer wintering area on a case by case basis. In 1989, guidelines for timber harvesting within a deer wintering area proposed by MDIFW stated that “timber harvesting is an essential component of deer wintering area management and should be a permitted activity. The general goal in managing deer yards is to maintain approximately 50% of the area in mature softwoods. The individual conifers in mature softwood stands are generally older than 45 years of age, taller than 35’ in height and are 7-8” or larger in diameter at breast height. To maintain this cover, each landowner can harvest as much as 20% of the total timber volume on his ownership in any 15 year period. Single openings in the forest canopy created during timber harvesting should not exceed 14,000 square feet. Openings larger than 10,000 square feet should be no closer than 150 feet apart.”

- Non-game Species

Non-game wildlife includes songbirds, birds of prey, small mammals, reptiles and amphibians, insects and other animals not legally hunted. Mt. Agamenticus is renowned for the annual hawk migration

which attracts a large number of hawk watchers during peak migration. In 1978, 226 accipters were seen during 32 hours of observation on the mountain (USDA 1978).

Mt. Agamenticus provides important habitat for a number of state-rare animal species including Blanding's turtle (*Embydoidea blandingii*), spotted turtle (*Clemmys guttata*), banded bog skimmer (*Williamsonia lintneri*), black racer (*Coluber constrictor*), ribbon snake (*Thamnophis sauritus*), and swamp darter (*Etheostoma fusiforme*) (MNAP/MDIFW 1997). Blanding's turtles and spotted turtles are dependent on vernal pools and pocket wetlands for feeding and resting habitat, but need sunny upland sites in which to deposit their eggs. Banded bog skimmers breed in wetland pools dominated by suspended *Sphagnum* moss. The swamp darter is found both on lands owned by the York Water District and also on lands within the Chick's Brook Watershed on IFW property (personal communication from Mark McCullough).

Hydrology

Five watershed systems have tributaries which originate in the Mt. Agamenticus region. Of the 40 miles of perennial streams in the area, five have been dammed, four of which form reservoirs for the water districts (MNAP/MDIFW 1997). Middle, Folly, and Boulter Ponds are located on the Kittery Water District. Chases Pond is the main source of water supply for the York Water District. The Mt. Agamenticus region, because of the geologic features, has the highest density of vernal pools and pocket wetlands in Maine.

In the 1979 Mount Agamenticus U.S.D.A. Cooperative Study, there were no identified point sources of pollution and that probably holds true today. Potential nonpoint sources include erosion resulting from logging and construction, contamination from subsurface sewage disposal, recreational usage including ATVs, mountain bikes, and horseback riding, and additional human impact from the rapid increase of use of the area. Both water districts recommend that there be no trespassing within 250 feet of the listed reservoirs in order to protect the drinking water supply.

The following water resources play a critical role in the ecological diversity of Mt. Agamenticus:

- Wetlands

Wetlands provide scenic beauty, water storage, and diversified wildlife habitat. The National Wetlands Inventory in the area surrounding Mt. Agamenticus (Map 4) and is included as a data layer in the GIS analysis for this project. However, because of the number of small vernal pools, this coverage probably under-represents the wetlands in the area.

Only one wetland within the study area is rated as high or moderate value, as defined by MDIFW for wildlife habitat. MDIFW (1989) recommends that 1) no draining, filling, etc. be allowed within such a wetland; 2) existing riparian habitat within 250' of these wetlands be protected from development and modifications other than MDIFW practices; and 3) to protect water quality, the first 100' of riparian habitat should not be altered in any way. Within the remaining 150', timber harvests should not remove more than 20% of the volume of each acre of trees 6" or larger dbh over a ten year period. Single openings in the canopy should not exceed 14,000 square feet. Canopy openings greater than 10,000 square feet should be no closer than 100 feet apart.

- Vernal Pools

Vernal pools represent an important wetland type in the Mt. Agamenticus region. They are noted here as a separate resource because of their ecological importance as habitat for a number of state rare species. Both the Maine Audubon Society and the Maine Natural Areas Program have been examining vernal pools in the Mt. Agamenticus area for the past two years. A vernal pool is defined as a "temporary or seasonal body of water that is essential breeding habitat for certain amphibians and invertebrates that does not support fish or, if it is a permanent pool, it is fishless" (Maine Audubon Society 1996). The fishless environment provides valuable breeding habitat for frogs and salamanders without the threat of egg and larval predation. These pools serve as important travel ways for certain wildlife species, particularly as wetland habitat becomes more fragmented. It is important to note that most vernal pools receive no regulatory protection due to their small size.

Maine Audubon Society and the Maine Natural Areas Program have attempted to identify the vernal pools most critical to wildlife and species preservation. The data sets for these more significant pools (as well as the codification of other pools) is still being developed and should serve as valuable resource information for the region upon completion.

A Watershed Management Plan for the York Water District addresses the protection of vernal pools. The report also directly addresses wildlife habitat management and recreational usage of the watershed. Among recommendations made for the protection of vernal pools are the following:

1. Avoid entering the pools with machinery
2. Avoid rutting on the area of the pools
3. Slash shall not be allowed to accumulate in the pools
4. A 50 foot buffer of trees shall be left around pools.

- Watersheds

Watersheds for the surface water bodies containing the drinking water for the York and Kittery Water Districts are among the most significant features within the area. In fact watershed planning was a major focus of the 1978 Study.

The watershed for Chases Pond is 2,694 acres in size of which the York Water District owns 1,369 acres. With the exception of 54 acres owned by other governmental agencies, the remaining acreage is in private ownership. Watershed boundaries are shown on Map 4. The York Water District (1997) has recently completed a management plan for their holdings in the area. Among the relevant concerns/recommendations of the plan were to schedule and conduct water quality monitoring for all tributaries of Chases Pond; to implement a policy to regulate and limit recreational use on the watershed; to manage the forest growth to maintain a tree stand composition of eighty percent softwood species to enhance water quality; and to continue cooperative planning with the Kittery Water District, town of York and other landowners in the area.

Many of the recommendations for preservation of water quality concern clarifying recreational usage of the watershed. Highly erodable soils, steep slopes, human and animal waste, and increased use of the

area were raised as concerns. In the end, the conclusion was drawn that the area "could be used for low impact, non-motorized recreational activities and limited classes of motorized vehicles with permits issued by the District."

- Soils

Glacial till, glacio-marine silts and clays, and water lain sands and gravels were deposited as debris from the last ice sheet. Based on soil and slope consideration of the soil maps used in the 1979 Mount Agamenticus U.S.D.A. Cooperative Study, the area appears suited for forest land, dispersed recreational activities, and woodland wildlife management.

From a recreational perspective, soils with steep slopes (greater than 15%) and hydric soils are rated as poor for trail use or development (Map 5). This information helped form the basis for the trail remediation plan developed for the Mt. Agamenticus region.

B. Cultural Resources

- Historic/Archeological

The Mount Agamenticus Area was part of the territory ruled by the Abenaki Indians. European settlers colonized the area around 1620. In 1631 and 1634 saw and grist mills were established in surrounding communities. The principal sources of income were timber, fur, and fish during colonial times. Agriculture increasingly became the most productive activity. But by the early 1800s because of reduced soil fertility and as a result of western expansion, agricultural activity, population, income, and employment declined. Growth recurred during the Industrial Revolution when local streams were harnessed to provide power for many small mills in the area. The mills and the growing recreation industry benefited from the post-Civil War railroad construction.

Over the years the Mt. Agamenticus area was used for a number of traditional activities including wood production, housing, water supply, investment (in both timber and raw land), and perhaps most importantly, for recreation.

The mills and manufacturing economy are now things of the past, and York is now a major tourist destination. South Berwick is primarily a residential community. Mt. Agamenticus is now viewed as a place to recreate and enjoy nature in the midst of growing suburban communities.

Although there are no historical structures in the Mt Agamenticus planning area, the Maine Historical Preservation Commission (MHPC) has mapped areas around Scituate, Boulter, Chases, and Welches Ponds as either potential prehistoric archaeological sites or potential historical archeological sites (a prehistoric site implies pre-European Native American while an historic site is concerned with mostly European-American, after written records). The MHPC has developed a predictive model of prehistoric archeological sites which has found that 95% of the time a "habitation or workshop site" is found abutting a water body or former waterbody on a landform with a slope of less than 10% with little

exposed bedrock. For the purposes of the Mt Agamenticus area this includes much of the aforementioned water bodies.

- Scenic

Two major components contribute to the scenic aspects of the Mount Agamenticus area: the natural landscape and the cultural or man-made landscape. A dense deciduous forest restricts visibility except in areas where fields have been cleared and in wetlands. When clearings do occur in the woody vegetation, the views can be dramatic.

The mountain itself is a visual focal point and provides one of the more dramatic views in southern Maine. Views towards the north and the western mountains of Maine and the White Mountains of New Hampshire and to the east towards the Atlantic are virtually wide open due to the former ski facilities. A fire tower and several cellular towers on top of the mountain impact some of the esthetic qualities of the mountain top itself.

Other scenic views are somewhat more subjective but are also noteworthy. Aside from the mountain itself, a small ridge off Mountain Road provides an open view of the Hoopers Brook gorge. Along the western side of Mt. Agamenticus, a cleared ledge also provides a noteworthy view. Other views which are notable can be found in areas surrounding the ponds, particularly on a ridge which travels alongside Chases Pond.

Appendix C

2011 Visitor Use Survey Summary

Introduction:

This visitor use survey is used as a tool for gathering and analyzing data pertaining to the visitors of the Mount Agamenticus Conservation Region. The survey captures historical data that is tracked annually relating to individuals and their purpose for visiting. Data is also used to evaluate the public's opinion of the condition of trails and facilities and overall operations in the Mt. A. region. Additionally, every participant is asked for general feedback regarding recommendations or suggestions to enhance the visit to Mt. A. The survey is modified slightly each year to also gather "seasonal" information which may be pertinent to recent or proposed changes. This year our "seasonal" data collection focused on the Learning Lodge, our website, and the interpretive trail loop.

Methods:

Surveys were taken twice a day, from 11 through 1 pm and from 4 pm through 6 pm. Survey locations: 1st Hill summit, base parking lot, and Cedar trail parking lot. Data collection was conducted on the following days: July 25, 26, 27, 28, 29, 30 and Aug 14. This represented each day of a typical summer week and corresponded with previous year's surveys.

Each survey day followed the same procedures; conservation crew members were instructed to approach visitors and ask them a series of set questions about the mountain and their visiting experience.

2011 Specifics: (Narrative with some general percentages.)

There were a total of 286 surveys conducted this year, reflecting a 25% increase over last year. This is likely a direct result of increased use of the area as survey logistics did not alter from last year, and weather conditions were not a factor.

The average number of people recorded each day during survey hours equaled 97. The visitor group size (2 to 4) reflected many couples or families with one or two children, much like previous years.

Out of 330 total cars recorded 5% had bike racks, which is similar to last year. However, it should be noted that several vehicles had bicycles in the back seats, etc. On several occasions a significant group of cars were a direct result of a group of cyclists meeting to go on a group ride. During survey hours fewer bicycles were observed than most years, on average 8 per day. The number of motorcycles and ATVs amounted to less than one percent of total traffic. 57 dogs were counted, averaging 8 per day, with the majority being on a leash. The number off-leash was still significant and can be estimated (through non-empirical assessment) at about one-third running free.

This year 41% of visitors were first timers while 31% answered that they came up once-few times per year. This represents a 10% increase in first time visits, with a substantial number of people saying "I wish I knew of this place before." Monthly visitors averaged 10% while more frequent users (weekly, and more often) comprised 9% each. (*See chart 1*).

How these visitors found out about Mount Agamenticus is reflected in percentages. 33% answered that they were local residents; 20% had heard about the mountain from friends or family; 9% from word of mouth; 2% from the welcome info center, 2% from a map; 5% through summer residents; 1% from the

sign on Route One; 5% via the internet; 2% from the news or local magazines; and 13% from other sources; (*see chart 2*). The total percentage did not add to 100 since some people couldn't remember which of the listed options applied. The number of local residents again accounted for nearly a third of the visits yet on several occasions these local visitors were first time visitors.

The responses for how far away our visitors lived from Mt. A were once again almost 50/50 regarding relative distance. This year we had 53% from nearby - less than 30 miles away, and 47% from further reaches. (*See chart 3*).

Hiking again dominates as the most common activity that visitors engage in at the mountain. We even had a 10% increase from last year with more than half of all visitors (55%) focused on a walk through the woods. Weather was very nice, much like last year, however, pests such mosquitoes, ticks, and deer flies were more abundant than usual. Several comments recognizing and commending the increase in "signed" trails may correlate with the greater use for hiking. Picnic/sightseeing increased by 10% to 35% of the visitations. Cycling reached a high of 20% while 9% of our visits were from trail runners. Winter activities of snow-shoeing at 5%, and cross-country skiing at 2%, remain constant. Again, we had less than 1% of visitors who use the mountain for ATV purposes (*see chart 4*). Although we did not record exact numbers, it appeared that road bikers using the summit road for hill training comprised the greater percentage of our cyclists. Although not specifically targeted in our survey, it should be noted that mountain biking is conducted weekly in the form of a "group ride" that frequently consists of 15-20 bicycles.

Consistent with last year, this year's responses concerning the trails was highly favorable. In rating the trails from 1 to 5 we had less than 1% rate the trails with a 1 or 2. 5% of our visitors gave the trails a rating of 3; 36% a rating of 4; and 59% rated the trails with a 5 (*see chart 5*). Achieving a 95% rating of "good-great" on the trails is noteworthy considering that we expanded the signage identifying several more miles of trails into the primary Mount Agamenticus network. We did have another very good year to accomplish trail work with both favorable weather and an exceptional trail crew. Some minor setbacks did occur as a result of minor vandalizing.

This season the crew blazed and posted icons on three loops, (turtle, bear and dragonfly) which helped to expand the area traversed and the total miles of core trails. This action received overwhelming positive feedback. In response to the current trail signage questions over 90% of visitors considered sign posting "just right." We did have 8% of the responses indicate not enough signs, and 2% suggest too many signs. (*See chart 6*). Some folks pointed out that our sign information and aesthetics were very well done.....only one individual found confusion in what was posted.

Frequent user questions were again part of the survey process. With an addition of, "Do you have a favorite loop/route/trail?" there were a total of four questions. In response to what seasons do frequent users visit the mountain; 24% said Spring, 32% Summer, 24% Fall and 19% Winter (*see chart 7*). This represented very little change from last year. 39% of our frequent visitors use first hill, 21% use second hill, 15% third hill, 10% unmarked trails and 15% of frequent users also use the York Water District trails (*see chart 8*).

Most families continue to prioritize Ring trail which is also the newly designated Turtle loop. The trail's popularity can be attributed to; easy access, the Story-walk picture book stations, the Interpretive trail information stations, and the proximity to the Learning Lodge and 1st Hill summit. The other two newly

designated loops, Bear and Dragonfly, were identified by very few people although they frequented the trails that make up the loops. This is likely due to not having map coverage specifically pointing out these loops – the map coverage will be available in 2012 when new trail maps are published. The individual trail (not traversed as a part of a loop) that was a clear favorite was Blueberry Bluff Trail on 1st Hill. This year more people pointed out that they also enjoyed including the York Water District trails as part of their visits. Several folks pointed out that the signs in the Water District contributed to their comfort in wandering a bit further into the woods.

Use of the area shifted somewhat more towards family and friends groups as this percentage jumped 9% to the majority of 54%. Individual visits made up 39%, while about 6% of users were part of an organized group. (*See chart 9*). The group visits remained constant with many return visitors including primarily; school groups, cycling groups, town recreation groups, and scouting groups.

This year we again included some queries about the information provided on our web site, on the Interpretive trail, and regarding the Learning Lodge. We asked visitors if they have heard of or visited either or all of the three venues. Again this year, the answer “no” significantly exceeded “yes” as most people hadn't referenced the web site, walked the trails for the purpose of viewing the interpretive stations, or intended to visit the Learning Lodge. However, many did enjoy the Learning Lodge and interpretive stations after finding them available. For the hikers the frequent response regarding the Interpretive trail and the Story walk was simply, “What a pleasant surprise.” Regarding the Learning Lodge a frequent comment was, “We look forward to returning next year.”

Overall, comments from the visitors were supportive and positive. A recurring theme with many discussions was the strong desire to keep the trails and natural experience the way it is today. Regarding the summit area, again visitors did recall the days of having a greater panorama view when the trees were less dense and not as tall. However, their comments also overwhelmingly expressed thanks for the condition of the summit and the facilities available.

The visitor use survey has again provided significant information in the form of simple metrics and open forum suggestions. Our current viewscaping project is an example of how we have included survey feedback into the greater plan for providing a unique and most wonderful experience for Mount Agamenticus Conservation region visitors. This year we discovered a few more “golden nuggets” of information and we will strive to incorporate these suggestions into action.

What most clearly stands out is; Mt. Agamenticus continues to grow as a primary destination for visitors from both nearby and afar. And this increased popularity is a direct result of the enjoyment provided with current conditions. Although increased popularity has brought increased expectations, the clear message from our survey is to carefully protect the overall conditions and experience that the Mount Agamenticus region provides to the public.

Through careful planning, adequate funding, and the dedication of staff and volunteers our surveys will hopefully continue to reflect success in meeting expectations.

Submitted by:

Kristina Clements, Mt. A Outreach Specialist and Roger Clements, Mt. A Crew Leader

2011 User Survey Data**1. How often do you visit Mt. A?**

First time	41%
Once-few times/year	31%
1/month	10%
1/week	9%
>1/week	9%

2. How did you hear of Mt. A?

local resident	33%
friend or family	20%
word of mouth	9%
welcome/info center	2%
map	2%
summer resident	5%
local cable channel	0%
sign on route 1	1%
internet	5%
mag/news	2%
other	13%

3. How far do you live from Mt. A?

<30 miles	53%
>30 miles	47%

4. What activities do you use the mountain for?

hiking	55%
biking	20%
horseback riding	0%
ATV	1%
picnic/sightseeing	35%
X-country ski	2%
Snow-shoeing	5%
running	9%
other	4%

5. Rate the condition of the trails

one	1%
two	0%
three	5%
four	37%
five	58%

6. How do you feel about the amount of signage on the trails?

too few	8%
too many	2%
just right	90%

Follow-up questions for frequent users:**7. During what seasons do you use the mountain?**

spring	25%
summer	32%
fall	24%
winter	19%

8. Which trails do you use?

first hill	39%
second hill	21%
third hill	15%
unmarked	10%
york water district	15%

9. With whom do you use the trails?

individual	40%
family or friends	54%
organized group	6%

10. Have you heard of/visited the: learning lodge, website or interpretive trail loop

yes	4%
no	1%
no answer	95%

Appendix D

Trail Assessments

Nov, 2011

TRAIL ASSESSMENTS

The following trail assessments are provided to:

1. Give immediate feedback regarding trail conditions.
2. Supply both objective and subjective information for the construction of a comprehensive “trail plan.”
3. Present an overview for the identification of long term possibilities for trail development.

TRAILS:

BLUEBERRY BLUFF (from Summit)

Length: 0.3 mile

Use: Hike only

Level: Difficult; steep and sometimes slippery

Description:

Red blazes. Primarily vertical down side of 1st Hill. Several sections over exposed rock ledge.

Assessment:

Generally self maintained through use of some water diversion on upper section otherwise runoff over rocks.

Some need for periodic fluffing to prevent spider trails on upper section.

Somewhat difficult to define in winter due to snowfall over trail blazes on rock surfaces.

Possible Alterations:

None proposed due to close proximity to other trails and reasonable maintenance requirements.

Miscellaneous:

“Roof top” views to west/southwest. Many wild low-bush blueberry bushes along upper reaches of trail.

CEDAR (from Mountain Road to Norman Mill)

Length: 1.3 miles

Use: Hike/Bike/ATVs/ Horses; Search & Rescue (SAR) trail. Separate parking location

Level: Moderate to easy. One steep section

Description:

Blue blazes. Runs northeasterly from dirt road with parking to intersect with Norman Mill trail.

Significant elevation change is on hard rubble surface.

Mixed surface throughout. One small bridge (16' 7" x 62"). Two "boardwalk bridges" over seasonal flow (50' x 60" and 12' x 62"). Three boardwalks to elevate above standing water collection points (38" x 62", 24' x 61", and 55' x 62"). Terminates at another SAR trail and intersects with both 1st and 2nd Hill trails.

Assessment:

Good condition due to several seasons of adding significant fill and boardwalk sections.

Water crosses effectively under bridges and through two rocky passages.

Overall requires seasonal maintenance for mitigation of multi-use impacts: removal of berms, mud-hole repairs, and periodic boardwalk tread repairs.

Boardwalks are low maintenance with good tread.

Possible Alterations:

Expand Beaver Dam area to include a new trail with interpretive display.

Make "handicap accessible" for first .4 mile. Longer term goal is to expand to "handicap accessible" loop of nearly one mile.

Connect boardwalks at north end of trail.

Improve and expand parking at Mountain Road trail head.

Miscellaneous:

Beaver dam from 2010 still in place as educational site.

Atlantic white cedar swamp at Near Goosefoot intersection.

Most of trail is part of "Bear Loop."

CHESTNUT OAK (from intersection Goosefoot/Sweet Fern/Ring, N/NE of Summit)

Length: 0.3 miles

Use: Hike/Bike

Level: Moderate with some short difficult sections

Description:

White blazes. Runs East from intersection with Goosefoot/Sweet Fern/Ring (N/NE of Summit) to intersect with and terminate at Porcupine. Mostly downhill, with surface of large boulders, gravel, bedrock, and dirt. Combination of gradual turns and switchbacks.

Two boardwalks: one 12' long by 24" wide and the second 8' long by 40" wide.

Assessment:

Good condition throughout. Adequate space for water flow below boardwalk, but needs cleaning underneath. Little-to-no leaf debris between boards. Both level with no rotting boards and all screws present. Many roots on path stabilize trail. Visible roots suggest erosion.

No obvious spider trails. Large rocks and boulders serve aid drainage. No wet spots. Self-maintaining. Trail clear of large obstacles. Periodic fluffing required to prevent shortcuts between switchbacks.

Possible Alterations:

None planned. Possible reroute could bring upper section south to intersect with Ring thus eliminating (if desired) current four-way intersection – fragmentation a concern.

Miscellaneous:

Part of the "Bear Loop."

Chestnut Oak trees, both alive and dead, line much of this trail.

FISHER (from Summit)

Length: 0.23 miles

Use: Hike/Bike

Level: Moderate due to climb – though switched back

Description:

White blazes. Runs westerly into Ring. After a fairly straight beginning near the barn, serpentine nearly the entire way. Some areas still rather steep. Mostly packed dirt, but has sections with exposed rock from erosion. Easy entry onto Ring. Some “not to aggressive” water bars and knicks at top and at the turns.

Assessment:

Good condition throughout. Near the top annual maintenance is necessary to keep water off of the trail. Some gravel fill will be necessary over next few seasons.

Possible Alterations:

None planned.

Miscellaneous:

Previously called “Horse” trail because of use by horses when barn was a stable.
No fishers sighted to date.....but still looking.

GOOSEFOOT (from intersection with Vulture's View, NW of Summit)

Length: 0.7 miles

Use: Hike/Bike

Level: Moderate to difficult. Some sustained climbing

Description:

White blazes. Runs east/southeast from Vulture's View intersection (NW of summit) and intersects with and terminates at Chestnut Oak, with a couple of significant bends in the trail. The trail has a gradual incline and decline, but no extreme climbs or descents. Mixed surface throughout. Armored section (rocks). No bridges; one small boardwalk of 15' in length. Areas of the old trail have been closed for re-growth and recovery, and the trail has been rerouted around those areas. New Trail signs are posted in a few places to indicate these changes, and visitors have respected the signs and followed the new trails.

Assessment:

Great condition. Very self-sustaining. The water bars all seem to be in good shape, and there are no bad wet or muddy spots on the trail (no standing water).

Possible Alterations:

None planned or proposed.

Miscellaneous:

Goosefoot, also known as Moose Maple and Striped Maple, is prevalent along much of the trail. Part of "Bear Loop."

GREAT MARSH (from Old County Road to “south end” of Old County Road?)

Length: 2.2 miles (2.0 miles in other direction on sign at Old Mtn. Road entrance)

Use: Hike/Bike/ATVs/ Horses; Search & Rescue (SAR) trail

Level: Easy to moderate

Description: (All problem locations are in the GPS)

Purple blazes. Great Marsh runs directly South from Old County Road and terminates abeam a quarry near Mountain Road. The trail intersects with two trails to Third Hill and with Wheel. There is one bridge—15’ long by 5’ wide—which is located on a short sections of rerouted trail (official) that circumvents a large pool of standing water. The trail is generally very straight, with some small turns throughout the trail but no significant curves.

Assessment:

(All problem locations are in GPS, but as “waypoints” they need to be added to a “route.”)

The trail needs a lot of work, and has some very problematic and difficult spots. There is a small mud pit just before the trail sign from Old County Road. The most problematic area is a stretch of perhaps .1 or .2 miles at the very start of the trail that is a combination of deep, soft mud and wet muddy spots. There are some side trails that circumvent the muddy area in spots, but they aren’t very organized or clear. There are some other muddy and bumpy areas along the trail, as well as one or two nicks for drainage that really need some work to regain their effectiveness. There is another long muddy stretch of trail before the first Third Hill intersection, and another after the Wheel intersection. Along various sections of the trail there are a fair number of dead standing trees that will most likely fall in the next year or two and will eventually need to be removed. There is another spot in the second half of the trail that has deep ruts and bumps, and that will most likely get very muddy with heavy rains or runoff. There is another muddy area, and there are some water crossings in the bedrock towards the end of the trail. Of the Search & Rescue trails, this is perhaps the trail that needs the most work.

Possible Alterations:

It is possible that some of the problem spots will require rerouting or significant alteration to the trail as it is at present. Need to thoroughly assess before more precise conclusions can be made.

Miscellaneous:

Wet area called Great Marsh is traversed by this trail near the northern end, where the trail passes along the southeast corner of the marsh.

HAIRPIN (from Summit Road)

Length: 0.2 miles

Use: Hike/Bike

Level: Easy

Description:

White blazes. Runs Northeasterly from Summit Road to intersection with Ring and Rocky Road. Starts with rock covered natural rock culvert and a 5' section of armoring. Mainly flat or gently sloping, with an ending on a moderately steep, rocky surface.

Assessment:

Great condition due to flat grade and little to no erosion; trail is relatively self-sustaining. All nicks in good condition and need no attention.

Possible Alterations:

None planned or proposed.

Miscellaneous:

Originates at a "hairpin turn" on summit road.

NORMAN MILL (from Pave Street to Bennett Lott Road)

Length: 2.8 miles

Use: Hike/Bike/ATVs/ Horses; Search & Rescue (SAR) trail

Level: Easy

Description:

Orange blazes. Norman Mill runs in a path from Pave Street that curves east/northeast, north, then northwest and terminates at Bennett Lot Road. The trail is mainly dirt, small rocks, and some larger rocks throughout. The trail intersects with Cedar and Notch, as well as a number of side paths that seem to lead to camps or other roads. Norman Mill is generally fairly flat, with some hills scattered throughout, and has smaller local turns in addition to its larger curved shape. Past intersection with Notch trail there is a bridge high over the stream where the old mill dam used to be.

Assessment: (All problem locations are in the GPS on the Norman Mill route)

The trail is generally in good condition, especially due to all of the work that has been done on the trail this summer (2011). The stretch from Pave Street to Cedar appears to be in good condition after the filling that has been done; and that fill (rocks/gravel) is settling in very well. The trail dries quickly and should continue to do so in the near future. There are mud pits by the camp that need filling and/or possible rerouting. There are a number of other muddy areas after the Cedar intersection and the camp that have been filled during 2011 season and need to be evaluated for long term success. The large mud pit that has already been worked on (with Volunteers), dammed, and semi-drained could use some stone to elevate the trail out of the water for hikers/bikers, but it presents little difficulty for ATVs. Towards the end of the trail there is a very large pool of standing water that seems to be sitting in a bowl of bedrock. It has been permanently blocked off and the reroute to the side is well defined as the “new trail.” There is also an unmarked intersection immediately after that pool that is somewhat confusing (the trail forks left, and there is an unmarked trail to the right that either goes to a camp or out to the road). There is a muddy area just after that unmarked intersection. Overall, Norman Mill is in good condition. The 2011 season placed three truck loads of 2” crushed rock onto low areas – needs to be evaluated after winter and spring seasons, although significant immediate improvement is obvious. Several locations along the entire trail still need a “second round” of fill and two areas warrant consideration for boardwalks – if fill work gets desired results.

Possible Alterations:

North end needs more major repair work of large rock/gravel fill. When working with the muddy areas and standing water, it might be helpful to put in rocks or boards for hikers/bikers that have difficulty getting through those spots that ATVs have no trouble with. This could be in the form of narrow passage ways along side ATV path. Locations for this will be identified in Spring 2012.

Miscellaneous:

Old Norman’s mill is just north of Notch intersection.

Pave St. end has an old hunting camp still in use.

Entire trail will be blazed more thoroughly.

NOTCH (from Old Mountain Road to Norman Mill)

Length: 2.1 miles

Use: Hike/Bike/ATVs/Horses; Search & Rescue (SAR) trail

Level: Moderate

Description:

Green blazes. Notch trail runs from Old Mountain Road North/Northwest and terminates at Norman Mill. The trail is mostly dirt and small rocks, with bumpy terrain and some holes, and runs generally straight with some smaller-scale turns. Notch intersects with three trails that lead up to Second Hill—two of which are part of the Dragonfly Loop—as well as with Wheel. There are three Boardwalks—63'3" long, 23' long, and 28'5" long. There is a large stream crossing towards the end of the trail, as well. There is a Rock Bridge that seems to be in decent condition, as well. The entire trail is fairly narrow with the majority of trail being uneven with roots and rocks. Easy passage for hiking and biking....adequate for ATVs when going slow.

Assessment:

Notch is generally in good condition, with the exception of muddy areas and depressions along various sections of the trail. There are about 8-10 spots along the trail that may pose problems (mud pits, depressions, areas that don't drain, etc.), some of which have inspired visitors to create side trails to get around these spots. Most of them don't pose significant problems for ATV users, but they may for hikers/bikers who can't get through standing water or deep mud so easily. The fill project of 2011 season was effective on low areas. The long boardwalk has been repaired with plastic decking on both ends because of broken treads – middle section will likely need to be improved/repared soon.

Possible Alterations:

It might be helpful to create narrow pathways out of large rocks or boards for hikers/bikers in, along, or around the water crossings if we decide not to work those spots too much. Many of the muddy areas and depressions could use larger rocks to create traction and hard surface for vehicles and hikers/bikers, so that there isn't unsurpassable standing water or deep mud on the trail. This was accomplished on one section and was marginally effective. In Spring 2012 we need to evaluate the area to determine both success of first effort and whether to work the area for further improvement.

Miscellaneous:

Trail accessed by south entrance passes through private (Rueb family) property.

Also abuts Beal land

PORCUPINE (from CEDAR to 500' south of Rocky Road)

Length: 0.3 miles

Use: Hike/Bike

Level: Easy. Final exit beyond Rocky Road is somewhat steep and rubble strewn

Description:

White blazes. For the most part the trail is self-maintaining and in good condition. Mix of bed rock, boulders, and dirt. Trail is generally straight, with a few slight turns. Runs southeast from Cedar through rock walls and predominantly uphill. Has 30' by 2' wide boardwalk over wet seasonal runoff area. Uphill 500' section is rutted but remains stable. Due south section to 2nd Hill summit path requires work to reduce puddle locations. 2nd Hill to Chestnut Oak is worn but also stable. Two areas "paved" with rocks for very short passage across wet dips. Continues south from intersection with Chestnut Oak to intersection with Rocky Road. Stone bridge with good water flow underneath, but some leaf build-up around bridge — approximately 8.5 ft long by 3 ft wide, in good condition. The path is covered by pine needles in sections of the trail.

Occasional berm build up along the trail, but not extremely significant. Boardwalk—23.5' long by 23" wide, in good condition. Not wet. Second boardwalk—12' long by 22" inches wide, in good condition.

Assessment:

Berm build up may lead to some mud and/or standing water after heavy rainfall, but it doesn't seem significant at present.

Possible Alterations:

Section below Rocky Road needs major repair. Loose debris removal and armoring of over 20' is necessary.

Miscellaneous:

Half of this trail is part of Bear Loop and a small portion is also part of Dragonfly loop.

Multiple large anthills along trail.

Porcupines use this trail for annual races, picnic outings, and signaling UFOs.

RING (from Base to loop Counterclockwise)

Length: 2.15 miles

Use: Hike/Bike

Level: Varies greatly (Easy to Difficult – based on incline and surface)

Description and Assessment: Reference sections identified below.

Possible Alterations:

Additional hardening through armoring would improve uneven surfaces. Add small bridge on west side to cross a seasonal stream.

RING (from base to Rocky Road)

Length: .8 mile

Level: Moderate

Description:

Runs northeast with sections of significant incline. Mostly rocky surface with some easier flat surfaces. Passes by Summit Road east side parking area.

Assessment:

Good runoff of significant water drainage. Uneven surface in some places could be improved.

RING (between Hairpin and Witch Hazel)

Length: .1 mile

Level: Difficult

Description:

Runs north, northwest from summit.
Moderately steep and rocky with much exposed ledge.
One boardwalk near intersection with Witch Hazel.

Assessment:

Knicks work well. Regular cleaning required.

RING (between Witch Hazel and Chestnut Oak)

Length: .2 mile

Level: Easy

Description:

Runs north, curving slightly northwest around summit.
Some switch backs. Generally smooth packed dirt surface. Has Interpretive station #9. Has StoryWalk™ stations #22, #21 and #20.

Assessment:

Good condition. Drains effectively.

RING (between Chestnut Oak and Sweet Fern)

Length: < .1 mile

Level: Easy

Description:

Short and flat section. Retaining wall to prevent major erosion. Constructed of telephone poles and trees. Passes by old skiing chairlift base. Has Interpretive trail station #8 and StoryWalk™ station #19.

Assessment:

Below retaining wall – needs significant fill to elevate surface 8-12 inches.

RING (between Sweet Fern and Vultures View)

Length: .15 mile

Level: Moderate

Description:

Runs along narrow packed earth trail with some rocky sections. Has Interpretive station #7 and StoryWalk™ station #18 and #17.

Assessment:

Good condition. Some periodic maintenance will be required on gravel area where water drains across all year.

RING (between Vultures View and Fisher)

Length: .2 mile

Level: Moderate.

Description:

Undulating and somewhat winding packed surface with some gravelly spots. Boardwalk of 30' across soft muddy section. Has Interpretive trail stations #6 and #5 plus StoryWalk™ stations #13, #14, #15 and #16.

Assessment:

Structures and trail in good condition.

RING (between Fisher and Wintergreen)

Length: .1 mile

Level: Moderate

Description:

Generally slopes down with significant steep section on uneven surface. Levels out with lesser up-and-down sections on packed dirt. Has StoryWalk™ stations #12 and #11.

Assessment:

Some exposed roots and bedrock indicate erosion. Nicks and water bars functioning well.

RING (between Wintergreen and Blueberry Bluff)

Length: .3 mile

Level: Easy

Description:

Gently curved. Some elevation changes. Mostly packed dirt.

Overlook off of trail to the west. Contains Interpretive trail station #4 and StoryWalk™ stations #10, #9, #8 and #7.

Assessment:

Some exposed roots and bedrock. Nicks and water bars functioning well, but need frequent maintenance.

RING (from Blueberry Bluff to summit road)

Length: .2 mile

Level: Easy

Description:

Flat and hard packed dirt. Contains some prominent roots, rocks, needles, dirt, and boulders breaking up the flat surface. Has Interpretive trail station #3 and StoryWalk™ stations #4, #5, and #6.

Assessment:

Develops wet/soft spots during heavy rain periods. Overall drainage looks good.

ROCKY ROAD (from intersection with Porcupine to intersection with Ring)

Length: 0.2 miles

Use: Hike/Bike (motor vehicles were previously allowed on trail)

Level: Difficult. Due to uneven rock surface over nearly entire upper trail

Description:

White blazes. Runs west from intersection with Porcupine to Ring trail, with one large bend and some slight twists and turns. There is a wide section of the trail at the intersection with Porcupine that has been blocked off and fluffed, and it appears effective. There are large roots on the on the trail.

Cornered boardwalk (plastic lumber)—66'7" total length by about 5' wide. Large interpretive trail sign (27" by 39"). Standing water beside boardwalk. Rock water bars (2). Knick; draining effectively.

Some roots acting as check dams—one or two constructed check dams, as well.

Assessment:

Boardwalk area has been dug out to promote drainage flow and get rid of standing water. Boardwalk and interpretive sign in good condition.

Possible Alterations:

None planned.

Miscellaneous:

Picture post for succession photographs at boardwalk by vernal pool.

SWEET FERN (from Summit)

Length: 0.2 mile

Use: Hike/Bike

Level: Difficult; Steep throughout and very slippery when wet

Description:

White blazes. Starts at summit and terminates at Ring Trail. No large turns or twists.

Primarily vertical on the North side of 1st Hill.

Surface is a mixture of exposed bedrock and gravel.

One Y-shaped boardwalk—total length of main section is 27' long by 2' wide. Smaller section in other direction is 5'10" long by 2' wide.

Evidence of closed spider trails.

Assessment:

Generally self maintained through use of some water diversion on upper section otherwise runoff over rocks. Roots acting as check dams. Water bars are functioning well. Some need for periodic fluffing to prevent spider trails. Boardwalk drains fairly well and requires leaf debris removal. Some sections require berm removal to mitigate the effects of erosion. Need to watch for pop-outs.

Possible Alterations:

Due to proximity to trails on each side and exposed bedrock as primary surface no room for change exists.

Miscellaneous:

Has many areas abutting that contain invasive beastly buckthorn plants.

Sweet fern can be found all along the trail sides.

VULTURE'S VIEW (from Summit)

Length: 0.53 miles (2785 ft.)

Use: Hike only

Level: Difficult; especially slippery when wet

Description:

Red blazes. Heads steeply downhill to the northwest. After short flat section at very top it becomes primarily exposed bedrock. Very short areas flatten out before continuing downhill. Ring intersection to summit is .21 and Ring intersection to Goosefoot intersection near base is .32 mile. Loose rock and rock stairways make up much of the section running to the base. At final 300' to base trail becomes narrow with loose rock. Several rock water bars are placed throughout trail.

Assessment:

Erosion is constant but limited because of being mostly bedrock. Maintenance is also constant but manageable. Abutting vegetation is growing nicely when not disturbed.

Possible Alterations:

None planned.

Altering any of this trail would likely introduce significant fragmentation of 1st Hill because of other disturbed areas (such as the old "black diamond" ski run) that are fragile. Re-growth efforts would be disturbed and possibly lead to increased erosion.

A long term possibility (several years from now) after re-growth is fully established on all non-trail areas of 1st Hill, could be to reassess the possibility of closing Vulture's View and Sweet Fern – and create a single winding trail passing through Ring trail to the northwest base of 1st Hill.

Miscellaneous:

Trail was previously part of an expert ski run.

Viewing stand at head of trail looks towards Mount Washington (visible on clear days.)

Several locations along trail offer open views to the north and northwest.

This trail also has abutting sections where invasive buckthorn needs to be constantly searched out and destroyed!

WHEEL (between Great Marsh and Notch)

Length: 0.15 miles

Use: Hike/Bike/ATVs/Horses; Search & Rescue (SAR) trail. Level: Easy

Description:

Yellow blazes. Runs east-west connecting two SAR trails. Goes through a bowl, with two rocky water crossings over seasonal or wet weather creeks. Connections to other SAR trails are open and defined.

Assessment:

Water crossings are stable and trail is generally maintenance free.

Boulders at trailhead block ATVs.

Possible Alterations:

None planned. If water crossings become unstable a short bridge/elevated boardwalk is a reasonable alternative.

Miscellaneous:

Wheel is the only connector between Great Marsh and Notch – facilitating getting to 3rd Hill from 2nd Hill.

WINTERGREEN (from Mountain Road)

Length: 0.4 miles

Use: Hike only.

Level: Difficult

Description:

Red blazes. Runs in “S” shape to the west from Mountain Road to Ring Trail; winding with two significant curves. Three distinct steep areas interspersed with some fairly level terrain. Some areas require negotiating rock steps at the stairway near the top. Mixture of dirt, rock, and pine needle cover.

Assessment:

Some exposed roots and bedrock indicate erosion but wear is reasonable to maintain the trail. Most often dry with good drainage across rocks and out-sloped flatter areas. Trail widens toward base (5-6 ft. across versus single and double track near Ring intersection).

Boulders at trailhead block ATVs.

Possible Alterations:

None.

Miscellaneous:

Limited parking for this trail is on Mountain Road across from the base of trail.

WITCH HAZEL (from Summit)

Length: 0.16 miles

Use: Hike/Bike

Level: Easy (Moderate – in climbing direction)

Description:

White blazes. Runs northeast fairly constant to small bend at end by Ring intersection. Well worn packed dirt trail with some boulders and roots interspersed.

Assessment:

Erosion is constant and requires frequent maintenance. Maintenance is reasonable considering high use of this trail. Fluffing to prevent trail creep and spider trails is also a constant requirement again because of high use.

Possible Alterations:

None.

Miscellaneous:

Final part of story walk from base parking.

Has two stations of interpretive trail.

Witch Hazel (a small tree or shrub) occurs along the trail in high bush form.

LOOPS

BEAR LOOP (CEDAR-PORCUPINE-CHESTNUT OAK-GOOSEFOOT)

Length: 3.2 miles

Use: Primarily Hike/Bike; Cedar section is multi-use.

Level: Moderate; based on varying from Easy to Difficult; some short steep climbs and extended gradual climbs.

Description:

Beginning at Cedar trail head this loop proceeds northwesterly along Cedar trail over several small bridges and boardwalks until intersecting Porcupine trail. Approximately half of Porcupine trail is used (including passing by the trail to 2nd Hill) until intersecting with Chestnut Oak to finish climbing towards the Ring trail. The loop then goes back downhill using Goosefoot to again intercept Cedar trail completing the circuit.

Assessment:

Reference the trails that make up this loop.

Possible Alterations:

Reference the trails that make up this loop.

Miscellaneous:

Good hiking loop – technical biking loop offering mixed challenges.
Provides access to 2nd Hill trail which leads to summit of 2nd Hill.

DRAGONFLY LOOP (2nd Hill trails with portion of PORCUPINE)

Length: 2.0 miles

Use: Hike/Bike

Level: Difficult; based on undulating terrain, with significant steep sections. Footing varies significantly from open path to ridgeline granite sections.

Description:

Beginning at 2nd Hill summit proceeds due north along a yet unnamed trail passing over a small boardwalk and having other unnamed trails intersecting from left and right. Trail is undulating but generally smooth surface until the descent down to Notch trail. Section descending to Notch is series of large (effective) switchbacks with rocky surface. Continues 1500' westerly along Notch which is wide, packed dirt, with some rocky passages. Intercepts another unnamed trail heading south into Porcupine which is generally packed dirt with gentle bends and a constant climb. The Porcupine back to 2nd Hill summit section is generally uphill on a rocky surface.

Assessment:

The unnamed trails are safe and show no trouble spots requiring immediate attention. However, this section needs more "standard" maintenance to be improved to the condition of 1st Hill trails. 2nd Hill summit area should be assessed with a decision to determine whether some current short trails should be closed. Should consider naming trails.

Possible Alterations:

None planned.

Miscellaneous:

The trail intercepting Porcupine has a rock wall along much of it. 1st Hill can be clearly viewed from east side of summit area.

TURTLE LOOP (RING trail)

Length: 2.2 miles

Use: Hike/Bike

Level: Moderate; based on undulating terrain, with some steep sections. Footing is generally smooth with some rocky areas at inclines.

Description:

Follows Ring trail from start to finish. Reference Ring trail for more details.

Assessment:

Reference Ring trail.

Possible Alterations:

Reference Ring trail.

Miscellaneous:

Reference Ring trail.

OWL LOOP (notional name)
(3rd Hill trails – not currently identified as a loop)

Length: TBD (to be determined)

Use: Hike/Bike

Level: Moderate to Difficult; some short steep climbs and slippery sections when wet.

Description:

Precise loop has yet to be identified.

Assessment:

Precise loop has yet to be identified.

Possible Alterations:

Insert water removal structures at the base of the trail that leads from summit of 3rd Hill down to Great Marsh trail near Wheel trail intersection. Further alterations to be determined upon selection of route

Appendix E

Access Point Trail Signs



Mount Agamenticus Cooperative Conservation

This trail is part of the Mount Agamenticus Conservation Region. The Mt. Agamenticus Steering Committee manages this land for water quality, wildlife and compatible recreation.

To help protect the forests and wetlands for the future, here are a few simple rules:

- 🍂 Carry out what you carry in. Please don't litter. Trash receptacles are not provided.
- 🍂 Respect others on the trail.
- 🍂 Stay on open trails; don't cut switchbacks or clear new trails.
- 🍂 Wetlands and vernal pools are fragile; please don't disturb.
- 🍂 Do not cut, dig or collect any plants, animals or cultural artifacts.
- 🍂 No camping or campfires.
- 🍂 Pets must be on a leash.
- 🍂 Pet owners are responsible for carrying out and properly disposing their pet's waste.

Detailed "Guidelines for Use" and trail maps are located at the Mt. Agamenticus summit kiosk and on our website.

For more information:
Conservation Office: 207-361-1102 or visit www.agamenticus.org

Thank you for your cooperation! Enjoy your visit!

Appendix F

Maps

The following Maps are referenced in this report:

Map 1. Greater Mt Agamenticus Conservation Lands

Map 2. Mt Agamenticus Trail Management Area by Conservation Land and Trail Use Type

Map 3. Mt Agamenticus Trail Management Area - Access Points and Trail Functional Classifications