

Management Plan Hogback Mountain Conservation Area Marlboro, Vermont

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Introduction

Project History

The Hogback Mountain Conservation Association (HMCA), a group of concerned citizens of the Towns of Marlboro and Wilmington, Vermont, was formed in 2006 in response to commercial plans to develop approximately 591 acres of critical wetlands and upland forest which comprise the Hogback Mountain Conservation Area located in Marlboro, Vermont. The Conservation Area is bisected by Vermont Route 9 which connects the eastern town of Brattleboro with Bennington to the west and has been designated the Molly Stark Scenic Byway. The approximately 200 acres on the south side of Route 9 provide some of the most spectacular views found anywhere in New England, most notably of New Hampshire's Mt. Monadnock to the east and Massachusetts's Wachusett Mountain to the south, and have a storied history as a beloved family-run ski area from the late 1940s to the early 1980s. The southern acreage is contiguous with Molly Stark State Park, where a 1.7-mile hiking loop from the park connects with the Conservation Area. The park has 34 in-season camp sites for visitors. The approximately 400 acres on the north side of Route 9, leading to Hogback Mountain--at 2,410 feet the highest point in the Town of Marlboro--contain a variety of upper-elevation habitats, including a sizeable tract of mixed hardwood forest. The upper-elevation wetlands play an important role in both aquifer replenishment and wildlife sustenance, particularly critical with regard to breeding bird habitat. The Conservation Area is significant as the headwaters for streams and rivers in the region. The Deerfield River and Green River watersheds originate within the pristine mountaintop acreage of the Conservation Area. As part of a mosaic of large, mostly wooded, contiguous pieces of relatively wild land in Southern Vermont, the Hogback Mountain Conservation Area is home to a variety of large, charismatic mammal species including black bear, moose, bobcat, and fisher that require sizeable blocks of interconnected land as travel corridors.

In 2007, HMCA assembled a group of public spirited "conservation buyers" (Long View Mountain Group, LLC) who agreed to purchase the property and hold it for two years while HMCA, with the support of the Vermont Land Trust (VLT), worked to finance a conservation solution. In early 2008, a fundraising campaign was launched to raise \$1,737,000 to cover all costs associated with the purchase of the land, its conservation and stewardship through permanent conservation easements, and establishment of an endowment to cover future operating expenses. Monies were raised from individual private donations including major leadership donations; a significant contribution voted by the citizens of the Town of Marlboro at its 2008 Town Meeting; numerous private foundation grants, including a large matching grant from the Pew Charitable Trusts (Northeast Land Trust Consortium); a two-year Vermont Housing and Conservation Board (VHCB) grant; a watershed protection grant from the Vermont Agency of Natural Resources; and federal funding from the Transportation Enhancement Act for the 21st Century (TE-21).

Planning Process

An Interim Management Plan was developed by the Hogback Mountain Conservation Association as a template for the eventual drafting of a final Management Plan, which is the responsibility of the Hogback Preservation Commission--the group ultimately charged with ongoing policymaking and management of the Conservation Area. Voters at the 2009 Marlboro, Vermont, Town Meeting overwhelmingly voted to authorize the Marlboro Selectboard to accept title to the Conservation Area property once HMCA raised the funds required to purchase the property from the current owners, and once the necessary conservation restrictions, access easement, and development rights were conveyed to the Vermont Land Trust and the Vermont Housing and Conservation Board. Title was conveyed to the Town of Marlboro on 31 March 2010, and the Selectboard has approved the management structure, funding mechanism, and general use enforcement procedures as outlined in this Management Plan (see Administration section for details).

It is crucial that the various stakeholders with an interest in the future of the Hogback Mountain Conservation Area be involved in all phases of the planning process as work proceeds. These stakeholders include the Town of Marlboro's Selectboard, Hogback Preservation Commission, Conservation Commission, and Planning Commission; the Hogback Mountain Conservation Association; Marlboro citizens and non-resident second home owners, especially those whose properties are adjacent to the Conservation Area and who are likely to be impacted by activities occurring there; local education institutions; trail user groups such as the Vermont Association of Snow Travelers (VAST), the Vermont Mountain Bike Association (V.M.B.A.), the Vermont Horse Council, and the Brattleboro Outing Club (B.O.C.); and interested and involved residents of adjacent towns in the Southern Vermont region.

Goals and Objectives

The Hogback Mountain Conservation Area has been created to accomplish the following interconnected objectives: (a) conservation of wildlife, aquatic and plant habitat and scenic resources associated with the Conservation Area to ensure its ecological and biological health for present and future generations; (b) maintenance of the Conservation Area's forest resources through long-term professional management which will endeavor to minimize to the greatest extent possible any negative impact of forestry activity on surface water quality, wildlife habitat, public recreational benefits, and other conservation values; and (c) provision of equitable and safe public recreational access and educational opportunities in a scenic and healthy natural setting through low-impact, low-density, non-motorized, dispersed activities.

Background

Property Description

Land

The protected property, situated in the Town of Marlboro, Windham County, State of Vermont, consists of approximately 591 acres with buildings and improvements thereon.

Structures

Structures presently existing in the Conservation Area south of Vermont Route 9 include the skeletal remains of buildings and ski lift apparatus that once constituted the Hogback Mountain Ski Area. These structures are in general disrepair, having been abandoned for a quarter century. The garage roof of the former ski area's first-aid building, located on Route 9, collapsed during the winter of 2009-2010. The roof was subsequently removed and the remainder of the building was secured. If, in the future, this or any other structure is deemed likely to create a public safety hazard, a plan will be developed for its removal or the danger will otherwise be mitigated by repair.

The Benedict Cottage, a 640-square-foot two-story building north of Vermont Route 9 immediately west of the intersection of Route 9 and Old Hogback Road, including an existing access drive and parking area, comprises approximately one (1) acre. Vandals entered the abandoned building and removed significant amounts of copper wiring and piping, in the process destroying many of the wall panels on the building's lower level and rendering the structure uninhabitable. Given the extent of the damage, it is anticipated that the building will either be removed at some future date, or at best be secured and used as a storage facility for items such as trail maintenance equipment.

Rights of Way

The National Grid holds a non-exclusive lease on a gravel roadway within the Conservation Area property south of Route 9 that provides access to its communications tower and building atop Mount Olga in Molly Stark State Park. The lease, which expires in July 2018, gives the National Grid the right to pass on foot and with vehicles and equipment on this roadway solely in connection with the operation of its communications site. National Grid is responsible for maintenance of this access road.

Parking and Pedestrian Easements and Scenic Protection

There are two permanent deeded parking easements that directly impact the Conservation Area: an area of land owned by Hogback Properties LLC bordering the northern side of Vermont Route 9 (the “Parking Area North Side”), and an area of land owned by Hogback Properties LLC bordering the southern side of Vermont Route 9 (the “Parking Area South Side”). The Conservation Area is guaranteed the right to use these parking areas. Parking for no fewer than ten vehicles shall be maintained north of Vermont Route 9, and parking for no fewer than six vehicles shall be maintained south of Route 9.

There are two permanent deeded pedestrian path easement areas that will provide direct access to the Conservation Area from Vermont Route 9 and the abovementioned parking areas: (1) a thirty-foot-wide strip of land extending from the northeast boundary of the Parking Area North Side to Town Highway No. 33 (also known as Old Route 9 or Old Hogback Road); and (2) two twenty-five-foot-wide strips of land, one east of the Alpenglo Building and extending from the Parking Area South Side to the Conservation Area boundary, and one west of the Alpenglo Building and extending from Vermont Route 9 to the Conservation Area boundary.

In addition to the abovementioned two permanent deeded parking easements, the Town of Marlboro shall have the right to construct, maintain, repair and replace a permeable surfaced parking area not to exceed one (1) acre at a location mutually agreed upon in writing by the Town of Marlboro and VLT/VHCB. This parking area shall be used only in connection with the uses permitted in the Grant of Development Rights, Conservation Restrictions and Public Access Easement.

The “100-mile view”—a rare and exceptional panoramic lookout in southern Vermont easily accessible to the public from Vermont Route 9—overlooks the south side of the Conservation Area. The protection of this view from any visual obstruction from development is one of the primary purposes of the establishment of the Conservation Area.

Natural Communities and Wildlife

The Hogback Mountain Conservation Area has a broad array of natural upland and wetland communities (see preliminary Natural Communities Map in Appendix).

A natural community is “an interacting assemblage of organisms, their physical environment, and the natural processes that affect them.” These communities are influenced by soils, geology, micro-climate, topography, drainage patterns, natural disturbances such as tree wind throw and wind snap, and human land use patterns. A natural community may be described and named based on the dominant plant species such as a Hemlock forest, or important landscape or climatic features. Within each different community type are found characteristic plants and animals.

In some cases there are distinct or abrupt transitions from one natural community type to the next, for example, when forested land borders a lake. In many cases the transition is often gradual such as between two closely related forest types. While each individual assemblage of species may not be exactly alike, there are repeatable patterns across the landscape that allow one to identify the various natural communities.

Upland forested communities found in the Conservation Area include Northern Hardwood Forest, Red Spruce-Northern Hardwood Forest, Lowland Spruce-Fir, and Montane Spruce-Fir. Wetland communities include Red Spruce-Hardwood Swamp, Vernal Pool, Seep, Cattail Marsh, Sedge Meadow, Dwarf Shrub Bog, and Poor Fen.

The Conservation Area supports a wide variety of wildlife species due to its size, the diversity of its habitats, and its proximity to the Green Mountain National Forest. The hardwood and conifer forests, wetlands, ridge tops, vernal pools and rocky outcrops create an area with very high biodiversity.

The protected property contains a portion of the dividing ridge between the Deerfield River watershed and the Green River watershed. This ridge extends north into the Green Mountain National Forest and may be used by many mammals that disperse to the south into Massachusetts. Travel corridors like this are used by mammals to disperse from large core areas like the Green Mountain National Forest to new areas so that mammal populations can enhance their genetic diversity and expand to new habitats. Along the ridge one finds feeding signs of black bears on mature beech trees. Moose use the high elevation forests of the ridge as a winter feeding ground. Wetland areas, managed by beavers, create excellent habitat for migratory birds. Mink and otter have also been found in the wetland areas. On the southeastern slope of Mt. Olga, adjacent to Molly Stark State Park, there is a rock outcrop which is a habitat for both bobcat and porcupine. Vernal pools used by amphibian species such as spotted salamanders and wood frogs in the spring are scattered throughout the Conservation Area forests.

Recreation Management

Management Goals and Guidelines

The purpose of this section is to identify those recreational uses that are consistent with the objectives of the Development Rights, Conservation Restrictions, and Public Access Easement and to provide for the management of the recreational use of the Hogback Mountain Conservation Area in a manner that protects these conservation values. The primary recreation management goal is the provision of safe, convenient and legal access points into the Hogback Mountain Conservation Area so that a variety of users may enjoy the recreational and environmental benefits of the property. Other goals include protection of natural and cultural resources in the Conservation Area by enlisting users and visitors in stewardship and encouraging ongoing public participation in the management process and development of a “Trail Corridor Management Program” that (a) identifies access points and erects and maintains gates or other barriers to control access as necessary, (b) establishes a trail repair and/or closure procedure and schedule, and (c) develops trailhead facilities such as adequate parking, informational sign boards and trash receptacles.

The Conservation Area, and in particular the portion of the property south of Route 9, has a long history of recreational use. Although the downhill ski area has not been operational since the early 1980s, outlines of some of the ski slopes are still visible and could be cleared relatively easily for use in the future as a trail system if so desired. A VAST (Vermont Association of Snow Travelers) snowmobile trail runs the length of the property from the northernmost to the southernmost boundary (see map, Appendix) and is maintained by VAST for winter use of its members; this trail could potentially be used during non-snowmobile season for such activities as hiking, horseback riding, and mountain biking. The HMCA has constructed a stacked loop trail system on the property north of Route 9 leading up to the summit of Hogback Mountain. This trail system serves hikers, cross-country skiers, snowshoers, and mountain bikers and is also ideal for nature observation.

Substantial visitor traffic stops at the site throughout the year to enjoy the breathtaking 100-mile view. Many visit the Southern Vermont Natural History Museum and gift shop at the lookout point. These businesses are privately owned by Hogback Properties LLC and are not part of the protected property. It is estimated that around 250,000 visitors annually stop at the lookout point. The combination of visitors passing through and residents from Marlboro, Wilmington and neighboring towns who are likely to use the Hogback Mountain Conservation Area on a regular basis will undoubtedly put significant pressure on the land. This will necessitate diligent management oversight of the property, including trail and trailhead maintenance activity and use-rules enforcement.

1. Public Access

There are three primary access points into the Conservation Area (see map, Appendix). Access to the property south of Route 9 is available from the parking lot east of the Alpenglo Building and directly from Route 9 to the west of the Alpenglo Building from the north, and off Grant Road from the south. Access to the property north of Route 9 is available at the parking lot 100 meters to the west of the Skyline Restaurant. (Both the Alpenglow parking lot and the parking lot north of Route 9 are privately owned and are used for automobile, truck and tour bus parking; the current owner has granted permission to use these parking areas for trail access. The Grant Road access area is part of the Conservation Area property.) As presently envisioned, these access areas will be shared by snowmobile users and a variety of other users (including but not limited to hikers, cross-country and backcountry downhill skiers, snowshoers, and others engaged in non-motorized permitted uses). It is crucial that these access points be clearly marked, and that permitted, restricted and prohibited uses be clearly stated on signage at the access points.

2. Uses

The HMCA developed and distributed a survey of potential recreational uses in the Conservation Area in an attempt to better understand the priorities of townspeople with regard to recreation. Respondents were asked to indicate for each of 21 listed uses whether that activity should be “permitted,” “not permitted” or “restricted to designated areas.” Responses were collected from June 2008 through February 2009. The following listing regarding use of the property is based on the results of that survey, considered within the context of the need to always foreground conservation values when determining what recreational uses to allow and where to locate those uses so as to minimize their impact on the protected property’s natural communities.

Non-Motorized Use

Permitted

Walking

Hiking

Cross country skiing

Snow-shoeing

Development of hiking trails and lookouts

Education/nature classes (including birding/nature observation)

Dog walking--leash dog when approaching other trail users; carry out pet waste

Hunting

Supervised community functions

Restricted to designated areas

Mountain biking: on designated trails only. Presently these include the stacked loop trail system in the northern sector of the Conservation Area, and, in the southern sector, the Rim Run and Bishop Trails and the Tower Trail to the Molly Stark State Park boundary. These trails may be closed to mountain biking during mud season and other wet periods as trail conditions warrant.

Backcountry downhill skiing: on Sugar Slope, Ripperoo, Razorback, and Meadow ski runs.

Horseback riding and trail rides: on designated trails only. These trails may be closed to horseback riding during mud season and other wet periods as trail conditions warrant.

Large functions, such as weddings and parties: by special permission of the Town of Marlboro; restricted to an area of the property south of Route 9.

Prohibited

Tent camping

Open campfires (except by special permission of the Town of Marlboro)

Paint-ball and similar games

Trapping

Motorized Use

Permitted

ATVs and winter trail grooming equipment (*for official trail maintenance and emergency activities only*)

Restricted to designated areas

Snowmobiles: restricted to the designated VAST trail that traverses the Conservation Area; snowmobiles must display a permit issued by a local snowmobile club; use is allowed beginning the first day after the official close of the deer hunting season and ending on April 15th

Prohibited

ATV, motorbike, or other motorized vehicle recreational use unless otherwise permitted herein

3. Use Impacts

Wildlife Habitat, Wetlands and Vegetation

Management of recreational use in the Hogback Mountain Conservation Area must always consider its potential impact on the biodiversity of the protected property. In developing a Management Plan for the Conservation Area, planners should pay particular attention to the types of recreational use permitted and the optimal location of trails and lookouts so as to cause the least disturbance to the natural area. If trail deterioration occurs, management may enforce seasonal trail closure or seasonal restriction on certain activities likely to cause trail damage, such as mountain biking and horseback riding during Spring mud season or other wet periods.

Serious consideration should be given to the designation of a portion of the north side of the Conservation Area as a Wildlife Sanctuary. Access to this “Special Treatment Area” (STA) would be restricted to human pedestrian traffic and dogs on leash. Horses, pack animals or other livestock, and bicycles would not be permitted in this area. As is the case for the Conservation Area generally, snowmobiles would be restricted to the designated VAST trail traversing the property, and tent camping, campfires, and motorized vehicles, including ATVs and motor bikes, would be prohibited.

Special consideration should be given to the protection of the numerous vernal pools and other wetlands existing on both the north and south portions of the Conservation Area. Wetlands play a number of important roles for both humans and wildlife. They provide habitat for common, threatened and endangered species and therefore are essential for maintenance of biodiversity. They help maintain surface and subsurface water quality, aid in flood control, stabilize soil, and provide open space and recreation. They also provide valuable educational and scientific research opportunities. Some of the vernal pools and other wetlands on the property have been identified and mapped. Others that exist should be identified and mapped in order to have a complete baseline inventory.

Many of the wetlands rules and permitting in Vermont apply to development, filling, or draining. The Conservation Easement for the property provides protection of the wetlands from such development-related activities. However, human disturbance is a constant possibility.

The property contains no fewer than twelve potential vernal pools ranging in size from a few feet in length to the largest measuring 160 feet. Potential threats to these vernal pools include direct disturbance, dumping of refuse, timber harvesting, and off-road vehicle disturbance. Some organisms that breed in vernal pools also spend part of their life cycle in surrounding upland areas. Certain species of amphibians may be found over a half mile from pools in which they were incubated. Dispersal of juveniles may also take place as they may need to seek breeding opportunities in vernal pools exterior to their birthplace. Thus, not only is protection of individual pools necessary, but minimal disturbance of inter-pool corridors is also essential. Buffer zones around the pools and wetland areas should therefore be established to protect these habitats.

Recreational trails may present an important potential threat to wetlands on the property. Although little research has been reported on the impact of recreational trails on vernal pools, the Vermont Fish and Wildlife Department, in addressing the impact of forestry practices, recommends that timber harvesting not be done within 100 feet of the edge of any vernal pool to protect the breeding zone, and up to 600 feet from the high water mark of a vernal pool to also protect the upland habitat associated with a vernal pool. Although recreational trails will produce less of a disturbance to wetland borders than forestry activities, it is nevertheless recommended that major recreational trails on the property be routed outside of at least a 50-foot buffer zone beyond the wetland edge to protect habitat functions. Where possible, 100-foot buffers will aid in protection of wildlife movement corridors to and from wetlands. If further study of wetlands on the property indicates the presence of wading bird or waterfowl habitat, a 300-foot buffer will be necessary to reduce nesting disturbance. Access to the vernal pools and other wetlands should be restricted to narrow spur trails to be used for educational and scientific purposes.

One wetland on the property is already crossed by a recreational trail, and erosion damage from foot traffic is evident. Trail enhancement techniques, such as a boardwalk or puncheon, should be employed in this area to raise the trail above the wetland and prevent any further damage.

One large wetland on the south side of the protected property comprises a number of wetland natural community types, and there are contiguous wetlands on adjacent parcels not part of the Conservation Area. This entire wetlands complex is bisected by an unpaved town road (Grant Road). There should be adequate culverts constructed in this complex to maintain hydrologic conditions and allow for animal movements under the road instead of across the surface of the road.

Landowners with property contiguous to the Conservation area could be encouraged to protect their undeveloped land containing vernal pools and other wetlands as these may function as source populations for the vernal pools and wetlands in the Conservation Area.

Archeological and Cultural Resources

Stewardship education should include the protection of resources that are the products of human labor such as cellar holes and stone walls. Cellar hole buffers should be created. Signage should be placed at access points prohibiting the use of metal detectors on the property and the removal of any artifacts from the Conservation Area.

Neighbor/Property Owner Concerns

Access to adjacent property may be considered, for example, for purposes such as extending a wildlife travel corridor or a hiking/cross country skiing/snowshoeing trail. Protection of the privacy rights of adjacent property owners must always be a major consideration in seeking such access.

4. Recreational Development/Infrastructure

The creation of brochures and maps of the property, along with well-designed informational kiosks, signage, and trail blazes, will enhance users' experience of the Conservation Area.

Because a variety of users will be in the forest, from hikers to horses, snowmobilers to mountain bikers, it is important that people are educated and aware of safety guidelines and responsibility codes. A clear set of regulations governing the use of the property will help limit potential user conflicts.

Management Outreach Programs

1. Partnerships, Collaboration, and Volunteerism

In addition to the formal partnership established with the Vermont Land Trust to conserve the Hogback Mountain Conservation Area, other informal partnerships/collaborations could be established with organizations that monitor the activities of species such as birds, butterflies, dragonflies, rare plants, frogs, and salamanders. Local residents who are members of organizations such as the Audubon Society, Nature Conservancy, or Sierra Club could be important resources here.

2. Education

The Hogback Mountain Conservation Area is an ideal regional “outdoor laboratory” for education. The Conservation Area, when viewed as a “living forest,” provides an opportunity to learn from and about a self-regenerating system comprising a diversity of natural resources including vernal pools, wetlands, geologic formations such as rock outcroppings, numerous mammals, amphibians, and insects with the unique signs of their presence on the land, and a wide variety of trees, wildflowers, mosses, and lichens.

Educational possibilities in the Conservation Area are numerous and multi-disciplinary. These include natural science investigations (biology, geology, ornithology, and botany); cultural and social history (stories about how people have used this land in the past, and discussions about the importance of stewardship now and into the future); and visual and literary arts (nature painting and poetry writing on site). People of all ages and levels of experience can participate in these activities, including Marlboro Elementary School (MES) students, Marlboro College students, and adults from the community (as experts and learners). A number of educational partnerships/collaborations are envisioned, e.g., Marlboro College students mentoring Marlboro Elementary School students through collaboration on place-based stewardship projects such as cataloguing plant and animal species and GPS mapping. Collaborations with the privately-owned Southern Vermont Natural History Museum at the scenic overlook are also encouraged.

Students might wish to design and contribute work inspired by visits to the Conservation Area to a portion of the HMCA website (www.hogbackvt.org), or submit material for the HMCA Newsletter. Students might also share programs or work related to Hogback with other schools in the region (e.g., Marlboro and Wilmington Vermont and Greenfield Massachusetts are all connected by the Deerfield River watershed whose headwaters originate on the Conservation Area).

The Hogback Mountain Conservation Association has offered a series of workshops and guided hikes in the Conservation Area focusing on birding, winter tracking, identifying tree species, local tree infestations, and surveying medicinal forest plants. HMCA

envisions continuing these field trips and expanding the offerings, drawing on the extensive expertise of local specialists in forest stewardship, wildlife tracking, biology, botany, and the arts.

HMCA has marked and cleared recreational trails on both the northern and southern portions of the Conservation Area. This trail building activity includes important educational components such as GPS mapping of the trails and points of interest along the trails, and developing interpretive guides for the trails.

3. Site/Trail Maintenance

Volunteers will be needed to assist in ongoing trail, lookout, and structure maintenance. Some of this activity might occur on a day-to-day basis, with major work such as clearing a new section of trail or improving an existing lookout occurring on publicized “collective work days.” Experience indicates that such collective work builds community spirit and deep connection to the protected property.

4. Resource Promotion

Planners should consider the extent to which publicity of the Hogback Mountain Conservation Area is actively sought. If the fundamental intent is to minimize the impact of recreational and other uses on the protected property, inclusion of the Conservation Area in regional trail or hiking guides or placement of flyers at tourist welcome centers may not be desirable.

Forest Management

“Forest management shall conserve biological diversity and its associated values, water resources, soils, and unique and fragile ecosystems and landscapes, and, by so doing, maintain the ecological functions and the integrity of the forest.”

--Forest Stewardship Council--US Management Standards, Principle #6:
Environmental Impact

Management Goals and Guidelines

A major goal is the maintenance of the Conservation Area’s forest resources through long-term professional management which will facilitate economically sustainable production in a manner that minimizes the negative impact on surface water quality, wildlife habitat, public recreational benefits, and other conservation values.

The plan anticipates responsible periodic harvests of timber, under the direct supervision of a professional forester, which will generate income that will help maintain the Conservation Area. “Improvement cuts” will be authorized when warranted. Appropriate buffers will be established around sensitive areas such as vernal pools, swamps, and seeps, and harvesting in sensitive areas will be restricted to the winter months. Monitored low-impact firewood harvesting may be considered in the Conservation Area to help support local families needing heating assistance.

Another potential income generating forest-related activity to be considered, if practicable, is the lease of a portion of the property for commercial sugaring. Such activity would be limited to tapping trees. No structures such as sugar houses would be permitted in the Conservation Area.

Maps

See Natural Community Map (Appendix)

Stand Descriptions and Prescribed Treatments

The following information detailing the types of forest in the northern portion of the Hogback Mountain Conservation Area was prepared for HMCA by a professional forester in early 2008. This inventory was conducted prior to the severe ice storm of December 2008 that did significant damage to stands of hardwood in the eastern sections of the Conservation Area north of Route 9. Nevertheless, the general description of types and densities remains valid based upon subsequent examination of the storm damage.

Northern Hardwood: 29 plots

The northern hardwood type occupies most of the area north of Route 9 with the exception of a lowland spruce-fir type to the west and smaller red spruce/northern hardwood and montane spruce-fir types to the east (see Hogback Forest Stand Map, Appendix). This area is accessed by walking north from the scenic overlook and crossing Old Hogback Road, at this point entering the Conservation Area’s northern 400-acre section. Continuing north, through the middle of the north-side property, one is in the heart of the northern hardwood forest type.

This stand is dominated by hard maple (sugar maple), American beech and yellow birch which together comprise 94% of the basal area. The average basal area is 92 square feet per acre (a typical northern hardwood stand has a basal area of about 70 to 80 square feet per acre). This stand is presently at an appropriate stocking level. Simulated 10 year growth projections show that by 2018 the stand may be at levels higher than recommended for optimal growth. Of the hard maple in this stand, a very high proportion of it is acceptable growing stock (AGS)—trees that will be capable of producing log quality material in the future and that will be alive in 15 years. It is very

healthy and of good quality. On the other hand, a very high proportion of the beech in this stand is unacceptable growing stock (UGS). This is attributed to the high severity of beech bark disease on the property.

If a harvest were to occur, it should focus on removing some of the mid- to large-sized diseased beech. Individuals showing signs of disease resistance and individuals with a high wildlife value should be retained. Most of the maple should be allowed to put on more growth for future harvests (the economic returns would be much greater). This harvest would function as an “improvement cut.” Greater economic returns would be captured in future harvests.

The under story is composed of beech and moose (striped) maple. There are some hard maple saplings in with the predominant beech and moose maple. There are also pockets of 4-inch hard maple saplings.

On average one snag was recorded per plot (prior to the ice storm). There are a very well-represented proportion of snags of varying height and decay scattered uniformly across the stand. This indicates that many wildlife species could utilize these trees. During the winter 2008, signs of coyote, ravens, grouse and showshoe hare were observed in this stand.

Northern Hardwood—Red Maple Variant: 11 plots

This stand is located in the far northwestern corner of the property. A small basin forms in this corner and many streams run at the bottom of it. If one follows the VAST snowmobile trail north, one will drop into this small basin and eventually cross the northern Conservation Area boundary line. This type is distinctly different than the northern hardwood type because there is larger percentage of red maple in this stand. The stand is composed of hard (sugar) maple, soft (red) maple, yellow birch, American beech and white ash. The average basal area is 97 square feet per acre. And while the basal area is approaching 100 square feet per acre (best growing conditions for northern hardwood are between 70 and 80 square feet per acre), this stand is not considered to be in need of thinning or some other form of harvesting. As in the northern hardwood stand, the hard maple has a very high proportion of acceptable growing stock (AGS). The red maple has a slightly lower proportion of AGS, but this species usually has lower log quality and a shorter life span than hard maple. A very high proportion of the beech is unacceptable growing stock due to the high severity of beech bark disease on the property.

Plant and Wildlife Considerations

The Hogback Mountain Conservation Area contains a wide range of vegetative conditions and size classes that provide habitat—food, water, cover, and space—for many of the estimated 250 woodland wildlife species found throughout Vermont. Wildlife populations and their habitats are products of the land and how it is managed for timber resources. Conserving wildlife habitat and minimizing the impact which timber harvesting activities may have on such habitat are specific objectives of this management plan.

Harvesting activity can create openings for the development of herbaceous growth and early successional fruiting species such as berries and cherries. Decaying stumps and logging debris provide insects for foraging bears. Beechnuts, acorns, and other hard mast (nut) crops are important fall foods, when available. Maintaining mature oak and beech for mast purposes is critical, especially where evidence of past use (claw-scarred trunks) is found.

In 2013 HMCA launched a ten-year program to reinvigorate and maintain valuable wildlife habitat by reopening portions of the former ski slopes in the southern sector of the Conservation Area. A detailed description of the long-range goals and implementation of the “Conserving Habitat Variety” project is included as an appendix.

Complementing the Conserving Habitat Variety project is the ongoing maintenance of four backcountry downhill ski runs—Sugar Slope, Ripperoo, Razorback, and Meadow—from the former ski patrol shack near the summit to the Quonset hut at the mountain base. These ski runs constitute a narrow path through the early successional habitat cuts outlined in the Conserving Habitat Variety project. Because these ski runs (of a maximum 25-foot width) are only used when there is deep snow on the ground, and are not intended to be used as hiking or biking trails during the summer, nesting and fledging birds will not be disturbed.

Water Quality Provisions

Natural watercourses, marshes, wetlands, or other water bodies on the protected property may not be altered.

Forests provide a very effective natural buffer that holds soil in place and protects water purity. Timber harvesting must be conducted in a responsible manner to ensure that erosion is minimized and that sediment does not enter streams or wetlands, causing turbidity which can harm aquatic life.

Archaeological and Cultural Resource Considerations

Historic and cultural resources tell important and interesting stories about the landscape and should be protected from damage or loss. Any harvesting operation should maintain a 50-foot buffer around cellar holes and well sites on the protected property, and avoid crossing stone walls, using existing openings where possible. If new openings are required, following dismantling, stones should be placed in the remaining section of wall or saved for reconstruction. Harvesting operations should also maintain appropriate buffers around remaining T-Bar lift structures in the former ski area.

Aesthetic and Recreational Considerations

Even under the best of circumstances logging is disruptive. The impact of future timber harvest operations on aesthetic and scenic values associated with the Hogback Mountain Conservation Area can be minimized through application of acceptable management practices (AMPs) outlined below.

1. Harvest Areas

- (a) Maintain a 100-foot buffer strip between all harvest areas and public-use trails, and lop tops to within four feet above the ground within an additional 50 feet of all trail buffers; maintain a 100-foot buffer between all harvest areas and vernal pools and other wetland areas;
- (b) Cut and remove bent, broken or leaning trees unavoidably damaged during felling or skidding.
- (c) Apply single-tree and group selection methods for harvesting on steep slopes that are visible from distant vantage points.
- (d) Avoid unnecessary movement of skidders and other harvesting equipment to minimize soil compaction and residual stand damage.
- (e) Use directional felling techniques to avoid damage to the residual stand.
- (f) Cut stumps as low as possible. Re-cut multiple stems when trees are cut above the crotch.
- (g) Utilize tree tops to the lowest possible diameter allowable for commercially saleable products (pulpwood, firewood, etc.). Logging debris (i.e., slash) from downed wood is one of the biggest detractors from the scenic beauty of a woodlot.

2. Skid Trails

- (a) Use existing skid trails where appropriate.
- (b) New skid trail construction should follow the contour of the terrain wherever possible. Using small bulldozers for bunching purposes can reduce the number of skid trails needed to accommodate larger equipment such as skidders and forwarders.
- (c) Cross at right angles to the flow of any stream using an appropriate crossing device (e.g., portable bridge, temporary culvert, or poled or stone ford). “Brushing in” small

stream channels is permissible during frozen winter conditions, provided all material is removed when trail use is completed or before spring runoff, whichever comes first.

(d) Maintain adequate erosion control devices (waterbars) during and after the harvest. Silt fencing, haybale checks, or water diversions may be necessary in some cases to prevent sediment from skid trails from entering streams.

(e) Main skid trails within harvest areas should be left free of slash and debris. Tops within 50 feet of such trails should be lopped to a height of 4 feet above the ground.

(f) Smooth and grade rutted areas. Seed areas vulnerable to erosion and all skid trails that are designated for public recreational uses.

3. Landing Areas

(a) Maintain an organized landing that can accommodate sorting, processing, and short-term storage, and that allows sufficient space for safe movement of workers and equipment.

(b) Plan for the disposal of waste wood (blocks, chunks, and unmerchantable sections) in advance. Identify any possible disposal areas at the site.

(c) Remove and dispose of all trash, equipment parts, and other refuse in an appropriate manner.

(d) Smooth, grade, and seed the area upon completion of the harvesting operation. Plant a conservation seed mix to provide herbaceous forage for wildlife. Apply lime, fertilizer, and mulch hay where appropriate.

4. Truck Roads

(a) Avoid use after prolonged periods of rain or during other periods of wet, muddy conditions.

(b) Provide clean fill (gravel, stone, wood chips) at the entrance to all public highways to prevent “tracking” or restrict use to dry or frozen ground.

Notice of Commercial Harvest

The Vermont Land Trust must be notified at least 15 days prior to the beginning of any commercial harvesting operations. Activities exempt from such notice include (a) thinning of forest stands where commercial sale is not feasible, i.e., improvement cuts; (b) any timber harvest that involves less than 10 acres; (c) any timber harvest that involves less than 8,000 board feet of saw logs, or 25 cords of firewood or pulpwood; and (d) the cutting of firewood for use on the protected property.

Notification of proposed harvest activities and the intended period of operation should be posted at trailheads and other appropriate locations in the Conservation Area.

Administration

Management Structure

The Hogback Preservation Commission (HPC), appointed by the Town of Marlboro Selectboard, is charged with recommending policy that will best implement the goals set forth in this Management Plan. For a full description of the Commission's authorization, purpose, membership, meeting schedule, and procedures, please see the Commission's "Rules of Procedure" appended to this document.

The Hogback Mountain Conservation Association (HMCA) is a private organization that bears the primary responsibility for the day-to-day management of the Conservation Area in conformance with the policies set forth in this Management Plan. HMCA organizes volunteers for activities such as planning and conducting educational events and seminars, maintaining trails and trailheads, monitoring recreational use, providing public information about the Conservation Area, maintaining the Conservation Area website, publishing a regular newsletter, and applying for grants.

The Hogback Preservation Commission and the HMCA board of directors hold one joint meeting each year to review budgetary priorities and prepare a Conservation Area budget recommendation for approval by the Select Board.

Enforcement

Enforcement is an important part of recreation and forest resource management. Information should be provided to the public about the laws, rules and regulations governing the Hogback Mountain Conservation Area, and how to minimize user conflicts and environmental impacts through voluntary compliance.

While volunteers and stewards constitute the management presence on the property, they ultimately have no responsibility for enforcement. Education is the first step in securing compliance with guidelines and regulations. When individuals fail to respond to education, and the breach of regulations is significant, incidents shall be referred to the Hogback Preservation Commission which in turn shall inform the Town Selectboard. When deemed necessary, the Selectboard will refer the matter to law enforcement agencies.

Ongoing Funding

Annual revenue is presently being generated through the lease of a right of way to the National Grid to access its telecommunication towers. Revenues from this lease are paid to the Town Treasurer as a contribution to the General Fund.

A restricted Hogback Preservation Fund, comprising a portion of monies generated through the Hogback Mountain Conservation Association's fundraising campaign to secure the property, will be used for the day-to-day management activities associated with the Conservation Area. In the future, income from the periodic selective harvesting of timber on the property could be directed to this restricted fund. Other possibilities for ongoing funding of the Conservation Area include an admission fee schedule for group programs offered on site.

Funding may also be sought through specific Vermont state grants such as the Urban and Community Forestry Grant Program, and the Vermont Recreation Trails Grant Program, both administered by the Vermont Department of Forests, Parks, and Recreation.

The Urban and Community Forestry Grant Program provides funds to local government and volunteer groups "to promote the stewardship of urban and rural landscapes to enhance the quality of life in Vermont communities." This is a matching grant (contribution of community volunteer hours can be factored into the community funds raised as part of the match). Funds may be used for a number of projects including the development of informational brochures, volunteer training in community forestry, publicity of group activities, and workshop expenses. Planning grants of up to \$4,000 can be used for developing "management plans for town forests." The Urban and Community Forest Program "encourage[s] all first time grant applicants to begin with a planning grant."

The Recreation Trails Grant Program provides funds to local governments, community volunteer groups, educational institutions, civic groups, or approved non-profit organizations wishing to implement recreational trail projects. Funds may be used to develop and maintain recreational trails and trail-related facilities for both non-motorized and motorized recreational trail use. Eligible projects include trail development, maintenance, and restoration, development of trail-side and trailhead facilities, creating accessible trails, acquisition of trail easements or fee acquisition of trail corridors, maps/publications, and purchase of trail-building hand tools. The grants program is financed by the portion of state and federal gas tax monies attributable to off-highway vehicle use (e.g., snowmobiles, all-terrain vehicles, etc.).

Appendices

Hogback Preservation Commission Rules of Procedure

Hogback Management Model

Special Use Permit for a Group Event or Organized Activity

Conservation Area Signage Guidelines

Conservation Area Map Policy

Conserving Habitat Variety Project

Location Map

Natural Communities Map

Conservation Area Trail Map

**Rules of Procedure
Hogback Preservation Commission
Town of Marlboro, Vermont**

Adopted May 14, 2012

Section I. Authorization

The Hogback Preservation Commission shall be governed by all applicable state statutes, local law and these rules.

Section II. Purpose

The Hogback Preservation Commission is charged with the following tasks:

1. Advise the Marlboro Selectboard on matters relating to the Conservation Area, including communications or actions as may be deemed necessary from time to time between the Town and other public agencies, Non-Governmental Organizations (NGOs), or private organizations;
2. Recommend Conservation Area policy to the Selectboard that ensures compliance with the terms of the Grant of Development Rights, Conservation Restrictions, and Public Access Easement (i.e., the “Conservation Easement”);
3. Periodically update the Management Plan as deemed necessary;
4. Develop a responsibility code governing the use of the Conservation Area, and recommend to the Selectboard enforcement action to be taken in response to a significant violation of Conservation Area regulations;
5. Oversee any timber harvest operations under the direct supervision of a professional forester; and
6. Prepare an annual budget and monitor revenues and expenditures in a restricted Hogback Preservation Fund—including the Hogback endowment and other funds that may come under the Commission’s purview—that is annually approved by the Selectboard following an announced public hearing.

Section III. Membership

1. The Hogback Preservation Commission shall have seven members;
2. At least five members of the Commission shall be residents of the Town of Marlboro;
3. Members of the Commission shall be appointed and any vacancy filled by the Selectboard of the Town of Marlboro;
4. The term of each member shall be three years;
5. Any member may be removed at any time by unanimous vote of the Selectboard; and
6. Any appointment to fill a vacancy shall be for the unexpired term.

Section IV. Quorum

At any meeting of the Hogback Preservation Commission, a quorum shall consist of a majority of the voting members of the Commission. No action shall be taken in the absence of a quorum except to adjourn the meeting to a subsequent date.

Section V. Voting

At all meetings of the Hogback Preservation Commission, each member attending shall be entitled to cast one vote. Voting shall be by voice. In the event that any member shall have a personal interest of any kind in a matter then before the Commission, s/he shall disclose her/his interest and may recuse her/himself from voting on the matter. The secretary pro tem shall so record in the minutes that no vote was cast by such member. The affirmative vote of at least a majority of the members, regardless of how many are present, shall be necessary for the adoption of any resolution or other voting matter.

Section VI. Meetings

All meetings, with the exception of Executive Sessions and Deliberations, are open to the public.

1. Annual Meeting: The annual meeting of the Hogback Preservation Commission shall be the first regular meeting following Town Meeting of each year. Such meeting shall be devoted to the election of officers for the ensuing year and such other business as shall come before the Commission.

2. **Regular Meetings:** Regular bi-monthly meetings of the Commission shall be held at the Marlboro Town Office at 5 p.m. on the second Monday of January, March, May, July, September, and November. A regular meeting may be cancelled or rescheduled by the Commission at a prior meeting.
3. **Special Meetings:** The Commission may hold special meetings as deemed necessary and appropriate. Special meetings shall be held at a time and place designated by the officer calling the meeting and shall be called by the Chair or Vice-Chair. Written or electronic notice thereof shall be given to all members not less than twenty-four hours in advance. A public notice shall be posted in or near the Town Clerk's office and in at least one other place in town at least twenty-four hours in advance.
4. **Emergency Meetings:** An emergency meeting may be held without public announcement, provided some public notice is given as soon as possible before any such meeting.
5. **Executive Sessions:** During a meeting of the Hogback Preservation Commission, a motion, which indicates the nature of the business to be addressed, can be made to move into "Executive Session." Upon majority vote, such sessions can be held which are closed to the public. Appropriate topics for Executive Session are listed in 1 V.S.A. 316. No binding action may be taken in Executive Session.
6. **Meeting Procedure:** At any regular meeting of the Hogback Preservation Commission, the following shall be the regular order of business:
 - a. Call to Order
 - b. Attendance
 - c. Review of Agenda
 - d. Approval of minutes of preceding meeting
 - e. Officer and Committee Reports
 - f. Old Business
 - g. New Business
 - h. Adjournment

Section VII. Officers and Subcommittees

Officers of the Hogback Preservation Commission shall consist of a Chair and Vice-Chair, elected by the Commission at the annual meeting for a term of one year. The position of Secretary shall be rotated each meeting, alphabetically on a pro tem basis, amongst the Commission members (excluding the Chair).

Duties of Officers

1. Chair

- a. Preside at all meetings of the Commission;
- b. Call special meetings in accordance with these Rules of Procedure;
- c. Ensure that all actions of the Commission are properly taken;
- d. Prepare the agenda for all meetings of the Commission;
- e. Inform the Commission of correspondence relating to the business of the Commission and attend to such correspondence;
- f. Represent the Commission at all official meetings requiring the attendance of member(s) of the Commission and, in his/her absence, designate an authorized representative;
- g. Act as custodian of Commission records;
- h. Review and distribute the Commission minutes; and
- i. Prepare an Annual Report of the Commission's activities.

2. Vice-Chair

During the absence, disability or disqualification of the Chair, the Vice-Chair shall exercise or perform all the duties and be subject to all the responsibilities of the Chair.

3. Secretary pro tem

Keep the minutes of the Commission meeting and submit the minutes to the Chair for the Chair's review and subsequent distribution.

Subcommittees

The Hogback Preservation Commission may form subcommittees to assist in its work. Subcommittees may have appointed chairs and should report to the full Commission on their work.

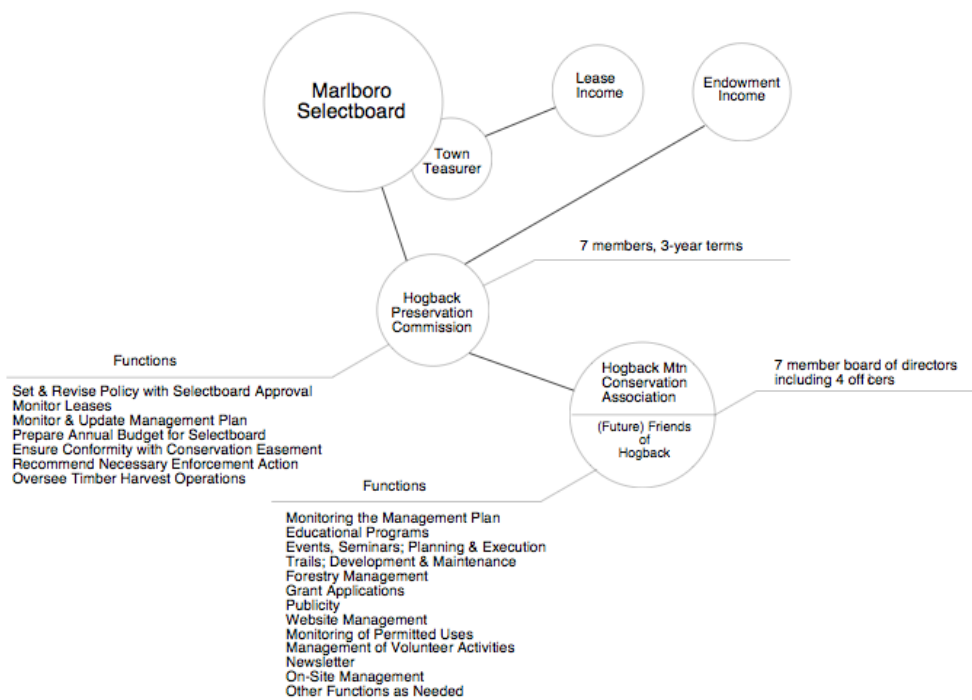
Section VIII. Amendments

These rules may be amended at any meeting of the Hogback Preservation Commission provided notice of the proposed amendment is given to each member in writing at least five days prior to the discussion and vote on the amendment; or, the proposed change will be presented as a formal motion which will then be tabled until the next regular meeting when it will be voted upon without change.

Section IX. Re-adoption of these Rules of Procedure

These Rules shall be re-adopted at the annual meeting.

Hogback Management Model



Permit No. _____

**Hogback Mountain Conservation Area
Special Use Permit for a Group Event or Organized Activity**

Name of Permittee _____ Representing _____

Mailing Address _____ Telephone _____

City _____ State _____ Zip Code _____

e-mail _____

Description of event or activity (permitted group events/activities include wilderness education*, geocaching/letterboxing, weddings/parties, and festivals/fairs): _____

Location where activity is to be held: _____

Time and date(s) of activity: _____

Estimated number of people: _____; number of vehicles: _____

Special events or activities are defined as supervised or organized situations involving one or more participants or spectators, which might be expected to affect the public use or enjoyment, or the general environmental quality of lands that comprise the Hogback Mountain Conservation Area.

All special use permits issued by the Town of Marlboro Select Board are in the nature of a license, and are revocable at will.

Any violation of this Permit by its holder, its agents, employees, or guests of any term or condition herein shall constitute grounds for its revocation by the Select Board, whose action shall be final.

Groups seeking a Special Use Permit must apply for it at least 30 days prior to the planned activity. To request a Special Use Permit, mail a request to:

**Marlboro Town Clerk
PO Box E 510 South Road
Marlboro, VT 05344
attn: Hogback Preservation Commission**

email: marlborotownclerk@gmail.com

This permit is subject to the following conditions and terms:

1. **This permit is not transferable.**
2. **Permittee may use the property only for the designated purpose and will avoid practices detrimental to wildlife, natural communities, and forestry. S/he shall not cut any vegetation, post any signs, or construct any structures.***
3. **Permittee shall dispose of all litter, trash, and any other waste generated by activities conducted under the terms of this permit. Plan ahead--there are no sanitary facilities in the Conservation Area. Pack it in, pack it out! Failure to do so will result in assessment of a disposal fee of a minimum of \$100.**
4. **Vehicles will be restricted to the roads and parking lots approved for public use. Emergency vehicles or other specific vehicles may be authorized special access by the Hogback Preservation Commission.**
5. **Permittee agrees that the Town of Marlboro, its officers, agent or employees are not liable for any claim whatsoever for damage to equipment, property or injury arising in connection with any activity conducted or undertaken under the terms of this permit.**
6. **Permittee should be aware that the property adjacent to Route 9 is privately owned and permission should be obtained from the landowner for the use of that property. Please contact: Ed Metcalfe, Hogback Properties, LLC, 7627 VT Rt. 9, West Marlboro, VT 05363. Phone: (802) 464-5494.**

The undersigned Permittee accepts and agrees to the terms and conditions of the Special Use Permit as stated above.

(Signature of Permittee)

Date:_____

(Signature of authorizing agent)
Marlboro Select Board

Date:_____

**In the case of open campfires constructed for warming/cooking during Wilderness Education activities, fires shall be limited to one per event, kept small, and monitored at all times. Fires should only be built on snow cover or ledges. Participants shall only collect dead wood from the ground that can be broken by hand. The fire must be extinguished completely before leaving the site.*

A tax-deductible donation made payable to the "Town of Marlboro Hogback Preservation Commission" to support trail maintenance and educational activities in the Conservation Area would be greatly appreciated.

Hogback Mountain Conservation Area Signage Guidelines

To maintain its wild, even remote feel, management of the Hogback Mountain Conservation Area requires careful and thoughtful inputs. Accordingly, the Hogback Preservation Commission believes that the Conservation Area should be accessible to visitors, but not heavily dissected by an overdeveloped trail system. Existing trails should be adequately, but not heavily maintained and signed, and, in general, trails should have a “rustic” feel to them. The following guidelines provide details for trail marking and signage that are consistent with this philosophy.

1. Paint Blazes on Trees

Oil-based gloss enamel.

When possible, blazes should be placed on tree 6 to 7 feet above trail tread.

Where possible, blazes should be placed on trees to the traveler’s right about 2 feet off trail tread.

Preferred blaze colors: white, light or medium blue, yellow, orange.

Blaze configurations:

CA north side—2-inch x 6-inch rectangles

CA south side—4-inch diameter circles

Wilmington Through Trail—4-inch-on-axes diamonds.

All blazes should be applied using standard templates of the dimensions above.

No plastic blazes or notching of trees permitted.

2. Trail Posts

Posts at trail junctions should be 4-inch diameter locust rounds (total diameter with bark attached, approximately 5 inches).

Posts should be 8 feet in length, about 2 feet of which will be buried in the ground and secured with 2 10-inch rebar anchors at the bottom and alternating layers of small and medium stone tamped tight, followed by an 8-to-9-inch layer of tamped top soil.

Trail signage should be attached using 1/4x2-inch coated structural screws (#25 bit).

Tops of trail signs should be at least 2 ½ inches below the top of the post.

3. Trailhead Informational Kiosks

2 vertical posts, 4-inches square, pressure treated, 8 feet in length.

2 cross braces, pressure treated 2x4, 4 feet in length.

Backboard: ¾-inch plywood pressure treated, 4 feet square.

Plexiglass covering: 1/8-inch; three 16"x24" panels, each attached with four 5/8-inch plastic bumpers secured with ceramic-coated 1-inch sheeters, gray color, hex head with washer.

Roof: 1x10, pressure treated, 4 feet in length.

Stain: Minwax English Chestnut 233, with a few drops of Minwax Red Mahogany 225.

4. Interpretive Signage

Signs shall be placed on 6-inch locust posts and sunk to a depth that is sturdy and allows readers of all ages to view them easily.

The signs should be angled to shed water and to afford maximum legibility. Laminated signs will better resist weather and UV degradation.

For the sake of consistency, sign dimensions should be 10-12 inches by 16-18 inches or, if more information is required, the long axis should be about 1.5 times greater than the short axis.

5. Ongoing Maintenance

Blazes on re-routed closed trails should be neutralized using color spray paint closely matching tree bark color.

Blazes should be freshened every 3 to 5 years or as needed.

Twigs obscuring blazes should be lopped.

Hogback Mountain Conservation Area Map Policy

The preparation of official Hogback Mountain Conservation Area maps shall be the exclusive responsibility of the Hogback Mountain Conservation Association (HMCA), with input from and approval by the Hogback Preservation Commission regarding content and design.

Official Conservation Area maps shall be available for downloading on HMCA's web site: www.hogbackvt.org/maps. Maps shall also be available in a print version at the Conservation Area's main kiosks near entrances to the Conservation Area (north of Vermont Route 9, south of Vermont Route 9, and Grant Road trail head).

The maps' digital cartography files can be shared with governmental organizations. File sharing with non-profit organizations will be considered on a case-by-case basis by the Hogback Preservation Commission. The digital cartography files shall not be made available to commercial entities.

The use of Hogback Endowment Fund monies to print maps for distribution shall be restricted to official Conservation Area maps.

**Conserving Habitat Variety
in the
Hogback Mountain Conservation Area
Marlboro, Vermont**

Proposal from the
Hogback Mountain Conservation Association Board of Directors
November 7, 2012

Approved by the Marlboro, Vermont Selectboard
January 2013

Proposal: Put in place a program to reinvigorate and maintain valuable bird and wildlife habitat in the Hogback Mountain Conservation Area (HMCA) by reopening portions of the former ski slopes. Maintain the openings through planned thinning on a rotating basis through a ten year cycle.

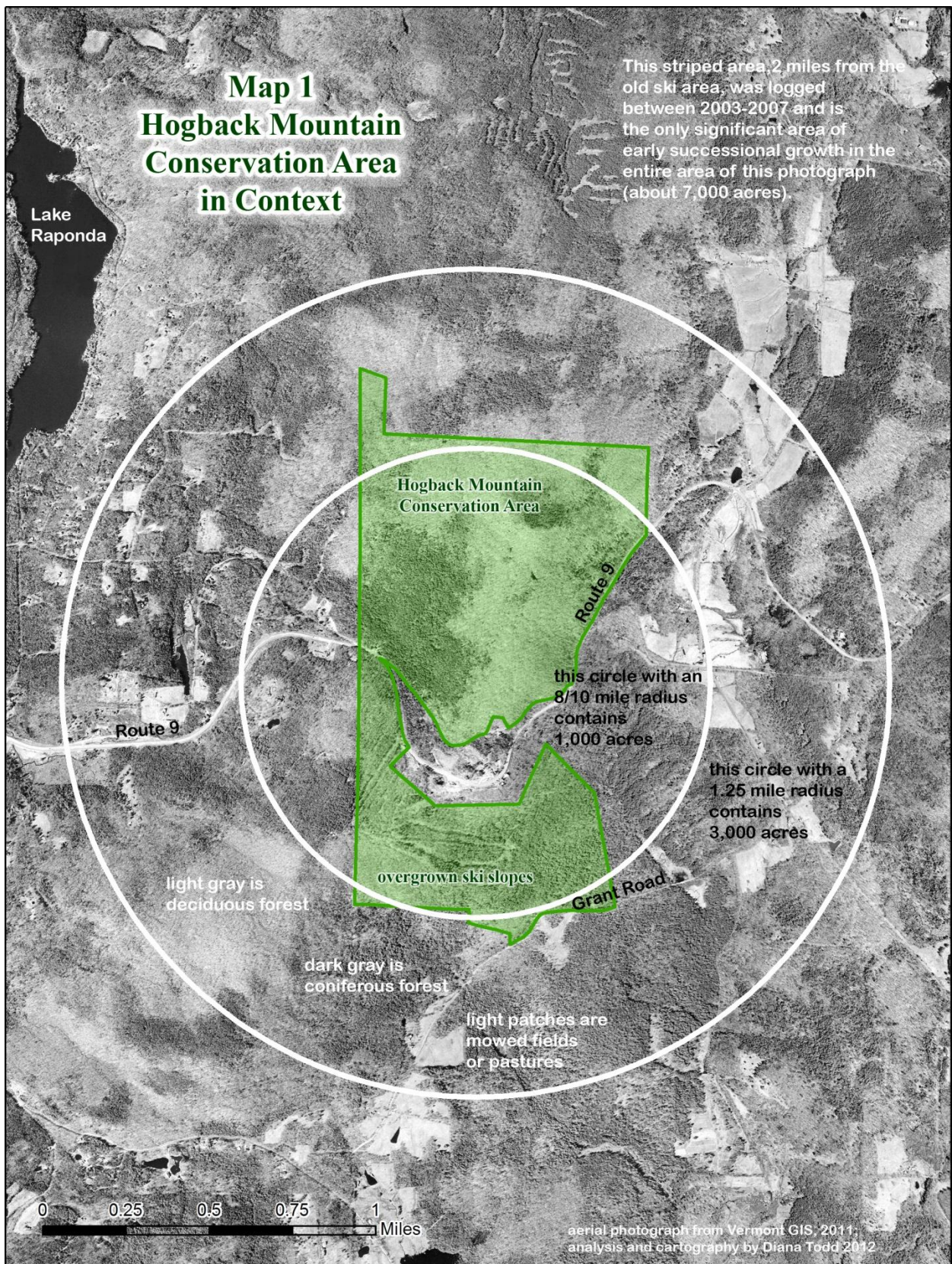
Background: This proposal addresses a problem that is becoming increasingly critical throughout Vermont: the state is rapidly losing habitat defined collectively as "early successional growth." Many species of birds, mammals, reptiles and invertebrates rely for at least part of their life cycle on the types of plants found in abandoned fields and pastures or newly created forest openings, for either food, shelter or other purposes. (See Appendix A.) Such habitat was abundant in the early and middle parts of the last century, as farms failed and forests regrew on formerly cleared land. But very little of that young regrowth is still young today. Where the landscape was predominantly agrarian at the advent of the 20th century, with nearly 80% of Vermont under agricultural use, today that ratio is reversed, with the land area now estimated to be 78%¹ forested.

"To optimize early successional species diversity, including many forest species, 10-20% of the forest landscape should be comprised of old fields, shrublands and young forest habitats."² That is the ideal identified by the Vermont Natural Resources Conservation Service in their Wildlife Habitat Incentives Program (WHIP) plan. When the Hogback Ski Area closed in 1986, the former ski slopes began reverting to forest. In the context of the neighboring land parcels of forest, pasture and field, the abandoned ski area contributed to an almost ideal mix of environments for supporting a rich and diverse wildlife community. But today that regrowth is no longer young. When the height of saplings in a regrowing area begins to exceed 20 feet in height, many species of birds no longer find the area useful³. A brief hike through the old ski area confirms that the regrowth in the conservation area is now much more forest than field. Sequences of aerial photos, like those shown in the timelines available on Google Earth, illustrate how rapidly the ski slopes have transitioned from open land to young growth to incipient forest.

¹ Stephen Long et al, More Than A Woodlot, pg 4, Northern Woodland, 2012

² Vermont Natural Resources Conservation Service, "Wildlife Habitat Incentives Program, 2007 Plan, " available online from link marked "Vermont WHIP Plan" at <http://www.vt.nrcs.usda.gov/programs/whip/>

³ Stephen Long et al, More Than A Woodlot, pg 129, Northern Woodlands, 2012



By regularly reopening the ski slopes on a rotating cycle, the HMCA can maintain this critical habitat variety. Other key habitat types needed for a diverse and healthy bird and wildlife population are, of course, forest, and also fields/pastures that are cut only annually (rather than regularly mowed suburban lawns or plowed, planted, and harvested agricultural fields). Forests abound in the properties surrounding the HMCA. Annually mowed areas are also plentiful, particularly on Higley Hill, Butterfield, and Grant Roads. But there are no substantial areas of young growth anywhere within a one mile radius of Hogback. No fields or pastures have been abandoned in recent years, and there have been few timber harvests in the area, which can create forest openings for regrowth. We are on the brink of losing this important habitat type. (See map 1.)

This proposal comes with inherent urgency: from a slow start by seedlings sprouting 26 years ago, the reforestation on the former ski slopes is now increasing dramatically, with trees reaching 30 to 40 feet or more in many places. As these trees mature in size, the clearing process becomes increasingly burdensome. The initial reopening effort will be the most demanding. Future cycles of reopening will take place when the regrowth is less than 20 feet in height.

Benefits: See the appendix for a list of the types of wildlife that could benefit from maintaining early successional growth on Hogback. Reopening the ski slopes is the most effective way to recreate and maintain the desired habitat. Compared to creating new openings in the mature forest, reopening the ski slopes will not disrupt established forest communities and will require less effort to implement.

Added benefits also accrue.

- A portion of the cut vegetation will be collected into brush piles, which provide shelter for many small animals and food in the form of insects.⁴
- The program in this proposal has been designed in part to be contiguous with a half-mile interpretive trail that circles the upper slopes. The trail already exists; it consists of the right-of-way access to the communication tower plus the trail on the old Practice Slope. (See Map 2.) Signs will be erected to educate visitors about the project and the importance of early successional growth to species diversity in both the plant and animal kingdoms. The trail can also be an important tool for raising awareness about the ongoing loss of critical habitat and perhaps inspiring other landowners to take action.
- Keeping the ski slopes relatively open will preserve a link to the important historical role that the Hogback Ski Area played in the life of the town. "This is where I learned to ski," grandpa can tell his grandkids when he takes them for a hike on the mountain. "There was a bus that brought us up after school, and the ski area provided free equipment."
- The thinning process will create distinct areas for telemark style skiing, thus reducing the likelihood of skiers developing their own trails through repeated bushwhacking or unapproved cutting.
- The dramatic views that have been enjoyed from the mountain slopes since the ski trails were first cut in the 1940's will be maintained.

⁴ Stephen Long et al, More than a Woodlot, pg 129, Northern Woodlands, 2012

- Most importantly perhaps, this “supervised regeneration” program will offer an opportunity to interested students and others to study the effects of a managed habitat.

Disadvantages: Potential negative impacts of the proposed program include the following.

- The type of habitat this program strives to create, with its patches of blackberries, short scrubby saplings, and random brush piles, is considered ugly by many people. The interpretive trail, by describing how these features benefit birds and wildlife, will help to combat this attitude.
- Hay-scented fern is growing in dense mats in several places on the former ski slopes. These rhizome mats inhibit regeneration of trees, because seedlings can’t penetrate the thick growth. Opening the slopes to more sunlight could possibly cause the fern to spread. Monitoring the extent of hay-scented fern mats is included in the proposed plan. If the fern is found to be spreading, the program can be modified.
- Long narrow openings through the forest, like highways and ski slopes, provide an avenue for cowbirds to penetrate the forest. (Cowbirds lay their eggs in the nests of other birds, and are thus considered an unwelcome species.) Some studies have shown that cowbird populations in forests are correlated to surrounding land use, with populations densest in forests surrounded by wheat fields and feed lots,⁵ so the threat of cowbird infestation on Hogback seems minimal.

Proposed program: Institute a ten-year cycle of slope reopening centered around the five major ski slopes: Meadow, the Practice Slope, the Great White Way, Ripperoo, and Sugar Slope. (See map 2 for locations of proposed management tracts). The goal is to create a suite of tracts in different phases of early successional growth. Once instituted and maintained on a regular basis, this program will ensure that wildlife always has a variety of ages of early successional growth available on the mountain. The areas under management on each former ski slope will be approximately three acres in size, utilizing the maximum width possible within the bounds of the former ski slopes. The work will be done by volunteers, using hand tools and light machinery. Thinning will be selective, leaving in place vegetation that is consistent with early successional growth and that provides food and shelter for birds and animals that depend on that habitat. Some of the woody debris will be massed into brush piles, some will be left where it falls, providing two different uses for the decaying vegetation.

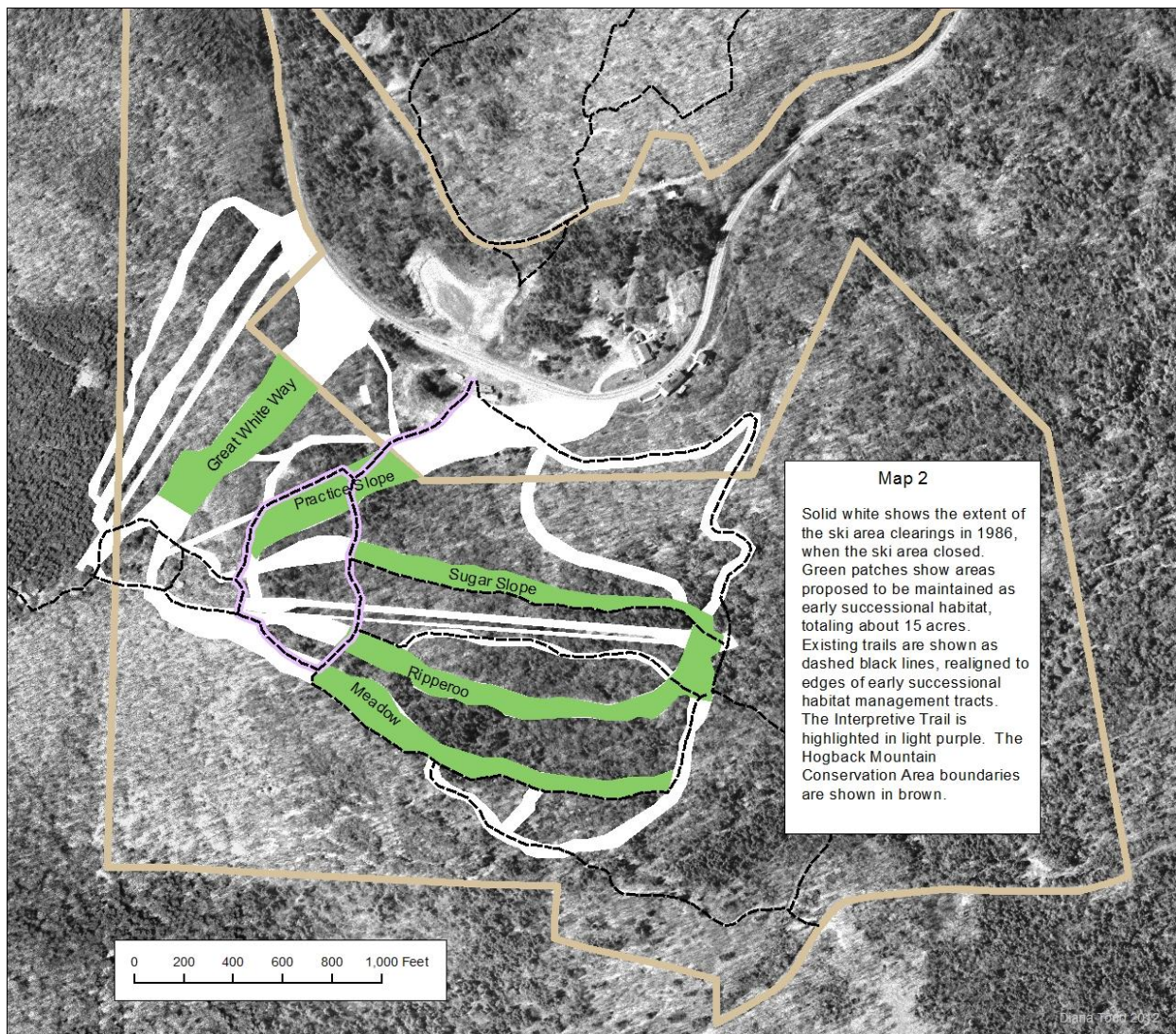
“In general, large forested areas of at least 1,000 acres should maintain at least 5% of the total acreage in permanent openings,”⁶ is the recommendation of the Connecticut Department of Environmental Protection Wildlife Division. That’s 50 acres of permanent openings for every 1,000 acres of forest. Audubon Vermont recommends a similar

⁵ Askins, Robert A., *Restoring North America’s Birds: Lessons from Landscape Ecology*, Yale University Press, New Haven, 2002, p. 115

⁶ Judy Wilson, Private Lands Program Coordinator for the Connecticut Department of Environmental Protection Wildlife Division, “Managing Forest Openings,” in “Managing Grasslands, Shrublands, and Young Forest Habitats for Wildlife: A Guide for the Northeast” published by The Northeast Upland Habitat Technical Committee and the Massachusetts Division of Fisheries & Wildlife, 2006, available at http://www.ct.gov/dep/lib/dep/wildlife/pdf_files/habitat/grassland_shrubland_management/Ch06_Managing_Forest_Openings.pdf

percentage, 3-5%⁷ Considering only the 600 or so acres that are within the Hogback Mountain Conservation Area boundaries, that means that 18-30 acres should be managed as permanent openings in various stages of early successional growth. Considered in the context of the surrounding land, including Molly Stark State Park and other large tracts of adjacent forest on all sides, the birds and wildlife that use the area (which don't respect jurisdictional boundaries) would benefit from an even larger area under management. The first ten-year cycle of this proposed program recommends managing three-acre areas on five of the ten major ski slopes, for a total of 15 acres under management. See map 2. The area under management can be expanded later if the program is deemed a success.

⁷ Hagenbuch, Steve, "Forest Bird Habitat Assessment, Hogback Mountain Conservation Area", Audubon Vermont, Sept 20, 2012, p. 4.



The size of the tracts to be managed, three acres, was chosen because it is the minimum size recommended by Audubon Vermont for this type of project. That recommendation is based on studies which show that while some bird species will nest in smaller openings, once nestlings fledge and adults molt, they move to areas of early successional growth that are at least three acres in size to seek cover and food sources while fledglings grow and adults bulk up for later migration.⁸

Even though optimum patches of early successional growth are equally wide and long, with minimal edge to area ratios, the program proposed here does not include cutting any of the existing mature forest strips between the old ski slopes in order to create that ideal

⁸ Verbal recommendation by Steve Hagenbuch, Audubon Vermont, at Oct 22, 2012 meeting with Hogback Preservation Commission and during follow-up phone call with Diana Todd and Bob Anderson, Oct. 26, 2012.

configuration. Studies have shown that long narrow forest openings such as power lines provide suitable nesting habitat for shrubland birds, with nest predation decreasing with distance from the edge.⁹ These same findings would apply to ski slopes. Audubon Vermont suggests an ideal minimum width of 35 meters.¹⁰ The Great White Way and the Practice Slope both easily meet or exceed this minimum recommendation. On the narrower ski slopes, regenerating early successional habitat is still a valid goal even though the configuration is less than ideal. The power-line study showed that even in narrow openings where nest predation is higher than in wider openings, nesting successes still exceeded nesting failures.

Audubon Vermont recommends a 15- to 20-year management cycle, based on the typical amount of time it takes an area to mature beyond the early successional growth phase.¹¹ The proposal presented here recommends a ten-year management cycle because the areas in question have been left unmanaged for over 25 years. All areas have reached the limits of early successional growth. Rapid action is needed to reclaim these areas. After the first ten-year cycle has been completed, the length of the management cycle can be reconsidered.

For each area under management, a detailed work plan will be developed in the spring prior to the scheduled thinning. Each slope will be documented with photographs and a map detailing the existing vegetation. (See Appendix B for a sample detailed map and photographs of a portion of the Meadow ski slope.) Photographs will be taken from reproducible locations, so that similar photographs, looking in the same directions, can be taken in each year of the program so that year-by-year comparisons can be made. Existing conditions will be documented, including mapping significant areas of invasive plants and mats of hay-scented fern. Each copse within the management area will be mapped and a thinning plan will be developed that:

- retains:
 - shrubs and trees that are already providing substantial foodstuffs, such as hawthorns, apples, maturing oaks, maturing beech
 - trees that provide shelter, such as spruce
 - trees that host insect foodstuffs, such as yellow birch or snags (standing dead trees) of any species
- removes:
 - trees of all species that stump sprout readily (such as ash, soft maple) in order to stimulate regeneration of dense woody growth
 - trees of all species that do not contribute significantly to food or shelter needs of wildlife that uses young growth habitat, such as pine and fir.

⁹ King, David I. and Bruce E. Byers, "An evaluation of powerline rights-of-way as habitat for early successional shrubland birds", *Wildlife Society Bulletin* 2002, Vol. 30, No. 3, pp. 868-874

¹⁰ Minimum width recommended by Steve Hagenbuch, Audubon Vermont, at Oct. 22, 2012 meeting with HPC.

¹¹ Hagenbuch, Steve, "Forest Bird Habitat Assessment, Hogback Mountain Conservation Area", Audubon Vermont, Sept 20, 2012, pp. 11-12

Invasive plants, if any, will be removed prior to or concurrent with the thinning process. The thinning itself will take place in the late summer or fall. (Cutting or mowing should be avoided between Apr. 15 – Aug. 15 to avoid disturbing nesting and brooding sites.¹²)

Based on the recommendation of Audubon Vermont, any hiking trails that traverse the early successional growth tracts under management will be reviewed for possible relocation.¹³ For example, on the Practice Slope, which has already been designated by the Hogback Preservation Commission as an area to be maintained in early successional growth, particular care will be taken to “brush out” the remnants of the vehicle track which is still strongly visible leading up the middle of the slope. This old vehicle track tends to visually lure users onto its traces, despite past efforts to close that path. When the Practice Slope is thinned, large amounts of woody debris can be piled onto the old vehicle track, more effectively eradicating it. A narrow hiking trail will be developed in a less intrusive location to serve as a leg of the Interpretive Trail circuit hike. The Tower Trail, which also serves as the New England Power Company's service road to its communication towers atop Mt. Olga, bisects the Practice Slope about 3/4 of the way down the slope. There is no intention of relocating this trail.

Year	Slope	Comments
2013	Meadow	At the point where the interpretive trail crosses the ski slopes, this is the most heavily overgrown of the trails, thus the one where action seems most urgently needed.
2015	Great White Way	This is the widest slope in the proposed program, and the only one with no major patches of hay-scented fern.
2017	Practice Slope	This is the most readily visible slope from the parking lot. It has already been designated by the HPC as an area to be maintained in early successional growth, but large patches of the existing growth have already regrown past the early successional stage.
2019	Ripperoo	
2021	Sugar Slope	

This plan calls for thinning to occur every other year (odd numbered years). In the intervening years (even numbered years), during the first ten-year cycle only, small areas will be thinned in any of the five management areas where the need seems urgent. For example, waiting until 2019 to thin Ripperoo or 2021 to thin Sugar Slope may mean that trees in some sections of those slopes will have grown so massive that volunteers will not

¹² Brian C. Tefft, Rhode Island Department of Environmental Management Division of Fish and Wildlife, “Managing Shrublands and Old Fields,” in “Managing Grasslands, Shrublands, and Young Forest Habitats for Wildlife: A Guide for the Northeast”, published by The Northeast Upland Habitat Technical Committee and the Massachusetts Division of Fisheries & Wildlife, 2006, available at http://www.ct.gov/dep/lib/dep/wildlife/pdf_files/habitat/grassland_shrubland_management/Ch04_Managing_Shrublands.pdf

¹³ Verbal recommendation by Steve Hagenbuch, Audubon Vermont, at Oct 22, 2012 meeting in Marlboro with Hogback Preservation Commission.

be able to clear them. By tackling small but critical sections during the even numbered years, all sections of the composite management area can be gradually brought back to the early successional stage of growth. By the second ten-year cycle, this emergency type of action should no longer be needed.

Monitoring and measuring: Individuals and groups that have studied or documented bird or animal life on Hogback in past years will be contacted and invited to participate in monitoring the impact of the proposed slope-opening plan. If they are not able to assist in the on-going monitoring, at a minimum their existing studies will provide a baseline for future comparisons.

Conducting bird and wildlife censuses requires a lot of time and effort, and, if not rigorously executed, can be mere collections of anecdotal evidence. Therefore, a more reliably documented measure should also be used to assess the impact of the slope-reopening program. Forester Pieter Van Loon has recommended monitoring hardwood regrowth. Are the oak and maple stumps resprouting? Are hardwood seedlings emerging? If these types of growth occur, then the birds and wildlife that use that type of habitat will arrive to make use of it.

Yearly monitoring will also be conducted to see if any alien invasive plants, such as buckthorn or bittersweet, have gained a toehold in the opening. Any infestations will be eradicated.

The Marlboro Conservation Commission has contributed input to this plan in the form of advice on the location of wildlife corridors which cross Route 9 in the vicinity of the former ski area. That information has been incorporated into Appendix C.

Implementation: The actual work of cutting the brush to re-open each slope will be done by volunteers. The first year cut will demonstrate whether the project is do-able by volunteers. If the amount of labor involved is found to be more than the viable volunteer labor pool can handle, hiring professional help can be considered for subsequent years.

Conclusion: The Hogback Mountain Conservation Association Board is eager to take concrete steps to ensure that the mountain remains a treasured resource for wildlife and for people. We look forward to working with the HPC to implement the plan presented in this proposal.

Appendix A – Wildlife in Early Successional Habitats

From Fish and Wildlife Habitat Management Leaflet Number 41, "Early Successional Habitat", Natural Resources Conservation Service and Wildlife Habitat Council, January 2007, available online at http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs143_022190.pdf

Species inhabiting early successional habitats that are exhibiting population declines

Birds:

Red-cockaded woodpecker
Northern bobwhite
Common yellowthroat
Rose-breasted grosbeak
Veery
American woodcock
Eastern loggerhead shrike
Yellow-breasted chat
Summer tanager
Yellow-bellied sapsucker
Prairie warbler
Ruffed grouse

Mammals:

New England cottontail
Bobcat
Least shrew
Appalachian cottontails

Invertebrates:

Edward's hairstreak
Northern cloudy-wing
Swarthy skipper
Frosted elfin butterfly
Karner blue butterfly

Amphibians and reptiles:

Eastern hognose snake
Black racer
Bog turtle
Gopher tortoise
Indigo snake
Pine snake

Appendix B

This appendix includes a map and photographs demonstrating the level of documentation proposed for the areas to be managed for early successional growth in the Hogback Mountain Conservation Area. This demonstration covers approximately 1.2 acres of a proposed three-acre management tract on the former Meadow ski slope. The map and photographs show the typical, natural re-forestation now taking place at the site.

The site is located on a portion of the old Meadow ski trail that faces southeasterly. The tract under management will be bounded on the upper side by the National Grid access trail. The width of the tract will coincide with the approximate width of the original ski trail and, where possible, those bordering areas will be developed to provide a soft edge with the existing, contiguous forest.

The ski slope has been abandoned for roughly 25 years. Over those years the site has developed as a mixed growth area with open areas interspersed with patches of heavy reforestation. The open areas support a large variety of low-bush plants and grasses. Some of these open areas are dominated by hay-scented ferns; in other areas hay-scented ferns are absent. The tract is dotted with more than a half-dozen islands or copses of dense early forestation that now extend 25 to 30 feet in height. These copses are dense enough to inhibit the growth of low bushes, grasses and forbs. A significant portion of the reforestation is red maple. Other tree species include cherry, white birch, some conifers, sugar maples and oaks. No alien invasive species were found during the field work, which was performed in August, 2012.

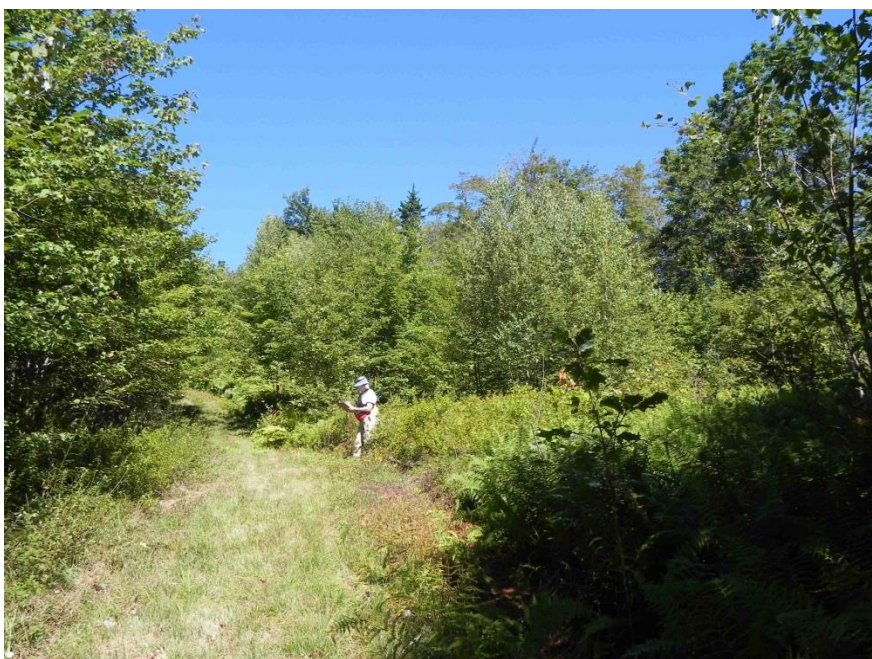
Photos were taken from two different GPS-reproducible locations; one looks southeast from the top of the proposed area and the other offers a reciprocal view upslope from the bottom of the demonstration tract. Additional photos were taken of each major copse in the demonstration area.



GPS photo, Meadow Pt A, 165°



GPS Photo, Meadow, Pt B, 265°



GPS Photo, Meadow Pt B, 340°

Hogback Regeneration Area Pre-Cut Documentation

Name of site Upper Meadow Type of cut Selective

Date of proposed cut 2013 Date of documentation August 29, 2012

Photo locations:

A: Ledge/rock in path/R.O.W. on a curve just before trail intersection

1st shot - face 165° (downslope); 2nd shot - face 260° (across slope)

B: about 380' down the ski slope, rock ledge in trail, just downslope from a big rock outcrop on the right as you face downslope

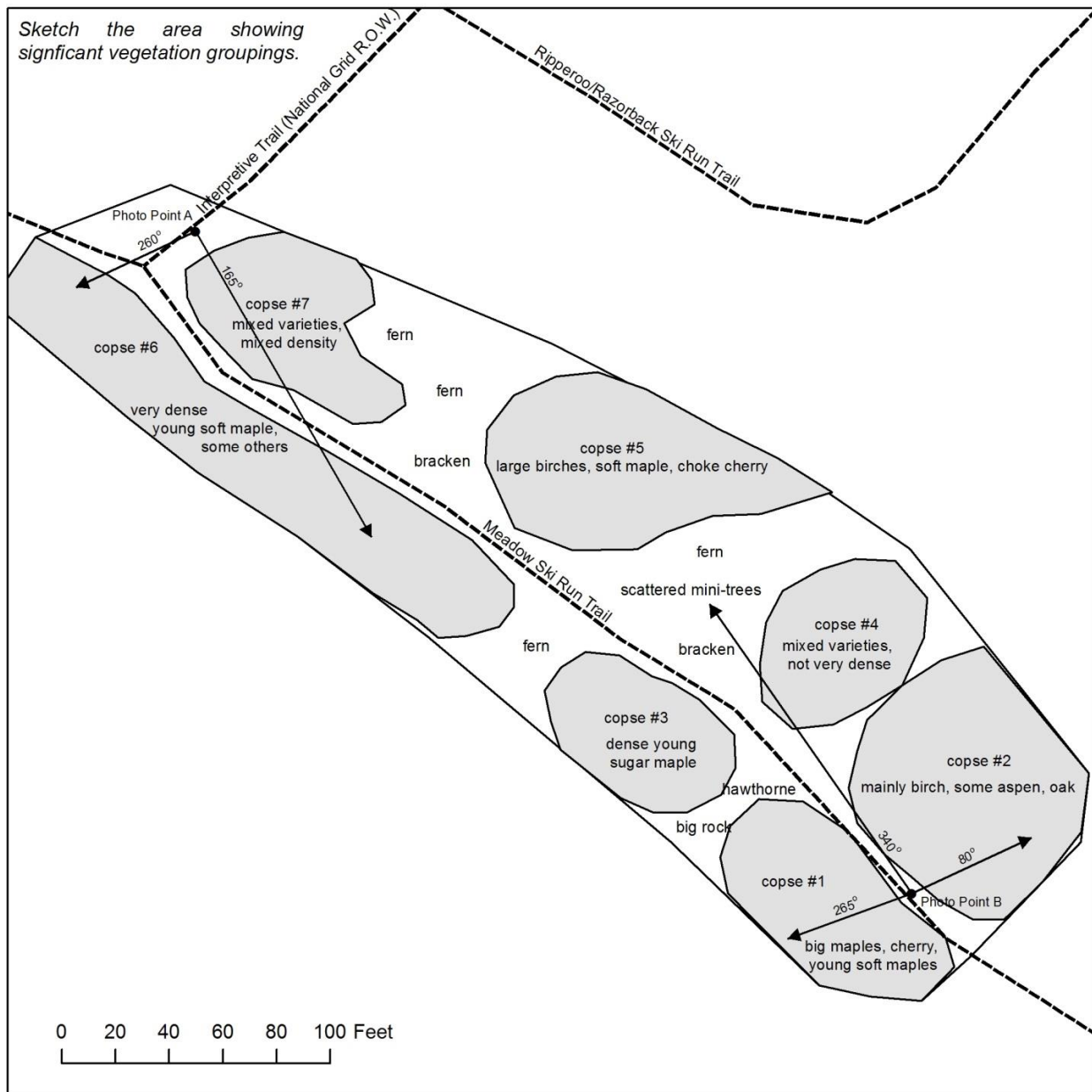
1st shot - face 340° (upslope towards tall hemlock)

2nd shot - face 80° (across slope)

3rd shot - face 265° (across slope in other direction)

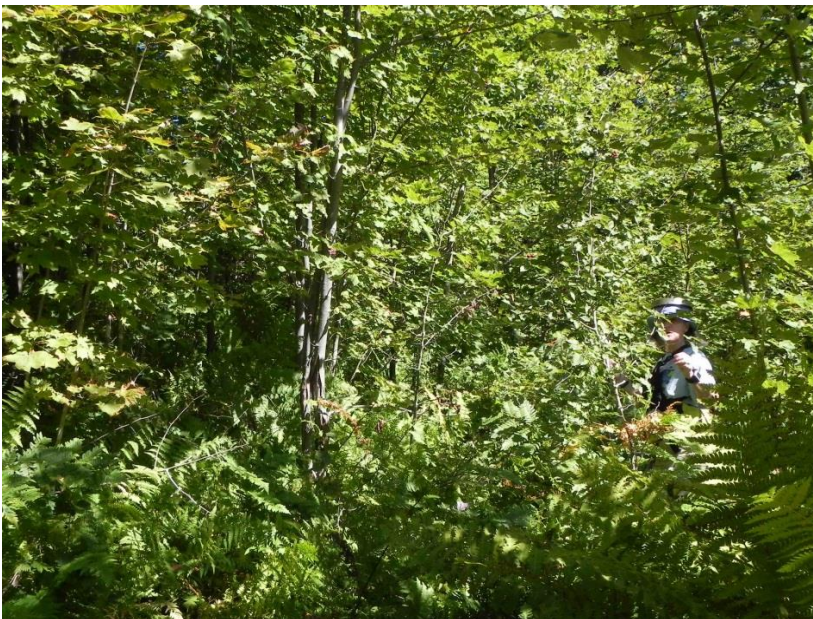


Circle the area on the map above





Copse 3



Copse 4



Copse 1

Appendix C

Wildlife Corridors

At the November 1, 2012 meeting of the HMCA Board of Directors, the Board decided to seek input about whether the proposed plan would interfere with existing wildlife corridors and to include that information in an appendix to the proposal.

Adam Gebb of the Marlboro Conservation Commission provided the following information:¹⁴

- wildlife has been documented crossing Route 9 both east and west of the commercial area on Hogback
- the western crossing is the more heavily used of the two
- minimum width for corridors should be 1,500 feet
- wider is better; provide 2,500 feet where possible, especially west of the commercial area

Gebb stated that “The old ski area and the proposed cut areas do not affect wildlife in a bad way. It is commercial activity that concerns the Conservation Commission.” He did not comment on wildlife movement in an east-west direction in the band between Route 9 and Grant Road.

Map 3 was developed to illustrate the corridor widths recommended by Gebb. The green bands represent corridors 1,500 feet wide. The yellow bands are corridors 2,500 feet wide. The corridor overlays on the aerial photo of the Hogback area show that there is ample uninterrupted forest both east and west of the former ski area to provide suitable north-south wildlife corridors. For the east-west direction of travel, the southernmost proposed early successional habitat management area (on the former Meadow ski slope) is about 800 feet from Grant Road at its nearest point.

The map was submitted to the Conservation Commission for their review. George Leoniak, a wildlife tracker who has studied and documented wildlife in the Hogback area and who is a member of the Marlboro Conservation Commission, commented via email, “The western corridor that crosses route 9 is the most critical of the bunch, and it looks like much of the proposed ESH is to the east of this. I don't really see any conflict for wildlife movement based on the map you've presented here.”

¹⁴ email communication between Diana Todd and Adam Gebb

