

Bringing Nature to the Community

A Sheep Hill Barn Restoration Feasibility Study



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Client: Leslie Reed-Evans, WRLF

Environmental Planning 302

Fall, 2008

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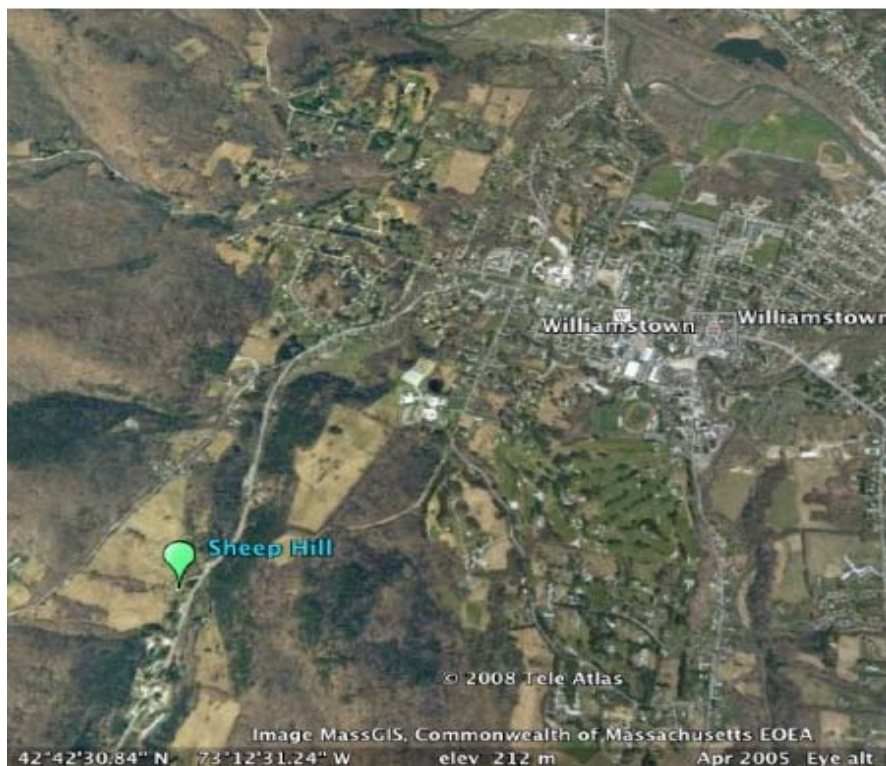
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Project Objective

In 2000, the Williamstown Rural Lands Foundation (WRLF) moved their headquarters to the former Rosenburg Farm at Sheep Hill in Williamstown, MA. Since then, the Foundation and its executive director, Leslie Reed-Evans, have been trying to bring nature to the community, and turn Sheep Hill into a site where children and families can go to interact with the natural environment. It was with this goal in mind that Leslie approached the Environmental Planning class at Williams with the hope that a team of students could assess the feasibility of restoring one of the historic Sheep Hill barns into a nature education center. She wants to provide additional space and expand educational activities that will compliment the WRLF mission to “address the loss of open space and public access, the disappearance of family farms in the Williamstown area and to encourage responsible development.”¹ The focus of this study is to address Leslie’s request, and determine which barn restoration and educational expansion plan would be most cost-effective and draw the greatest interest from the surrounding community. We attempt to incorporate the history and original uses of the Sheep Hill site, as well as the values of the WRLF, into this plan.

Physical Site Description

Sheep Hill is located in Williamstown, MA, in the northwest corner of the state. It is slightly southwest of the town center, located on Routes 2 and 7 South.



¹ Williamstown Rural Lands Foundation home page @ <http://www.wrlf.org/about.html>

It is comprised of roughly 55 acres of former farmland, along with a bit of forest that runs along Bee Hill Road at the west side of the site. Since the farming has ended, it is now a mostly grassy parcel, with a steep hill that runs from Bee Hill Road down to the developed portion at on the east side. There are several existing structures on the site, which are clustered around the entrance and include a former horse barn (Figure 1), dairy barn (Figure 2), hen house, farmhouse (Figure 3), a recently constructed garage, and a tool shed. With the exception of the farmhouse (which serves as the WRLF headquarters and nature education center) and tool shed (which has displays of traditional farming tools), these buildings are used mostly for storage.



Figure 1: Horse Barn



Figure 2: Dairy Barn



Figure 3: Lewis Center

In keeping with their mission, the Williamstown Rural Lands Foundation has blazed a number of nature trails on the site that are maintained for public use. There is

also limited parking, with space for fewer than ten cars. Especially since there currently isn't adequate space for school bus drop-off at the site, parking is an aspect of Sheep Hill that the WRLF wishes to improve. It is outside the scope of this particular project, but as educational programs are expanded, increased demand for parking is a challenge that will need to be addressed.

Site History

The historic origins of Williamstown are in wool and dairy production, and in its many years as a farm, Sheep Hill has served in both of these capacities. The recent history of this site begins in 1933, when Art and Ella Rosenberg purchased what was then known as Sunny Brook Farm from Clayton Foster. They held it for the next 50 years, and at the farm's peak, kept a herd of fifty milking cows, as well as other livestock such as chicken, sheep and pigs. The Rosenberg family also rented the site to the Williams Outing Club during the winters from the 1930s to the 1950s. The Outing Club used it for skiing, snowshoeing, and other recreational activities, and installed a rope tow to bring students to the top of the hill until other ski slopes became available.²

After the deaths of Art and Ella, the farm was passed down to the Rosenberg's son, "young" Art. He kept the dairy tradition alive well into the 1980's, and continued to live and care for the land until less than a year before his death in 1998. It was always Art Rosenberg's wish that Sheep Hill be kept available to "provide a window into Williamstown's rural past."³ Thus, when "young" Art passed away, he left Sheep Hill to the Berkshire County Chapter of the American Red Cross. During World War II when his father was seriously injured in a tractor accident and became unable to work the farm, it was the Red Cross that saved the farm from foreclosure by giving "young" Art a deferment from the war to grow food. "Young" Art felt this was a great way to repay this outstanding organization.

In 2000 the Williamstown Rural Lands Foundation purchased the parcel from the Red Cross for use as their headquarters, and placed it in a conservation restriction. Later, in 2001, they received a \$250,00 gift from Craig Lewis, with which they renovated the farmhouse to create offices, classroom space, and a library. Lewis "had envisioned the farm as a site for a nature center where programs and activities for local residents of all ages could be held,"⁴ and WRLF used that money accordingly. The site is currently open year-round from dawn until dusk, with the farmhouse open Monday to Friday from 9 to 5. It hosts everyone from families to country fairs, and provides activities such as picnicking, hiking, bird watching, star gazing, nature programs, tracking workshops, and back country skiing.

² <http://www.wrlf.org/mission.html>

³ The Advocate Nov.8, 2000 – "WRLF purchases Rosenberg farm to preserve open space"

⁴ The Berkshire Eagle, Nov. 21, 2001 – "A gift for Sheep Hill"

Problem Identification

Based on our meetings with Leslie Reed-Evens, we identified three major areas of interest for this project: determining the target audience for this nature center, its educational focus, and which barn would be best suited for the task.

Ideally, the nature center at Sheep Hill would be an all-encompassing entity that provides interactive educational opportunities for patrons of all ages. However, in the initial planning stages, we felt it would be best to limit our scope to one age group. Leslie's personal specialty is in elementary education and thus the current nature center is tailored to elementary-age children and under. Based on this information and the popular demographics of other nature centers (see Case Studies), we limited the initial scope of the project to elementary education. We would like to eventually expand on this age range (and will cite examples of ways to do this), but feel the focus should be to increase the number of elementary age children engaged in natural education now before spreading out our resources to a broader range of ages.

The push for natural education for children has come to the foreground in recent years through movements such as "No Child Left Inside". These movements stress an emphasis on hand-on, interactive learning in the field and in the classroom in order to develop a sense of connection between children and their natural environment. It cites many problems that are causally related to children not spending enough time outdoors, including "nature-deficit disorder" which is said "to link to rises in obesity, attention disorders, depression, and other sociological ailments."⁵ If Sheep Hill could draw in the young Williamstown residents and begin to foster an appreciation for open space, these children will be more likely to remain interested in environmental education, thus providing the impetus to expand programs to wider age groups.

In order to identify the most successful and feasible educational model for Sheep Hill, we looked at ones that have worked in surrounding nature education facilities. Case studies allowed us to identify aspects of other nature centers that are successful, and can be implemented in this project. Initially, in an effort to "leave our options open", we essentially identified three main trajectories that could be followed with nature center: Agricultural, Historical, or Environmental.

Although agricultural education is not the focus of Sheep Hill's educational programs right now, we found it to be a feasible and potentially successful option given the sites historic use as a farm. Restoring one or all of the barns to their original use and housing live animals could provide for interactive learning about agriculture. Williamstown has such a rich history as a farming community, that an agricultural education center presents unique opportunities to combine environmental education with historical education. Traditional agricultural practices, from rotational crop growing to animal husbandry, are skills that have been lost with the advent of modern monoculture and factory farms. They emphasize harmony between human needs and the natural

⁵ No Child Left Inside @ http://www.cbf.org/site/PageServer?pagename=act_sub_actioncenter_federal_nclb_naturedeficit

environment, and are an integral part of realizing both Williamstown's history and sustainable future.

Another great option to be considered is for the educational programs at Sheep Hill to remain focused on the environment. Leslie does a fabulous job of providing interactive displays and activities, and getting the community involved. This education about the natural environment, especially when focused on the particularities of the Berkshire area, is an invaluable resource and should be expanded regardless of the focus of the restored barn. The one drawback to this focus is that it overlooks the history of the site. There are many places in Williamstown that provide beautiful, natural, open spaces, however, few can combine this landscape with a rich cultural history. Creating a link between the history and ecology of the land is crucial to WRLF's mission, and will also allow Sheep Hill to stand out among other nature centers in the area.

In looking at options for expanding historical education, we found that Sheep Hill has a long-standing history within the community that should be incorporated into any type of educational center on the site. This history can easily be incorporated into either an agricultural or environmental setting, as well as highlighting it for its own right. However, because people tend to appreciate history most when shown in its natural context (e.g.: the popularity of Colonial Williamsburg, Renaissance fairs, etc.), an effective way to highlight Sheep Hill's rich history would be through the agricultural education mentioned. WRLF's mission is centered on the loss of open space, and it would be beneficial to view the site through this historical lens that can show the significance of farming, land conservation, and the history of the Berkshires.

The third area of interest was the physical barn renovations that needed to be made. Because of the rustic nature of the barns, restoring either of them into a year round indoor facility, including a heating system, insulation, new windows, plumbing, and electricity would be prohibitively costly. These renovations would also detract from the character of the barn interior, as it would look more like a dry-walled classroom. It would be more financially feasible to construct a new classroom (which would have the same feel), and thus this option for restoration was eliminated.

Instead, we looked at three different tiers of restorations options, including "full," "partial," and "animal-use." A full restoration in this case would consist of the new floors, sills, siding, electricity, and temporary heat. The structure would essentially be a functional year-round facility for special events and educational activities, while maintaining its historical barn character. Partial would entail the new floors and sills, but no heat and electricity; it could therefore be used for special events and activities, but only seasonally. Animal use would really require no restoration, but rather simple volunteer labor to get the barns ready for animal inhabitants. These options will be discussed further in the "Restoration Options Analysis" portion of the study.

Case Studies

Red Gate Farm Education Center (Buckland, MA)



“Today's society is losing touch with farms and the natural world. Fewer children have the ability to recall the sounds, sights, hard work and adventures that a farm provides.”⁶

Located in Buckland, MA, Red Gate Farm is similar to Sheep Hill both in its physical layout and educational mission. It is steeped in history and served as the Williams Family Farm for over three generations. Now, the site looks almost identical to Sheep Hill, with a farmhouse and barns that are used for classes and special events. It has programs for home schooled children, school groups, families, and hosts a variety of special events during the year. However, unlike Sheep Hill, this facility makes full use of all of its barns, with hosts of live animals that are included in many of their educational programs.

According to their website, “Red Gate Farm connects people to their environment, their land and their history. With programs, volunteer opportunities, and outreach activities, young people and adults experience hands-on learning about agriculture and the natural world.”⁷ One of the main things that makes Red Gate Farm stand out was its focus on traditional farming practices and use of live animals. The farm uses live animals for many of its educational programs, which draw many families to the facility. For many children, being around farm animals is not an everyday occurrence, so learning about proper animal husbandry or how to till the land behind 4,000lbs of oxen is indeed an exciting experience.

⁶ Red Gate Farm @ <http://www.redgatefarm.org/index.php?page=about>

⁷ Red Gate Farm @ <http://www.redgatefarm.org/index.php?page=about>

Another notable feature of Red Gate is that none of the barns were fully restored. Although most of them had electricity, on they whole they are essentially used only as originally intended – to house equipment and animals. Despite this, they are still an integral part of the educational programs. When school groups visit, they spend almost all their time outside, moving from one of these barns to the next. They get to visit the oxen, the pond, the hayloft, etc., and in this way, the entire farm really becomes the classroom.

According to Farm Manager Ben Murray, “agriculture is the link between people and the environment”⁸, and should be taught in conjunction with environmental programs. Red Gate Farm thus offers a discrete menu of classes to schools in the area, ranging from pond ecology to composting to animal husbandry. The focus is largely on younger children, with the hope of getting them involved early so that they continue to return to the farm. This can be done by creating a long-term plan, and offering events such as sleepovers when kids reach a certain age, in order to give them something to look forward to

As a former dairy and wool farm, Sheep Hill could certainly follow this path and add in historically relevant animals to the site for educational programming. One way to do this, which Red Gate modeled with their cattle collection, was to rent them from local farmers. This allowed the farm managers to avoid caring for the animals, but still use them for education. Another great aspect of Red Gate was their vegetable garden, which would be a relatively easy, cost-effective way to teach kids a lot about traditional agricultural practices. Overall, Red Gate Farm is an amazing site that Sheep Hill could potentially use as a model. Its emphasis on live animals was especially popular with the surrounding community, which would likely be true in Williamstown as well.

Hawthorne Valley Farm (Ghent, NY)



⁸ Personal Communication, November 13, 2008

“Nurturing the land that nurtures us”⁹

Hawthorne Valley Farm was chosen as a case study because it shares some similarities to Sheep Hill: it is part of a land trust, has a non-profit structure and has a dual mission of promoting conservation and providing education. The site is over 400 acres, so it is much larger than Sheep Hill and consists of three main branches. First, Hawthorne Valley is a fully functional organic and biodynamic farm accompanied by a farm store that sells baked goods, dairy, and produce to the community. Second, the farm is part of a CSA, or community supported agriculture that allows members of the community to pay farmers for their produce at the beginning of the season and receive fresh produce weekly. The final part of Hawthorne Valley is education, which in itself has numerous components.

There is a Waldorf school on site, which is an independent school based on the philosophy of Rudolph Steiner that stresses “the integration of body, soul, and spirit as the foundation of education and purposefully nurtures health, soul balance, and moral development in the growing child.”¹⁰ There is also a visiting students program, which allows students to spend a week at the farm and truly appreciate what farm life entails. This program echoes the ideals of the No Child Left Inside movement, as their mission reads, “many children today have lost the connection with nature, knowledge of farming, and the true origins of their food...we strive to create the right environment for awakening that knowledge.”¹¹

The last educational component is The Farmscapes ecology program, which is run by Conrad and Claudia Vispo, both of whom have PhD’s in ecology. They use this program as an educational tool for all ages. They conduct primary research on the various ecological systems that comprise a farm landscape and they use their research as the basis for educational programming for adults and children alike. Like Ben Murray, Conrad believes that the integral link between man and nature that occurs on a farm. The focus of this program is thus to learn about biodiversity and native species on farm landscapes and to better understand the best ways for people and nature to co-exist on a farm setting. While there is no way for people to have zero impact on the land we use for sustenance, it is important to realize our effects in order to begin to mitigate them.

Although an extremely impressive site, on the whole, Hawthorne Valley was not as applicable to Sheep Hill as we had hoped. They do receive grant money, but the income from the farm store and the tuition from the Waldorf school account for the bulk of Hawthorne Valley’s funding, and essentially allow the farm to support itself. Despite this major difference, there are still a few programming aspects that could be beneficial additions to Sheep Hill, the foremost of which being the Farmscapes Ecology Program. Although the scope of this project is targeted toward elementary schoolers, a farm ecology program would be an incredible way to integrate the entire community at Sheep Hill. Williams College students and professors could do research at the site, and there

⁹ Hawthorne Valley Farm @ <http://hawthornevalleyfarm.org/>

¹⁰ Hawthorne Valley School @ <http://www.hawthornevalleyschool.org/school/mission.html>

¹¹ Hawthorne Valley Visiting Students Program and Summer Camps @ <http://www.vspcamp.com/>

could be programs for adults on everything from native species to organic farming. These programs would be geared toward all age groups and thus expand Sheep Hill's realm of influence into the entire community.

Pleasant Valley Wildlife Sanctuary (Lenox, MA)



Because of its popularity in the Berkshires and beyond, we thought that Pleasant Valley Wildlife Sanctuary could be a useful model for Sheep Hill as well. However, despite the few educational programs that they offer, the main focus of Pleasant Valley was on the site itself, which has a nature classroom, a fully restored barn, a visitors center, and seven miles of hiking trails, including one all-person trail that is handicap accessible.

Pleasant Valley is comprised of over 1,000 acres, and the primary focus is certainly on environmental conservation, as can be seen by the emphasis placed on their thriving beaver population. The ostensible feature drawing the public is thus their beautiful wildlife sanctuary and hiking trails. The site has a very different feel than Sheep Hill both in terms of landscape, and because the history of the land is not integral to the site. In great contrast to Sheep Hill, at Pleasant Valley, there is no historical emphasis and even the barn is relatively new! Except for the visitor's center, all of the educational aspects to the site are not opened to the public, and reserved for special events and classes only. There are also few classes just generally offered to the public and most education is done through school groups.

While Pleasant Valley is stunning and has a lot to offer the outdoor enthusiast or naturalist, there weren't many aspects that were applicable to Sheep Hill. Physically the site is much bigger, and provides a very different ecological setting than Sheep Hill. While Sheep Hill is primarily open field with a spattering of thin woodland, Pleasant Valley is densely wooded and contains a complex stream/pond system. The educational

site at Pleasant Valley is very nice and spacious, but provides nothing new besides sheer size. Furthermore, it is a reasonable assumption that people aren't drawn to Pleasant Valley for their educational activities, but rather for the great outdoor activities, leaving the demand for some educational programs as a by-product. In contrast, Sheep Hill is looking to draw people based on the merits of its educational activities.

Community Profile

In order to allow Sheep Hill to best serve the interests of the greater Berkshire community, we looked at the demographics of the surrounding towns. This information gives insight into the interests of both current and future patrons, and ways in which the site could be further brought into the fabric of the community. Although Sheep Hill is currently frequented largely by Williamstown residents, this scope could be expanded to North Adams, whose residents could be greatly benefited by an environmental or agricultural learning experience. In order to best gauge the wants and needs of both communities, we found it important to learn about them, and then later ask them for their interests directly.

Williamstown, MA



Williamstown, MA is located in the northwestern corner of the state. It is a part of Berkshire County, and borders Vermont to the north and New York to the west. It has a total area of 46.9 square miles. The town's historical origins lie primarily in agriculture with a special focus in dairy and wool production.¹² Based on the last census, the total population of the town is roughly 8,424. Approximately 25% of families had children under the age of 18, which is promising for Sheep Hill's focus on youth. The median income for families is roughly \$51,875 and only 5.5% of the population was below the poverty line.¹³

¹² Wikipedia – Williamstown MA @ http://en.wikipedia.org/wiki/Williamstown,_Massachusetts

¹³ Wikipedia – Williamstown MA @ http://en.wikipedia.org/wiki/Williamstown,_Massachusetts

For a town so small in size, the cultural opportunities in Williamstown are remarkable rich and diverse. It hosts Williams College, which brings students, professors, and other academics to the northern Berkshires. The College also brings many guest lecturers and other visitors, who enhance the tourism industry and cultural opportunities for residents. The town also houses the Williamstown Theatre Festival, and 2 art museums (the Williams College Museum of Art and the Clark Art Institute) which are all world-renowned, as well as the Chapin Library of Rare Books. These attractions all bring tourists and expose people to the beauty of the Berkshires. It would great to eventually see Sheep Hill on this list as well, as a site that further enhances the rich cultural and educational atmosphere already present in the community.

North Adams, MA



North Adams, MA is also located in the Berkshire County and located to the east and slightly south of Williamstown MA. The total area of the city is 20.6 square miles. It separated from Adams, MA in the early 1700s and originally functioned as a mill town, using waterpower from the Hoosic River.¹⁴ According to the last census, North Adams has a population of 14,681. Approximately 26% of the families had children under the age of 18, indicating that, as in Williamstown, there is a large potential audience for school-age educational opportunities. The median household income was \$27,601 and 18.2% of the population was under the poverty line, both of which show North Adams to have a more impoverished population than Williamstown.¹⁵

¹⁴Wikipedia – North Adams, MA @ http://en.wikipedia.org/wiki/North_Adams,_Massachusetts

¹⁵ Wikipedia – North Adams, MA @ http://en.wikipedia.org/wiki/North_Adams,_Massachusetts

Despite this socioeconomic gap, North Adams also has its own rich cultural aspects, namely the Massachusetts Museum of Contemporary Art (Mass MOCA) which is the largest contemporary art museum in the United States. This museum has also been the impetus for increased tourism to North Adams in recent years. By expanding its target audience further into North Adams, Sheep Hill could be an additional cultural opportunity, and greatly increase exposure to environmental education in this small city.

Survey

Survey Setup

In order to get a good idea of the needs and wants of the Berkshire community, we decided to survey a cross-section of the population, asking them questions about their experiences at Sheep Hill and at nature centers in general. In keeping with the focus on elementary education, the target of this survey was parents of elementary school students at Pine Cobble School (a private school in Williamstown drawing from many surrounding towns), Williamstown Elementary School (a public school in Williamstown), and Brayton Elementary School (a public school in North Adams). These schools were chosen to show the broad range of demographics in the Berkshires, so that Sheep Hill could aim to serve all of these communities. If the proposed nature center could serve the diverse demographics represented by these schools, it would be effective in bringing nature to the community at large.

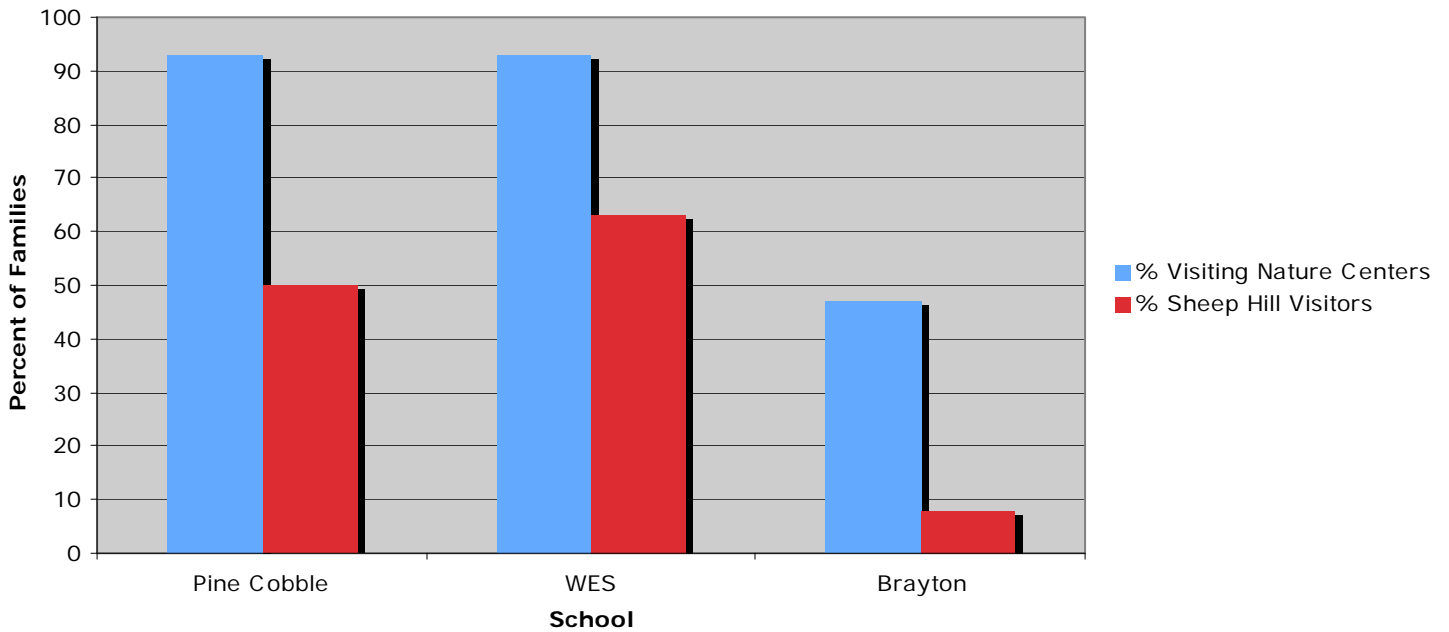
There were three main sections to the survey: Basic Demographic Information, Questions for Previous Sheep Hill Visitors, and Questions for non-Sheep Hill Visitors (see survey and data in Appendices). The basic demographic information requested included ages of children, frequency of nature center visits, nature centers visited, frequency of Sheep Hill visits, town of residence, and years of residence in that town. This information was designed to give a sense of the type of families likely to visit Sheep Hill or any other nature center. For those who had visited the site before, we then asked about how they found out about it, their reasons for going, their level of satisfaction with the experience, and their priorities and suggestions for expansion of programs. Lastly, there was a short section intended for non-site visitors, which asked why they hadn't visited and what would encourage them to visit.

Survey Results

We distributed 802 of these surveys to the three schools listed, and we ended up receiving 170 back, which represented roughly 21% of the surveyed population. Of these 170, 28 were from Pine Cobble (a 37% response), 68 were from Williamstown Elementary (an 18% response) and 74 were from Brayton Elementary (a 21% response). These high response rates gave us a good sample size as well as an accurate representation of Williamstown, North Adams, and the Berkshire community as a whole.

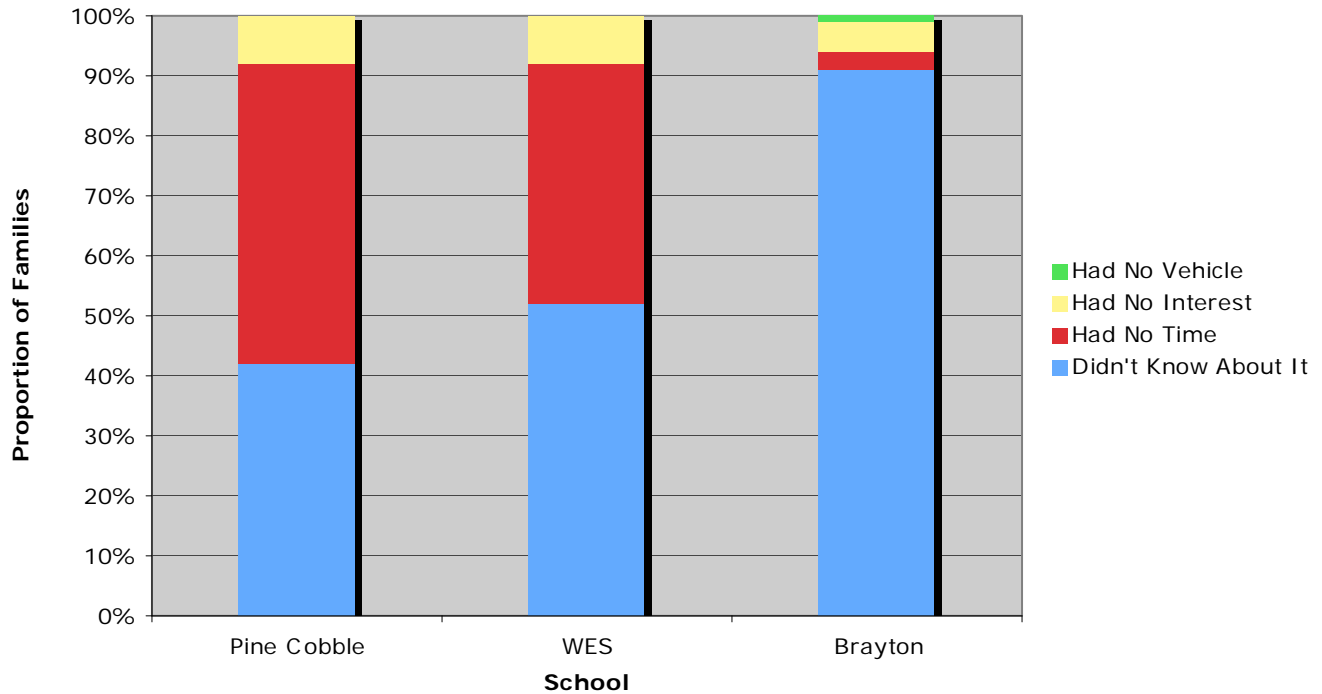
Between the schools sampled, there were great disparities in the rate that they visit Sheep Hill and other nature centers. At Pine Cobble, 93% of the families went to nature centers and 50% had been to Sheep Hill. Similarly, at WES, 93% of families had been to nature centers and 63% had been to Sheep Hill. In contrast, at Brayton, only 47% of families had been to nature center and only 8% had been to Sheep Hill. This information shows that families at Brayton (and likely in North Adams as a whole) have missed opportunities to get out and explore the Berkshires, and especially to visit a great site like Sheep Hill. Also, it is clear from this data that knowledge of Sheep Hill is largely limited geographically, not socioeconomically. Although families from both schools in Williamstown are generally enthusiastic visitors of the site, few North Adams families knew about the opportunity.

Family Tendencies Across the 3 Schools



In order to identify ways to increase Sheep Hill’s “fan base”, we also looked closely at the reasons that people had cited for not visiting the site.

Reasons for Not Visiting Sheep Hill



At Pine Cobble, 42% of families didn't know about Sheep Hill, 50% had no time, and 8% had no interest in the site. Similarly, at WES, 52% didn't know about the site, 40% had no time, and 8% had no interest in visiting. However, of the 52% that didn't know about Sheep Hill, we found the vast majority of them to be North Adams residents or new to the community. Lastly, at Brayton, a whopping 91% of the population had never heard of Sheep Hill, 3% had no time, 5% had no interest, and 1% (1 family) had no vehicle. This data confirmed our assertion from the previous graph that that Sheep Hill is currently very much of a "Williamstown thing." Few North Adams residents know about it and have visited, largely because they haven't yet heard news of its exciting events and opportunities.

In addition to Sheep Hill, there were several other nature centers that are very popular with Berkshire residents, although they varied slightly for each school sampled. At Pine Cobble, families were frequent visitors of Hopkins Forest, Pleasant Valley, Natural Bridge, and Mt. Greylock. Similarly, at Williamstown Elementary, the families tended toward Hopkins Forest, Pleasant Valley, Field Farm, and Mt. Greylock. At Brayton the response was slightly different, with Magic Wings Butterfly Conservatory being the most popular, but Mt Greylock, Natural Bridge, and Pleasant Valley not far behind. These popular nature centers showed that families tend toward sites that are geographically close to them, offer great educational opportunities, and often have live animals on site, creating a more interactive experience.

In order to cater toward the current valued patrons of Sheep Hill, we also placed great emphasis on their priorities and suggestions for the site. The survey indicated that

most visitors had found out about Sheep Hill through friends, flyers posted around town, and the newspaper (all geographically-limited sources), which corroborated our previous findings and indicated an information gap between Williamstown and North Adams that could account for the disproportionately large numbers of Williamstown visitors to Sheep Hill. We found that 97% of families only go rarely or occasionally, with most listing special events (Halloween, Sheep-to-Shawl, Pancake Breakfast, etc) as their reason for visiting Sheep Hill. 94% of visitors were satisfied with the educational opportunities offered on site, and 74% were satisfied with the Lewis Center as an educational space. Many families felt that the current nature center in the Lewis Center could be expanded, which would allow room for more of these special events and educational programs.

The most telling part of the survey, though, was the response to the questions that asked what families value in a nature center. The people who had visited Sheep Hill would like to see more special events (37 votes), live animals (32 votes), hiking (30 votes), and interactive displays (30 votes). Similarly, for non-visitors, they stated that the main attractions that would draw them to the site were live animals (77 votes), interactive displays (73 votes), educational programs (59 votes), and hiking (54 votes). When asked what purpose the barn should serve, almost every respondent said that it should be some combination or agricultural, environmental, and historical education. These responses showed a great interest in the site, and enthusiasm toward improving the educational opportunities that Sheep Hill offers. After looking at these responses in conjunction with Leslie's priorities for the barn renovation, we identified three main goals to increase programming at Sheep Hill: expanding space for special events, expanding interacting and educational opportunities, and incorporating live animals.

There were also some miscellaneous suggestions that could be useful to incorporate into the expanded educational and community programming at Sheep Hill. The majority of suggestions focused on expanding parking and reinstalling a rope tow to allow for skiing. However, one person also suggested that there be a continued focus on conservation, another suggested an emphasis on the site's history as a family farm, and one person suggested that Sheep Hill incorporate changing programs for Berkshire residents that would like to visit numerous times. Since they were only made by a few people, these additions weren't central to our project, but definitely good ideas to address when looking to meet the needs of the public.

Legal and Logistical Issues

When considering the feasibility of restoring a barn at Sheep Hill, it is necessary to address a number of legal and logistical issues as well. Depending on what plan of action is chosen, these considerations could be limiting factors, or at least notable obstacles to the project at hand.

Environmental Considerations

Williamstown Rural Lands Foundation has a longstanding commitment to environmental awareness and preserving natural spaces, so it is necessary to undertake this project with full consideration of our impact on the environment. After carefully

assessing the site, the biggest potential impact is on the stream that is currently running next to the two barns.

QuickTime™ and a
decompressor
are needed to see this picture.

Although there is more space between the wetland and the horse barn than there is between the wetland and the dairy barn, any development and renovation would undoubtedly damage this resource to some extent. Both barns are in the riverfront area, which means that any alterations to them would have to be reviewed under the Massachusetts Wetlands Protection Act. The main issue with the stream in the site, though, is that the NW section of the dairy barn is falling into it. Currently this section is being propped up so that it doesn't drag down the rest of the barn; however there is water running under the foundation and the entire section is sagging. After discussing this issue with Andy Burr (a Williamstown architect), it seems that the most feasible option would be to just tear down, or at least shorten this section of the barn. This would avoid considerable expense, save the structural integrity of the main dairy barn, and cause less disruption to the stream. Although WRLF may be able to sidestep some regulations because the structures are already in place, it would be necessary to work with the Williamstown Conservation Commission to avoid disturbing wetland areas when doing any barn renovations at Sheep Hill.

Building Code and Capacity

In renovating these barns, it is also important to consider the code for buildings and assembly spaces. As is, the floors and sills for both barns would have to be redone in order to meet general safety requirements. Thankfully, this renovation is covered by a \$60,000 grant the WRLF received for this purpose. The siding of the barns would also have to be reinforced. However, this could be accomplished largely through volunteer labor at little cost by putting some wood paneling up from the inside. It would be impossible to insulate or drastically change the actual building structure because of a façade easement in place; however, these basic and cheap renovations could be made to bring the building up to human usage requirements.

In order to use the second floor of the dairy barn, some major structural changes would need to be made. First, a contractor would have to be hired to replace the joists in the ceiling and the pillars that support the second floor. They would also have to build a staircase or ladder, so that people could have access to this space. If the second floor was used in a different way than the first, it would also become necessary to provide handicapped access, in the form of a lift or ramp. These additions would both be extremely expensive, and damage the aesthetics of the site. In an effort to remain cost-effective while still catering to the entire community, it is also wise to address the possibility of taking out the second floor to expose the beautiful woodwork to all visitors.

Lastly, in order to make the best use of the existing spaces at Sheep Hill, we looked at the capacity requirements of the horse and dairy barns. According to Andy Burr, the horse barn could hold up to 40 people, and the dairy barn could hold over 50. However, when the capacity is over 50, the barn would become classified as a “space for assembly”, which would require a host of additional safety measures. Thus, in order to prevent the mandatory installation of sprinklers, fire escapes, emergency exit signs, and other extraneous costs, it would be most cost-efficient to limit the capacity of the dairy barn to 50 people or fewer.

Animal Care Considerations

The final logistical consideration concerns the cost for acquiring and caring for live animals. As shown by the surveys, animals could draw many families to the site and be a popular addition. However, unlike many of the other options, they require ongoing care and upkeep that would be a lasting cost. In order to acquire these animals, the easiest option may be adoption. There are many “Farm Animal Shelters”¹⁶ throughout the country that allow non-profits and even families to adopt livestock, which could be a great way to get a small animal population started. Another option that currently works at Red Gate Farm is to rent animals from local farmers. Sheep Hill could provide shelter and grazing land (if necessary) for these animals, and in return, be allowed to use them for educational programs without being responsible for their constant care.

¹⁶ For examples of farm animal shelters: <http://www.farmanimalshelters.org/>

The other cost to having a live animal population would be the money and manpower their care requires. Although this would be minimal for a few animals (several chicken or sheep), as the animal population at Sheep Hill expanded, it would require additional resources. One way to do this financially is through an “Adopt an Animal” program. This model has been very successful at places such as Hancock Shaker Village, where one can adopt a chicken for \$10/month, an ox for \$85/month, etc.¹⁷ This program could bring in continued support from the community, and further tie them into the rich history of the farm. The labor reinforcements could also come largely from local schools. Although the primary scope of this project is elementary school families, animal care internships or volunteer programs would be a great way to involve middle and high school students at Sheep Hill. This work could even be integrated into research and thus enrich the educational programs offered at the farm. Eventually, as the animal population grows, a full or part-time caretaker may become necessary. However, it does seem feasible to maintain a small animal population for the time being through these rental, adoption, and internship options.

Restoration Options Analysis

In order to quantitatively assess Sheep Hill’s development options, we decided to measure the costs and benefits of 3 different types of restoration options for each barn. These were:

Full: The barn would be renovated so that it was up to human usage code. According to Andy Burr, in order to install full heat, insulation, plumbing, and electricity, the barn would lose its charm and it would be cheaper to build a new nature center. Thus, for this plan, electricity would be installed, but heating would only consist of a propane heater for use during special events in the winter.

Partial: The barn would be renovated so that it was up to human usage code. However, there would be no electricity or heat.

Animals-Only: Minimal changes would be made to the barn. It would be cleaned out, and pens or stalls would be erected for animal occupancy.

There was also a fourth option for the dairy barn, which included the full renovation of the second floor of the barn as well. This would necessitate the work outlined in the “Building Code and Capacity” section above, and, as is shown in the matrix, would be extremely expensive. We evaluated these options first based on three categories of costs:

Floors and Sills: A binary evaluation of whether the foundation and basic structure of the building would need to be replaced in order to meet human usage standards. This cost was listed individually because it is already covered by a \$60,000 grant that WRLF received for this explicit purpose.

¹⁷ For more information on this program: <http://www.hancockshakervillage.org/page.php?PageID=390>

Non-Volunteer Labor: According to Leslie, there are a great number of Sheep Hill patrons that would be willing to donate their time to restoring one of these historic barns. They would likely be able to clean and replace much of the siding. However, some of these restoration plans would necessitate hired labor as well, as shown in this category.

Cost: A rough estimate of the cost of carrying out this restoration plan. This figure does not include the cost of floors and sills (which is already covered by the grant) and instead consists of the costs to install electricity, buy propane heaters, and any contractor work that may need to be done.

Each restoration option was also evaluated based on the benefits that it could provide to the Berkshire community. As was evident from the survey results, the main desires of the surrounding community were to house live animals, expand interactive and educational opportunities, and host more special events. Each barn restoration plan was thus scored on its abilities to carry out these goals.

Analysis of Options for the Horse Barn:

	<u>Full</u>	<u>Partial</u>	<u>Animals Only</u>
<u>Cost</u>			
Floors and Sills	Y	Y	N
Non-Volunteer Labor	Electrician	N	N
Cost	\$2-3,000	Minimal	None
<u>Benefit</u>			
Live Animals	N	N	Y
Educational Programs/ Interactive Displays	Y	Y	Y
Special Events - Summer	Y	Y	N
Special Events - Winter	Y	N	N

The horse barn analysis showed three of the most cost-effective plans analyzed. Because it is a smaller space, changes wouldn't be as expensive as those for the Dairy barn. For the full renovation plan, the floors and sills would need to be replaced, an electrician and team of volunteers would do the work, and the project would only cost between \$2-3,000 (above the floors and sills cost). This plan would allow WRLF to expand interactive and education displays and host events in the summer and winter. Similarly, the partial renovation plan would require renovation of the floors and sills, however it would require minimal other work, with volunteers repairing the siding at a low cost. This plan would accommodate expanded interactive educational displays, as well as special events in the

summer. Lastly, the Animals-Only plan would require little work and renovations (and therefore cost), and could expand interactive educational opportunities and provide space for live animals.

Analysis of Options for the Dairy Barn:

	<u>Full 2 Floors</u>	<u>Full 1 Floor</u>	<u>Partial</u>	<u>Animals Only</u>
<u>Cost</u>				
Floors and Sills	Y*	Y*	Y	N
Non-Volunteer Labor	Electrician Contractor	Electrician	N	N
Monetary Cost	\$50,000+	\$3-4,000	Minimal	None
<u>Benefit</u>				
Live Animals	N	N	N	Y
Educ Programs/ Interactive Displays	Y	Y	Y	N
Special Events Summer	Y	Y	Y	N
Special Events Winter	Y	Y	N	N

*Will likely cost more than the floor/sill grant covers

On the whole, the analysis of the dairy barn restoration options is similar to that of the horse barn, with three notable exceptions. This first is that regardless of the restoration plan, this barn would provide more space for educational programs, live animals, or special events. Second, any restoration or use of the barn would also require a decision to be made on the NW section that is falling into the stream. It is currently pulling down the rest of the structure, thus, in order to use the barn, it would need to be removed or seriously reinforced.

And lastly, this analysis includes a consideration for use of both floors of the barn. The “Full 2 Floor” plan would include much of the structural work discussed in the “Building Code and Capacity” section of this project, but would greatly increase capacity for interactive educational programs and special events. The floors and sills would require almost complete reconstruction, the joists would need to be replaced, and

handicapped access would need to be installed, all of which would be enormously expensive. Thus, this last option considered might look like the most beneficial, but it would be the most expensive as well, to the tune of \$50,000 or more.

Recommendations

After looking at case studies, the interests of the community, some logistical considerations, and a cost-benefit analysis of several renovation options, recommendations can be made of programs that will be cost effective and benefit both the WRLF and the greater community. Because the WRLF doesn't have enormous funding to drastically expand programs immediately, it is useful to create a tiered plan for renovation and expansion of educational programs. This plan should focus on accommodating school groups and special events, expanding educational and interactive programs, and incorporating live animals, which were the goals put forth by both Leslie (on behalf of the WRLF) and the Berkshire community.

Through looking at other successful nature centers, we recommend that Sheep Hill start by expanding its programs (including special events, educational opportunities, etc) before expanding its space. Surveys showed that there isn't a large group of "regulars" that visit the site, which doesn't create regular demand for an enlarged space. By expanding programs, WRLF could create this demand, and even raise funds for renovations. If more people visit and get excited about the site, they are likely to donate money or volunteer, which would alleviate funding restraints and allow the barns to be restored in ways that they will best suit the community.

Although there are many ways to create a tiered renovation plan for this site, one that we found to be especially feasible and beneficial is as follows.

1. Conduct an "Animals-Only" renovation to the Horse Barn, and add a few low-maintenance animals (ex: a few chickens or sheep). This would expand educational programs, bring people to the site, and fulfill the community's desire for incorporation of live animals at Sheep Hill. Although there would be a small upkeep cost of the animals, on the whole, this change wouldn't incur major costs.
2. Decide what to do with the NW section of the Dairy Barn. Regardless of whether WRLF decides to tear down this section, shorten it, or fundraise to fix entirely raise and fix the foundation, this issue will need to be addressed before the barn is used at all.
3. Partially restore the Dairy Barn. This would create for an expanded space for educational programs and special events, as well as support the expanding animal program in the Horse Barn.
4. Add electricity and temporary heat to the Dairy Barn. This would further expand on the use of the Dairy Barn, and the types of events and programs that could be held at Sheep Hill.

5. Decide what to do with the second floor of the Dairy Barn. This floor could either be torn out to expose the beautiful woodwork of the roof and second floor, or it could be reinforced in order to expand space for educational opportunities. Either course of action would require major structural changes to be made (especially the use option), and a substantial amount of funding.

6. Expand animal population. After the few animals in the horse barn gain popularity and are integrated into the educational programs, it would be beneficial to expand their population. Although this would require increased time and money put toward animal care, this problem could be solved through many of the methods put forth in the “Animal Care Considerations” section.

By following this tiered plan, WRLF would be able to expand the interactive and educational opportunities at the Sheep Hill site, and increase classroom capacity for programs and special events. Although it may take time to implement, it is a cost-effective way to meet the goals of the WRLF and the community as a whole, in a way that is representative of the history of Sheep Hill and the uniqueness of the Berkshire region.

Appendix A: Sources

Websites Cited:

Williamstown Rural Lands Foundation

<http://www.wrlf.org/>

Red Gate Farm Education Center

<http://www.redgatefarm.org/>

Hawthorne Valley Farm

<http://hawthornevalleyfarm.org/>

Pleasant Valley, MA Audubon

http://www.massaudubon.org/Nature_Connection/Sanctuaries/Pleasant_Valley/index.php

No Child Left Inside

http://www.cbf.org/site/PageServer?pagename=act_sub_actioncenter_federal_nclb_climate

Hancock Shaker Village

<http://www.hancockshakervillage.org/accounts/28/homepage/>

Websites Visited:

Farm Based Education

<http://www.farmbasededucation.org/>

The Barn Journal

<http://thebarnjournal.org/>

Heritage Barns

<http://www.heritagebarns.com/>

Shelburne Farms

<http://www.shelburnefarms.org/>

Dyken Pond Environmental Education Center

<http://www.dykenpond.org/node/2>

Vermont Natural History Museum

<http://www.vermontmuseum.org/>

Building Codes

http://www.heimer.com/information/building_codes.html

Personal Communications

Leslie Reed-Evans
Executive Director WRLF. October 23rd, 2008

Ben Murray
Farm Director, Red Gate Farm. November 13th, 2008

Andy Burr (FAIA)
November 14th, 2008

Barbara Robertson
November 20th, 2008.

Conrad Vispo (PhD Ecology)
Farmscapes Ecology Program Head, Hawthorne Valley. December 1st, 2008.

Newspapers – Williamstown Library Archives of Local History

The Advocate. “*This couple has farmed since they were walking.*” Lauren R. Stevens.
November 7, 1984

The Advocate. “*WRLF purchases Rosenburg farm to preserve open space.*” Linda
Carman. November 8, 2000

The North Adams Transcript. “*Williamstown Rural Lands Foundation invites all to enjoy
beauty of Sheep Hill.*” Ethan Kelley. May 23, 2001

The Berkshire Eagle. “*A gift for Sheep Hill.*” Glenn Drohan. November 21, 2001.

Appendix B: Survey Data

Survey and Results

This survey is brought to you by Williams College students as part of an environmental planning workshop. We are trying to assess the best way(s) to create a more complete nature center for children at Sheep Hill, located in Williamstown, MA. Sheep Hill is owned by the Williamstown Rural Lands Foundation and currently houses a small nature center that is open to the public year round. The current Nature Center at Sheep Hill offers environmental education opportunities for children, including a wide range of interactive displays, nature backpacks, & special events for school groups (you should check it out!). Our project is focused on the possibility of restoring one of the historic barns on the site to expand their capacity for educational opportunities. We hope you will take 5 minutes of your time to fill out the survey below. This information will be very useful to us in deciding what type of things will be most critical to the success of the nature center.

Part I

1. Please list the number and ages of your children

Average Age: 9.90 years old

2. Have you ever visited any type of Nature Center with your Children?

Yes 124 No 46

- a. If yes, how frequently do you visit such places?
- i. Very Often (weekly) - **3**
 - ii. Regularly (monthly) - **9**
 - iii. Occasionally (several times a year) - **64**
 - iv. Rarely (have only been once or twice) - **48**

- b. Please list any Nature Centers you have been to

Hopkins Forest 24, Pleasant Valley 16, Mt Greylock 10, Natural Bridge 8, Magic Wings Butterfly Conservatory 8, Field Farm 7, (and others that were not in area received <5 votes)

3. Have you ever been to Sheep Hill Nature Center with your children?

YES 63 NO 107 (IF NO, skip to

Part II)

If you answered yes above, how did you hear about Sheep Hill?

Newspaper 15, from Friends 14, from the Elementary School 7, Flyers around town 5, from Driving By 4 (and many others that received <4 votes)

4. How frequently do you and your children visit Sheep Hill?
 - i. Very Often (weekly) - **0**
 - ii. Regularly (monthly) - **2**
 - iii. Occasionally (several times a year) - **30**
 - iv. Rarely (have only been once or twice) - **31**

5. What activities did you participate in while you were there?

**Hikes/Nature Walks 17, Summer Camp 10, Halloween Haunted House 9,
Sheep Shearing 5, Firefly Collecting 4, and many others**

6. Did you find the Main Building (Lewis Center) an adequate facility for an educational center?
 - a. Yes - **46**
 - b. It was sufficient, but I would like to see it expanded - **17**
 - c. No - **0**
7. Were you satisfied with the educational activities offered to your child?
 - a. Yes - **59**
 - b. No - **4**
 - c. Other _____(please specify)
8. Which of the following would be the most appealing additions to Sheep Hill? Circle all that apply.
 - a. Expanding historic exhibits or creating a museum - **16**
 - b. Hosting more special community events & group activities - **37**
 - c. More emphasis on hiking and nature walks - **30**
 - d. Wider variety of educational programs - **19**
 - e. More interactive Displays & hands-on activities - **24**
 - f. Live animals - **32**
 - g. Other _____(please specify)
9. Sheep Hill is considering restoring one of the historic barns on site for use as an additional education center. What do you think the focus of the education center should be? Circle all that apply
 - a. Environmental Education (focus on nature of the Berkshires) - **15**
 - b. Historical Education (focus on history of site & area) - **5**
 - c. Agricultural Education (focus on traditional farming techniques & animal care) - **11**
 - d. A combination of all three - **36**
 - e. I don't think restoring a barn as an educational center is the best use of resources - **2**
 - f. Other _____(please specify alternative)

10. Any other suggestions or comments for bettering Sheep Hill you wish to include? (**responses about parking and skiing discluded**)

Emphasis on conservation

Leave it unstructured
Early afternoon programs for pre-K students
Emphasize roots as a family farm
More afterschool programs
Changing programs for local residents
More indoor programs in the winter

11. What town are you a resident of? **Bennington VT 3, North Adams 12, Pownal VT 1, Readsboro VT 1, Williamstown 46**

12. How long have you been a resident? **Average: 18.02 years**

13. Are you a member of the Williamstown Rural Land Foundation (WRLF)?

Yes **12** No **51**

Part II (ONLY IF YOU ANSWERED NO to QUESTION 3, PART 1)

1. If you have never been to Sheep Hill with your children, why not?

- a. I have never heard of Sheep Hill - **71**
- b. I have no interest in going - **6**
- c. My children have no interest in going - **0**
- d. Other **Haven't Had the Time – 19**
No Vehicle – 1
Unaware of What Was there - 8

2. Now that you have heard of Sheep Hill, would you consider going?

- a. Yes - **101**
- b. No - **0**

If No, why not? **Still Unsure of What is There - 4**

3. Which of the following activities would make you most likely to visit Sheep Hill with your children?

- a. Historic exhibits or a Natural History Museum - **25**
- b. Special community events & group activities - **46**
- c. Hiking and nature walks - **54**
- d. Educational programs - **59**
- e. Interactive Displays & hands-on activities - **73**
- f. Live animals - **77**
- g. Other _____ (please specify)

4. What town are you a resident of? **Bennington VT 2, Cheshire 2, Clarksburg 1, Grafton NY 1, Hancock 2, Lanesborough 1, North Adams 75, Stamford VT 1, Williamstown 22**

5. How long have you been a resident? **Average: 17.30**