Science Hill
MANAGING FOR ECOSYSTEM SERVICES
FES 963B_EMERGING MARKETS FOR ECOSYSTEM SERVICES
with Dr. Mark Ashton + Prof. Bradford Gentry
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“Science Hill, where some of the most brilliant scientists, researchers, teachers and students in America perform their work, the landscape is **chaotic, disorienting and uninspiring.**”

*(Cooper Robertson & Partners 2000, 79)*
“Science Hill, where some of the most brilliant scientists, researchers, teachers and students in America perform their work, the landscape is integrative, educational, and innovative.”

(EMES 2011)
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EXECUTIVE SUMMARY

In the Fall of 2010, Yale announced its Sustainability Strategic Plan. Committed to reducing its impact on the environment, Yale plans to complete an ecosystem services plan by 2013. This paper provides recommendations, specifically targeted to Yale’s Science Hill landscape, for how Yale can begin to think about managing this landscape in an ecologically sound manner.

In sum, this report outlines a vision for Science Hill that focuses on management of natural resources to promote education, experimentation, and integration while enhancing the flow of water and people. In achieving this vision, we provide general recommendations for the area as well as specific strategies for three areas of Science Hill: Prospect Street, Sachem’s Wood, and the Mansfield Wetland.

Principle recommendations for managing Science Hill for its ecosystem services are to:

1. Create “eco-zones” that reflect the diversity of ecological habitats in New Haven
2. Integrate student research and employment opportunities
3. Install outdoor seating
4. Showcase existing viewsheds
5. Develop outdoor events
6. Use signage as an educational tool and to guide people to various sites
7. Create a continuous landscape
8. Enhance pedestrian corridors by planting trees that provide shade
9. Develop highly-functional natural water features that control runoff and enhance plant diversity

These recommendations serve as a foundation to help transform the Science Hill landscape from one that is “chaotic, disorienting and uninspiring” to an area that facilitates integration, education and innovation.
II. INTRODUCTION
Science Hill, one of the northernmost precincts of the Yale University campus, is defined by its steep topography, educational assets, and rich natural and human capital. The flow of people and water over Science Hill is shaped by these characteristics. Students, faculty and staff from the University community utilize the area most heavily; however, as Science Hill is situated between residential communities in New Haven, the area serves as a vital link between Yale and the City of New Haven. Thus, there is great opportunity to enhance the natural resources of the Science Hill landscape by drawing upon the area’s human capital in the management of the ecosystems services of water, climate, biodiversity and aesthetics.

Currently, the Science Hill landscape lacks aesthetic coherence and is prone to problems with soil compaction, water runoff and seepage into buildings. Science Hill serves as a thruway for pedestrian and vehicular traffic, but its outdoor spaces do not attract or retain visitors. The landscape design is fragmented and without specific identity, subordinate to the building projects to which it is attached. Some open spaces on Science Hill are neglected completely due to a lack of departmental ownership. In this area, “Yale has created large parking areas and service zones in an ad-hoc fashion over time… with an ill-defined and unattractive pedestrian environment. [Science Hill] lacks a positive sense of place and focus” (Cooper Robertson & Partners 2000, 78).

The high flow nature of Science Hill, in terms of people and water, as well the type of research and educational activities that take place in the area, provide an opportunity to create a landscape that reflects the education and experimentation that happens inside classrooms. The ill-defined and unorganized characteristics of Science Hill provide a great way to maximize ecosystem services by designing and implementing a palette of innovative, biophilic landscape design strategies. These designs can enhance connectivity to the City of New Haven by integrating similar features into the surrounding communities. The Science Hill landscape could be free from the landscape-architecture constraint that exists in other areas of Yale, and have its own coherent aesthetic that reflects the type of education and experimentation that takes place inside its classrooms.
VISION

Turning Science Hill into an outdoor classroom and laboratory will attract people to the area, as well as provide opportunities for alternative water management strategies. With this in mind we envision a Science Hill that is:

A destination for outdoor education, experimentation, and integration.

Due to the topographical extremes of Science Hill and its position between Yale campus and New Haven, the landscape management goal should be to:

Enhance the flow of people and water through ecosystem services.

Future Science Hill management plans should revolve around landscape features that function to control the flow of water and people while utilizing an aesthetic that highlights social values related to outdoor education. With this framework in mind, the following paper describes the current biophysical and social conditions of Science Hill, and the proposed actions that should be implemented in order to achieve the goal described above.

The image to the left portrays our vision of Science Hill as the “Emerald Necklace” of the Yale Campus which is the implementation of our vision and goal.
III. CONTEXT
BIOPHYSICAL CONTEXT

Science Hill is bordered by Mansfield, Sachem, Whitney and Edwards streets, including the Yale Farm, Farnam Gardens and Marsh Botanic Gardens to the north of Edwards Street. Currently, large courtyards, green roofs, and gardens separate buildings that house most of the University’s science programs.

Science Hill is defined by its topography. Steep topography affects the layout of streets, buildings and pedestrian walks, and influences the movement of water over the landscape. The accompanying topographic map (following page) shows the key slopes that define the movement of water within Science Hill’s landscape. Impervious surfaces, placement of buildings and roads, and heavily compacted soils complicate the flow of water and create severe water runoff that leads to erosion and water pooling issues. Some of the more serious run-off and erosion issues occur on Prospect Street as steep curb strips filled with compacted soils prohibit the infiltration of water, and on Sachem’s Wood as steep topography causes water pooling issues at the Environmental Science Building. The areas isolated under the “Emerald Necklace” plan (Mansfield Wetland, Prospect Street and Sachem’s Wood) incorporate the landscape’s topography to improve the function of Science Hill’s landscape and help mitigate water-flow issues.

The landscape, dominated by disparate trees and heavily mowed courtyards, lacks both biodiversity and ecological connectivity. Tree canopy in the area is threatened: construction crews have cut down the majority of trees on Prospect Street and Sachem’s Wood is dominated by a small number of large oak trees that will likely need replacement in the near future.

The table on page 12 summarizes the ecosystem services that should be managed on Science Hill and the problems associated with managing them properly.

These biophysical characteristics do little to retain or attract people who come to Science Hill. In the next section, we explore the social context of Science Hill.
SCIENCE HILL : BIOPHYSICAL CONDITIONS

- Water flow direction
- Impervious surfaces (including rooftops)
- Wetland areas
<table>
<thead>
<tr>
<th>ECOSYSTEM SERVICE</th>
<th>BRIEF DESCRIPTION</th>
<th>PROBLEMS/ISSUES</th>
</tr>
</thead>
<tbody>
<tr>
<td>WATER</td>
<td>Water purification and regulation by ecosystems.</td>
<td>Increased quantity of runoff from impervious surfaces, decreased water quality, increased pressure on grey infrastructure.</td>
</tr>
<tr>
<td>CLIMATE</td>
<td>Climate is regulated by temperature, precipitation, humidity, and wind.</td>
<td>Temperature extremes, lack of shading, noise, urban heat island effect.</td>
</tr>
<tr>
<td>BIODIVERSITY</td>
<td>The genetic, species, and habitat diversity of all forms of life.</td>
<td>Uniform tree canopy and plantings, overabundance of turf.</td>
</tr>
<tr>
<td>AESTHETICS</td>
<td>The social and cultural preferences that drive design decisions.</td>
<td>Fragmented, non-uniform landscape designs, lack of integrated decision-making.</td>
</tr>
</tbody>
</table>
This section outlines the social context of Science Hill by describing (1) key participants that actively use this area, or that are involved in the decision making process, (2) the current aesthetic of the area; and (3) the primary drivers behind the identity of the area. This is important for developing recommendations that reflect the social values of those people that interact with Science Hill.

Key participants in the Science Hill area include students, deans, faculty and staff from various Yale science departments, including Physics, Biology, Ecology and Evolutionary Biology, Chemistry, and the Yale School of Forestry and Environmental Studies. Other participants include the Yale Corporation, Yale Alumni, members of Yale-affiliated programs, and community members from surrounding New Haven neighborhoods. Given that Science Hill houses most of the natural sciences there is considerable exploration, research and experimentation that takes place.

The current landscape design on Science Hill is a mixture of traditional, intensely managed areas, to eclectic and more naturalistic. The majority of open spaces are covered by traditional turf grass. Others areas, such as in front of Kroon Hall, are planted a mix of traditional turf and long, naturalistic grasses; while other areas on Science Hill, such as the wetland to the west of Prospect is rarely maintained. Except for the Marsh Botanic Gardens, there are few open space areas in the Science Hill landscape that are considered “destinations” on the Yale campus. Rather, Science Hill currently serves as a thrufare for students attending class in the area and commuting between the Yale campus and surrounding New Haven residential neighborhoods, including East Rock, Mansfield, and Saint Ronan.

Given that Science Hill houses the majority of scientific programs at Yale, the design and implementation of landscape design should reflect educational and experimentation that takes place within classrooms and laboratories. Also, it is a great opportunity to draw upon the knowledge and experience of the diverse stakeholder base of the area. Thus, the landscape design “brand” of the area should reflect these drivers. Naturalistic and traditional design elements can be organized in a continuous way that leads people through the many green areas on Science Hill. Interesting spaces can be created using landscape design that not only encourages people to stay to explore, learn and recreate but also manages the problems related to water runoff, erosion and water pooling.
SCIENCE HILL: SOCIAL CONTEXT
IV. GENERAL RECOMMENDATIONS
In order to create a coherent identity and ownership of the Science Hill landscape through a landscape design that is attractive to people and serves to mitigate the stormwater problems, there are nine recommendations that can guide future management of the Science Hill area. General recommendations for the Science Hill area are summarized in the table below and further explained in the following paragraphs.

<table>
<thead>
<tr>
<th>A destination for outdoor education, experimentation, and integration.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enhance the flow of water and people through ecosystem services.</td>
</tr>
<tr>
<td>(1) Create “eco-zones” that reflect the diversity of ecological habitats in New England.</td>
</tr>
<tr>
<td>(2) Create continuous landscapes.</td>
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<tr>
<td>(3) Integrate research, experimentation, and student employment opportunities.</td>
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<tr>
<td>(4) Use signage as an educational tool and as a way to direct people to various sites.</td>
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<tr>
<td>(5) Create outdoor seating.</td>
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<td>(6) Develop outdoor events.</td>
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<td>(7) Enhance pedestrian corridors by planting trees that provide shade and low-lying plants.</td>
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<tr>
<td>(8) Showcase existing viewsheds.</td>
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<tr>
<td>(9) Develop highly-functional natural water features that help control runoff and increase plant diversity.</td>
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</tbody>
</table>
GENERAL RECOMMENDATIONS

1. Create “eco-zones” that are destinations in themselves and reflect the diverse ecological habitats of New England. These eco-zones should be established in Sachem’s Wood, Prospect, Wetland, Marsh Botanical Gardens, Farnam Gardens, and the Yale Farm. They can be demonstration and educational areas that showcase the unique identity of Science Hill. Landscape elements of the eco-zones also serve the functions of managing the flow of water, increasing biodiversity, and creating a hospitable climate.

2. Integrate student research and employment opportunities in the design and implementation of Science Hill’s landscape management plan. This can help to create ownership of the area by management, faculty, and students.

3. Install outdoor seating areas throughout that are protected from the elements such as wind, sun, and noise. Seating areas provide a space for people to stop and enjoy the surrounding natural world. They also provide enjoyable areas for working, learning and engaging with other people. Benches could be placed alongside Prospect Street, in Sachem’s Wood and throughout Science Hill. In areas such as Sachem’s Wood, Marsh Botanic Gardens and the Mansfield wetland, outdoor tables would draw more people.

4. Showcase existing view-sheds and enhance them by creating beautiful and comfortable seating areas enhanced by plantings and shading, and installing greenroofs on rooftops that might be obstructing views. The strategic location of Science Hill allows beautiful views of East Rock, the City of New Haven, and the Core of the Yale campus; however, these are all blocked or interrupted by concrete structures. Enhancing the view-sheds can help to establish a sense of place and importance of Science Hill.

5. Develop outdoor events that attract people to the area. The open access nature of Science Hill to students and residents of New Haven alike make it an ideal location for outdoor events where people from the City and the University can come together to enjoy the natural surroundings, and also to socialize and learn. The role of the Peabody Museum as a space for for learning and integration could be extended to the open space areas throughout.

6. Use signage as an educational tool and as a way to guide people to various sites across Science Hill. Installation of signage that directs and educates people from both inside and outside the University will draw people to Science Hill. Appropriate signage will serve as a communication and learning tool, and it will also help define the identity of Science Hill as a place for education, experimentation and integration.

7. Create a continuous landscape that visually and physically connects open spaces on Science Hill by using a consistent palette of naturalistic landscape design elements. Creating a palette of native plant species for the landscape will help bring biodiversity to Science Hill. This “ground-up” approach will help support native insects, which can then feed bird populations.

8. Enhance pedestrian corridors by planting trees that provide shade, and low laying plants that guide pedestrians through the “emerald necklace” of Science Hill and connect to other parts of campus and the greater New Haven area.

9. Develop highly-functional natural water features that help control runoff. Some of the features include bioswales, raingardens or bioretention cells, greenroofs, and meadows. In order to maximize their functionality for stormwater management and aesthetics, when selecting plants special consideration should be given to the availability of sunlight at the location. Selecting the adequate plants can reduce maintenance needs, while providing habitat for wildlife.
<table>
<thead>
<tr>
<th>Technique</th>
<th>Benefits</th>
<th>Cost</th>
</tr>
</thead>
</table>
| Rain Garden / Bioretention Cell | • Reduces runoff  
• Increases biodiversity  
• Provides space for sitting (if benches are put around it) | Low        |
| Bioswale                   | • Reduces runoff  
• Increases biodiversity  
• Provides space for planting trees which provide shade | High       |
| Green Roof                 | • Increases biodiversity  
• Reduces albedo  
• Enhances viewsheds  
• Lowers energy use within building | Medium/High |
| Meadow                     | • Provides space for natural regeneration of trees  
• Reduces erosion and runoff  
• Increases biodiversity  
• Provides space for sitting (benches) | Low        |
V. SPECIFIC RECOMMENDATIONS
SPECIFIC RECOMMENDATIONS

The following section expands upon the general recommendations to outline specific suggestions and strategies for achieving the “Emerald Necklace” vision of Science Hill. The map to the right outlines the three areas of focus. The diagram shown below illustrates our attempt to select areas of Science Hill that represent a landscape continuum from the “highly-intervened” such as Prospect Street to the more naturalistic areas such as the Mansfield Wetland. Sachem’s Wood represents a middle ground on this continuum.

[1] Prospect

[2] Sachem’s Wood


LANDSCAPE CONTINUUM

Traditional/Highly-Intervened  Naturalistic
PROSPECT STREET

Current Conditions

Prospect street is one of the main corridors that connects downtown New Haven with Science Hill and the surrounding neighborhoods. Prospect street is an important artery for Yale and for New Haven, and therefore it has potential for developing educational and experimental opportunities that extend from the classrooms and the laboratory into the landscape were students and citizens alike can come together.

At the moment, Prospect Street is a bland incoherent landscape. It has differently built sidewalks, fences, landscaping, lighting, signage and front yard parking lots. Additionally, the high coverage of impervious surface has resulted in large amounts of water runoff that put pressure on the storm water system and create pockets of standing water at the intersection of Prospect and Sachem. It is a street without much character, and not a pleasant one to be on. This is exacerbated by the lack of shade from trees, the albedo reflected from the pavement, and the high levels of noise and fast moving cars that make people move as fast as possible through the area in search of refuge.

Because of the importance of Prospect Street to the University and the integration between the Yale and the City, it should be redesigned. Prospect street should be a slow traffic street where people can stop to learn, to rest, and to enjoy the outdoor environment.

Recommendations

To make Prospect Street a more attractive and functional corridor, there are several improvements that can be made. These recommendations involve a combination of bioswales, rain gardens, benches, and streets trees.

To make a more coherent landscape, the fences separating the different houses should be removed. This would allow developing one landscape plan for Prospect Street that includes bioswales, street trees and benches. Bioswales reduce water runoff, and also serve as urban biodiversity and water management demonstration sites. Street trees should be planted on lawns of different properties. These trees would provide shading to the sidewalk, and also reduce direct sun exposure during the hot months to the various properties. This could reduce energy consumptions within these buildings. Additionally, planting trees on the laws would also allow for placing some benches and providing spaces for people to stop and congregate. Also, given the wetland that runs parallel to Prospect, there might be possibilities for diverting water runoff to this wetland. This would alleviate pressure on New Haven's stormwater infrastructure.
(1) Prospect Street
• TRANSPORTATION CORRIDOR
• INCOHERENT LANDSCAPE
• CARS / BIKES / PEOPLE
• IMPERVIOUS SURFACES + RUNOFF
• LACK OF SHADE
• ALBEDO EFFECT
• NOISE
• LIGHTING
• SIGNAGE
• FRONT-YARD PARKING
PROSPECT STREET BEFORE
PROSPECT STREET AFTER
• ATTRACTIVE, FUNCTIONAL CORRIDOR
• SLOW TRAFFIC
• BIOSWALES (DEMONSTRATION SITES)

• RAIN GARDENS
• STREET TREES / SHADE
• BENCHES / SEATING AREAS
• UNIFICATION OF “FRONT YARDS” TO

BECOME PART OF THE LANDSCAPE
CONTINUUM
• POTENTIAL TO DIVERT RUNOFF INTO
THE MANSFIELD WETLAND
SACHEM’S WOOD

Current Conditions

Sachem’s Wood is an open space in the center of Science Hill, bordered by Sachem Street, Kroon Hill, Kline Biology Tower and the Class of 1954 Environmental Sciences Center. Sachem’s Wood is a grassy area with steep topography, with several protected old oak trees and walking trails. Due to its close proximity to several environmental studies programs, Sachem’s Wood has the potential to be an ongoing, interactive feature of the learning experience of students at these schools.

The responsibility for the landscape design of Sachem’s Wood is currently unassigned to a particular administration with attached building project. Thus, the simple landscape design remains unchanged though architectural renderings were proposed in the past. The area is currently used as a thoroughfare for students walking between buildings, and from Central Campus to Science Hill. The area lacks any features that would encourage pausing for contemplation and observation. Sachem’s Woods has potential to be an area of exploration with interesting spaces for study and recreation.

Recommendations

The trees on Sachem’s Wood are old oaks of the same age class, and are bound to die around the same time. Grass turf, mowing and pedestrian treading limit any natural regeneration that may occur otherwise. Maintaining the parts of Sachem’s Wood as a meadow seeded with native grasses and flowers would encourage natural regeneration of oak trees that will eventually replace the aging oaks that currently predominate the landscape.

Due to its steep terrain, Sachem’s Wood is prone to water runoff problems, including rainwater seepage into the Environmental Sciences Center at the bottom of the hill on east side of the area. A bioretention water feature on the southeast corner of the area would serve to collect excess water runoff and prevent seepage into nearby buildings. This could be designed as an aesthetically pleasing wetlands area with appropriate plantings that extend along the east side of Sachem’s Wood.

Soil compaction is common in grassy areas frequently treaded by pedestrians. Instead of attempting to divert this traffic, plantings, grassy trails and stones can be used to direct pedestrians through the space of Sachem’s Wood. This will minimize the amount of treading in inappropriate areas that leads to soil compaction and prevents re-growth of grasses and other species.

Sachem’s Wood is currently a thoroughfare rather than a destination in itself. Picnic tables and benches placed throughout Sachem’s Wood encourage visitors to linger in certain areas. Trees, shrubs and tall grasses can be planted appropriately to create intimate spaces within the large area of Sachem’s Wood, adding interesting features that facilitate exploration and contemplation. Spaces can be designed with particular local ecosystems in mind, with trails leading from one demonstration area to the next. Students, faculty and staff from Science Hill can collaborate with other local participants in the design, implementation and maintenance of these spaces.
(2) Sachem’s Wood
• WATER RUNOFF
• SOIL COMPACTION
• DYING TREES
• INSUFFICIENT / INAPPROPRIATE PATHWAYS
• NO SEATING AREAS / INTIMATE SPACES
SACHEM’S WOOD AFTER
• MEADOW ECOSYSTEM WITH NATIVE GRASSES AND FLOWERS TO ENCOURAGE NATURAL REGENERATION

OF THE TREES
• ALTER CURRENT MOWING REGIME (MOW ONCE A YEAR), NO FERTILIZATION

• CONNECTS TO 380 EDWARDS, THE YALE FARM, AND FARNAM GARDENS
• DEVELOP PROGENY OF ORIGINAL WOODLAND (SELECT FOR NEW TREES)
SACHEM’S WOOD AFTER
• BIORETENTION WATER FEATURE (DEAL WITH RUNOFF NEAR ESC BUILDING)
• ACTIVATE THE SPACE BY MOVING

LUNCH CARTS
• OPPORTUNITIES FOR OUTDOOR EVENTS (AMPHITHEATER, ETC)
MANSFIELD WETLAND

Current Conditions

The area of land referred to as the Mansfield Wetland is bordered by Hillside Place on the north, Prospect Street on the east, Mansfield Street on the west and the Prospect-Sachem Garage on the south side. This area of land presents enormous possibilities for enhancing Science Hill’s ecology and student experience through participation in the landscape.

The area is currently a dense woodland with a diversity of hardwood trees and invasive species that are out-competing some of the native vegetation. At the moment, this wetland does not have any designated land use as it’s filled with garbage and deteriorating fence structures that serve no purpose. When walking through this wooded area, however, there are signs of human use. Small trails running through the area lead to a treehouse with a charcoal grill at its base. The University could take advantage of this “natural” space to create an urban forested park that would attract students and citizens alike.

Recommendations

Given that this area is unsuitable for development because of its wetland characteristics, it presents opportunities for recreation and use as a public parkland and an experimental ecological restoration site. This woodland is of important ecological significance as an urban wetland which should be enhanced through an active restoration project. Additionally, to help mitigate runoff, erosion and pooling, this wetland could serve as important basin for diverting water from Prospect Street and improving the connectivity with the seep system within Marsh Botanic Gardens.

Enhancing its utility and purpose on Science Hill’s landscape, is its ability to promote and sustain biological diversity of trees, shrubs, and animal species. As biodiversity is an ecosystem service Yale is hoping to promote, restoration of this wetland constitutes a significant contribution to habitat, ecosystem, and species diversity of Yale’s urban landscape.

Restoration of the system would encompass the vision of Science Hill as an educational and experimental landscape. As seen from the popularity of Yale’s Sustainable Food Project, students are eager to supplement their academic experiences at Yale with hands-on projects with visible and tangible results. Taking precedence from Reed College Canyon, Yale could enlist the labor of students and volunteers for the rehabilitation of this landscape. Restoration provides an opportunity to connect not only students with the landscape but also local New Haven residents.
MANSFIELD WETLAND
(3) Mansfield Wetland
- Dense woodland w/o designated land use
- Access
- Erosion
- Safety
- Garbage / Fences
MANSFIELD WETLAND BEFORE
YALE WETLAND
- WETLAND REHABILITATION
- YALE ENGAGEMENT (STUDENT/ FACULTY/ STAFF PARTICIPATION WITH CLEAN UP)
- OPPORTUNITIES FOR EXPERIMENTATION
- ENHANCE BIODIVERSITY
- DIVERT STORM RUNOFF FROM PROSPECT
VI. CONCLUSION
Science Hill is an ideal location for Yale to demonstrate its commitment to sustainability. There are infinite opportunities to take advantage of the existing human and natural capital in the area, due to its many green spaces, culture of science and exploration, and location. Science Hill is the perfect place to foster integration between Yale and the City of New Haven. It lacks the fences and walls of Central Campus, creating an open environment that allows this part of the campus to blend into the surrounding New Haven neighborhoods. Science Hill is welcoming to University and community members alike. The diverse participants of the area can be involved in the design, implementation and maintenance of the landscape.

The recommendations in this report provide a foundation for managing Science Hill in a way that maximizes its ecosystem services. The principle challenges of managing the Science Hill landscape are a result of its steep topography and lack of aesthetic identity, which lead to a chaotic flow of water and people over the landscape. Managing the landscape can be accomplished by implementing strategies such as those recommended in this report. These strategies use the inherent functionality of nature within the built campus environment in order to manage the flow of water and people on Science Hill, creating a landscape that facilitates education, experimentation and integration. Finally, in order for these recommendations to materialize, leaders within the management and academia will be needed in order to implement a coherent landscape management plan that maximizes the ecosystem services of water, biodiversity, climate and aesthetics, while creating a place that reflects the education and experimentation that the people within Science Hill are involved in.
VII. APPENDIX
FAREWELL to “Highwood”* name made dear
By lips we never more can hear!
That came, unsought for, as I lay,
Musing o’er landscapes far away;
Expressive just of what one sees,
The upland slope, the stately trees;
Oaks, prouder that beneath their shade
His lair the valiant Pequot made,
Whose name, whose gorgon lock alone,
Turned timid hearts to demi-stone.

-Opening lines of “Sachem’s Wood” by James Abraham Hillhouse, 1838

*Highwood - former name for Sachem’s Wood.

REFERENCES

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