## The View from Mount Tom: Perspectives from the Childhood Landscape of George Perkins Marsh

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As I write, the Hills outside of My office in Woodstock, Vermont, are covered in their autumnal glory—the great wash of greens have given way to shades of crimson, golds, and blaze orange. Marsh-Billings-Rockefeller National Historical Park (NHP) sits outside the Woodstock village on a slight rise overlooking the fertile farm land that is now the Billings Farm & Museum and the hills and valleys surrounding the Ottaquechee River. Aptly named the "Green Mountain State," today, approximately 80% of the land in Vermont is forested. The interplay and co-dependence of forests, agricultural fields, and small villages are the hallmark of the Vermont landscape and core to the identity and foundational ethics of Vermont communities, and have been for over 200 years.

This was the boyhood home of George Perkins Marsh, born in 1801. However, the landscape that Marsh experienced over two centuries ago was very different than the one we know today. In his boyhood years, the land was cleared to make way for agricultural fields and to supply potash and timber for the growing settlements of early Vermont. Fires were frequent, and early in Marsh's life a large fire devastated most of Mount Tom, the prominent summit behind the Marsh estate with panoramic views overlooking the Woodstock village and Ottaquechee Valley.

From an early age, Marsh was an exuberant learner. So much so, in fact, that by the age of about seven or eight Marsh nearly went blind from the strain of excessive reading under poor light and for nearly four years he could not read at all (Lowenthal 2000a). Without his books for learning, Marsh took to the woods where he turned his keen mind and passion for observation and discovery to nature. These were impressionable years for young Marsh, and in those woodland journeys he cultivated a love for the natural world that would continue with him throughout his adult life. He would later describe himself as "forest-borne;" and for him "the bubbling brook, the trees, the flowers, the wild animals were to me persons, not



19th-century view from Mount Tom over Woodstock, Vermont. Photo courtesy of Woodstock Historical Society.

things" (Marsh 1864). He learned to identify all of the species of trees on Mount Tom. His father taught him the concept of "watershed" and directed his attention to the interplay of water and soils. From his perch at the summit of Mount Tom, Marsh could scan the entire intervale and took note of the interrelations of the village to the river, fields and forests, and the changes in the landscape from human use and misuse (Lowenthal 2000a).

Marsh would go on to complete his formal schooling in nearby Dartmouth College in Hanover, New Hampshire, and later move to Burlington, Vermont, to pursue law. He also tried his hand at various business adventures, unsuccessfully, before taking up the call as a public servant that would eventually lead him overseas as US ambassador to the Ottoman Empire and Italy (Lowenthal 2000a). However, during his time in Vermont he would return to his family home in Woodstock frequently and continued to observe, with great concern, the growing devastation of the landscape of his childhood.

In the short time of Marsh's early years, the Vermont landscape underwent drastic change. From the early clearing for potash and timber, the forest of Vermont continued to fall at an increasing rate, spurred by the rise in the wool industry. By the 1840s there were six sheep for every one person in Vermont (Albers 2000), and by the 1850s only about 35% of Vermont's forest remained (MacCleery 2011). In addition to the effects of land clearing and overgrazing, development and damming along the rivers were also rampant. Flooding, massive soil erosion, and the destruction of fisheries ensued.

The disastrous effects of the rapid, massive deforestation of Vermont and greater New England that Marsh experienced would later be acknowledged as one of the first environmental catastrophes in the country's early history. And Marsh was one of the first to take note (1847):

The changes ... wrought in the physical geography of Vermont, within a single generation, are too striking to have escaped the attention of any observing person, and every middle-aged man who revisits his birth-place after a few years of absence, looks upon another landscape.

## He would later reflect in a letter to botanist Asa Gray (1849):

I spent my early life almost literally in the woods; a large portion of the territory of Vermont was, within my recollection, covered with natural forests; and having been personally engaged to a considerable extent in clearing lands, and manufacturing, and dealing in lumber, I have had occasion both to observe and to feel the effects resulting from an injudicious system of managing woodlands and the products of the forest.

The firsthand lessons of the destructive power of wide-scale human manipulation of the natural world would stay with Marsh through his later journeys in life. These experiences, together with his observations of environmental destruction from his travels in the Old World as US ambassador, would serve as the genesis of *Man and Nature*.

In its first printing, *Man and Nature* did not have wide readership, but it did garner the attention of several influential actors of the day. Among them was the first chief of the US Forest Service, Gifford Pinchot, who received a copy of *Man and Nature* for his 21st birthday from his brother, and later credited it as "epoch making." A well-worn edition of the book can still be found at the library of Pinchot's Pennsylvania home, Grey Towers. Another first-edition copy with notes in the margins and evidence of thoughtful use is found in the library of the Marsh-Billings-Rockefeller mansion. This copy belonged to Frederick Billings, who also grew up in Woodstock and returned to purchase the Marsh place in 1869. In *Man and Nature* Marsh extols:

We have now felled forest enough everywhere, in many districts far too much. Let us restore this one element of material life to its normal proportions, and devise means for maintaining the permanence of its relations to the fields, the meadows and the pastures, to the rain and the dews of heaven, to the springs and rivulets with which it waters down the earth.

Inspired by Marsh's call to action, Frederick Billings responded by planting trees by the thousands to re-establish the Mount Tom forest, building a progressive forestry and farming program that could serve as a model for others to learn from. As Billings' wife, Julia, writes:

He would plant trees in the spring of the year, determining to cover the hills with forests.... He was led to consider forestry by reading the writings of Geo. P. Marsh

regarding climactic changes induced by devastation of the forests; and he thought the farmers should be taught to see the importance of preserving their woodlands.

Billings shared Marsh's philosophy that human agency had the potential to be a positive as well as destructive force, and that nature could be improved through intervention. Marsh advocated that what humans had destroyed, so could they mend: "In reclaiming or reoccupying lands laid waste by human improvidence or malice.... He is to become a co-worker with nature in the reconstruction of the damaged fabric..." (Marsh 1864).

Today, if you were to travel in the footsteps of George Perkins Marsh on the trails that crisscross Mount Tom, you would witness a landscape of recovery. The worn-out hills have largely been restored by the planting efforts begun by Frederick Billings, continued by his daughters, and aided by the insistence of natural regeneration. Norway spruce and white pine tower over the Marsh-Billings house, and hemlock and beech shade the mountain stream. The patchwork of forest stands reflects a 150-year evolution in forestry practices, and a committed land ethic shared across generations. Deep in some of these old stands, the most astute observer can still find the gnarly 200-plus-year-old open-grown sugar maples that would have dotted the worn-out pastures during Marsh's lifetime.

This is the landscape of Marsh-Billings-Rockefeller National Historical Park. The park was established in 1992 when Mary French Rockefeller, granddaughter of Frederick Billings, and her husband, Laurance Rockefeller, donated the property to the National Park Service (NPS). The park, which opened to the public in 1998, interprets the history of conservation in the United States and continues the legacies of Marsh's teachings and Billings' practices in managing the Mount Tom forest as a demonstration of stewardship in action.

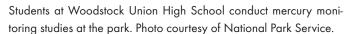
As others in this issue of *The George Wright Forum* argue, *Man and Nature* was a book of its time and cannot be read by the modern reader without placing it within the historical context of its development. Nevertheless, there are fundamental lessons found in Marsh's life and writing that are as powerful today as they were 150 years ago, and continue to inform the park's approach to stewardship (in no small part due to the continual re-examination of Marsh's role in the history of conservation by historians and scholars, first among them Dr. David Lowenthal).

Today, the park is one of the oldest continuously managed forests in the United States developed from scientifically informed practices. The park continues the tradition of forest management on Mount Tom as a demonstration of progressive forest stewardship. In its approach, the park strives to recognize the interdependence and balance between trees, water, wildlife, and community, as Marsh advocated in his pleas for reform. The work, by necessity, requires a long view; a demand to think beyond single generations. "The improvement of forest trees is the work of centuries. So much more the reason for beginning now" (Marsh 1879). Elsewhere in this *Forum* issue, you can read about the park's approach to managing the forest for climate change, an equally critical long-term view in response to the ecological crises of our time.

While not a scientist himself, Marsh was an advocate for scientifically informed management. In his 1860 report on the "Study of Nature," Marsh argued that only by under-

standing the environment might we learn how to repair it (cited in Lowenthal 2000a). In the stewardship of the Mount Tom forest, the use of scientifically informed monitoring and decision-making is at the core of the management approach. Over the 550 acres, nearly 120 long-term forest monitoring plots provide detailed tracking of forest stand dynamics that inform forestry decisions; and the National Park Service Northeast Temperate Inventory and Monitoring network provides additional monitoring of water quality, breeding birds, land use change, and other key baseline ecological conditions. However, data alone are not sufficient for examining impacts, as Marsh later advised, recognizing that even with such diligence we will never know the full effects of our actions. Science must be equally matched with the ability to take a broader view, working between disciplinary boundaries and striving for a pace of change that respects the speed of trees.

Marsh also cautioned against the supremacy of scientific specialists or a new class of scientific elite. Rather, he argued that science had to be grounded in the realities and complexities of everyday life, and advocated for the role of the amateur and democratization of scientific knowledge (Lowenthal 2000b). We echo similar calls for inclusivity and civic engagement as we work to engage new audiences in contributing to park stewardship through citizen science. Programs on woodland management for landowners, phenology monitoring with volunteers, and annual bioblitz events all aim to invite the public, regardless of their professional training, to contribute new knowledge and observations and forge personal connections to learning about the ecology of the park and their own communities.





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Sixth-grade students from local elementary schools look out across the landscape from the summit of Mount Tom as part of their curriculum inspired by George Perkins Marsh's quote "Sight is a faculty; seeing, an art." Photo courtesy of National Park Service.

Education is a key theme in many of Marsh's writings (although later in life he will lament that education alone is not enough) (Lowenthal 2000a, 2014); however, perhaps the most valuable lesson Marsh's story offers in this regard is the example of Marsh himself as a student of nature. Research now validates what Marsh's boyhood experience exemplified: children in their elementary years are at a unique developmental stage in their learning where they are beginning to understand how the world around them works, yet are curious about new ideas and are beginning to forge affinities and habits that will stay with them throughout their lifetime (Wells 2012, 2013). Not unlike Marsh's over-addiction to books in his youth, there is a growing concern that youth today are spending a harmful amount of time in front of computer screens to the detriment of their health and development (Louv 2005; Rideout 2010).

The national "Every Kid in a Park" program recognizes this crisis with the aim to provide free access to parks and public lands to all 4th-graders and their families. Over the last decade, Marsh-Billings-Rockefeller NHP has worked with teachers and schools to develop robust programs in place-based education that get children outdoors and using the park and community resources to enhance the educational curriculum and inspire life-long learning. Teachers who have participated in "A Forest for Every Classroom" have crafted new curricula that use the Mount Tom forest as a learning laboratory, just as Marsh did informally in his boyhood adventures. Along the trails that Marsh walked, today's students are learning about ecosystems, climate change, stewardship, water quality and mercury pollution, creative

writing, social history, and so much more. For example, teachers of 6th-grade classes in area schools have taken to heart Marsh's words, "Sight is a faculty; seeing, an art," (Marsh 1864) and crafted a curriculum that encourages their students to hone their observational skills by exploring Mount Tom and their place in the world through different lenses—from the microscopic to the telescopic. This model of teacher professional development that fosters partnerships between public lands, teachers, and schools is now being offered in other parks and public lands throughout the country as programs such as "A Park for Every Classroom," "A Trail for Every Classroom," "Iditarod Trail to Every Classroom," and "A Watershed for Every Classroom."

Marsh's call for reform was as much a social one as it was an ecological one. He felt that the only way to achieve stewardship was to develop a commitment to the future with a sense of duty to both the memory of our ancestors and the care and concerns of our descendants (Lowenthal 2014). This, above all, summarizes the philosophical approach to the work at Marsh-Billings-Rockefeller NHP. It recognizes that stewardship is equally about community as it is about ecology, and that it is only in developing an understanding, appreciation, and commitment to the co-dependence of society and the environment that we can advance a land ethic for our time. The park aims to illustrate the spectrum of ways communities throughout the country are forging new relationships in the landscapes they call home. In Marsh's boyhood landscape, the park works closely with its own community of Woodstock to test new ideas for community-based conservation that strive toward sustainability of people on the land. The large-landscape conservation initiative for the Prosper Valley, the area north of the park defined by the convergence of four towns in one watershed, recognizes the values of contiguous wildlife corridors and protecting forests from fragmentation as much as it does maintaining working farms and forests in the valley to support community traditions and local economies.

As we mark the 150th anniversary of *Man and Nature*, there is recognition that there is still much work to do to address the imbalances of humans and nature. As the park was being established, its early advocates recognized that the call for stewardship should not remain locked within our history books or the Woodstock experience. The NPS Stewardship Institute was co-created with the park to continue to advance stewardship practices by working with a broad network of diverse, committed practitioners from throughout the NPS and our conservation partners. It recognizes that the challenges we face today are even more complex, potent, and urgent than in Marsh's time, and that only by tapping the collective wisdom of practitioners working across a diversity of parks, programs, and professional disciplines can we craft new approaches for stewardship needed for our times.

The institute works across broad geographies—from urban to large rural landscapes—to bring together leading-edge thinkers from all levels of the agency and the conservation community. The collaborative process has fueled the development of the NPS Urban Agenda, which is now working with 10 model cities throughout the country to pilot and learn from new partnership models among NPS, other government agencies, and community groups in the urban context. In support of large-landscape conservation, the institute works to share best practices and examples from throughout the field that exemplify the diverse ways that

agencies, communities, and non-profit partners are working together to protect and steward landscape-scale connectivity in support of both natural and cultural values. Marsh also recognized the spectrum of values in landscapes, and the need for landscape-scale thinking and management. In arguing for the protection of the Adirondacks, Marsh equally acknowledged the value of wilderness, the importance of watersheds, and the connection to local commerce (Marsh 1864):

Some large and easily accessible region of American soil should remain, as far as possible, in its primitive condition, at once a museum for the instruction of the student, a garden for the recreation of the lover of nature, and an asylum where indigenous tree, and humble plant that loves the shade, and fish and fowl and four-footed beast, may dwell and perpetuate their kind.... [T]he forest alone, economically managed, would, without injury, and even with benefit to its permanence and growth, soon yield a regular income larger than the present value of the fee.... The collateral advantages of the preservation of these forest would be far greater.... The rivers which rise in it, flow with diminished currents in dry season, and with augmented volumes of water after heavy rains. They bring down much larger quantities of sediment, and the increasing obstructions to the navigation of the Hudson ... [and] give good grounds for the fear of serious injury to the commerce of the important towns on the upper waters of that river....

Visitors to Marsh-Billings-Rockefeller NHP walk the carriage roads and trails that crisscross through the landscape that George Perkins Marsh explored in his youth. Photo courtesy of Jim Higgins.



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In all of this work, there is the recognition that our strategies suffer from a fundamental flaw—the need for greater inclusivity in shaping a national social and ecological stewardship ethic. In Marsh's time the issues of slavery and women's suffrage drove deep divides throughout the country. Marsh was a supporter of women's rights and an abolitionist, yet his arguments for reform were tempered by his Victorian sensibilities. In November 2014, a symposium was held at the park with the institute and Center for Whole Communities to celebrate the 150th anniversary of Man and Nature and explore the relevancy of Marsh's work to the conservation today. In those discussions, there was a clear calling for the need to address issues of inequality and inclusivity in order to craft a more robust stewardship narrative where all cultures and all voices are equally represented and contributing. The park and institute are working together to embrace greater diversity and inclusion in its stewardship approach in all aspects of our work, including piloting partnership-based cultural competency training models that are now serving as a regional pilot; evaluating best practices in building connections between parks and diverse communities; and championing the need to broaden the conservation narrative to include issues of environmental justice, social inequality, and the value of local knowledge.

Motivated by a shared commitment to advance a stewardship legacy needed for our times, the park, institute and its many partners work together to promote the balance and interdependence between communities and the land. In the words of Laurance Rockefeller, "The true importance of Marsh, Billings, and those who follow in their footsteps goes beyond simple stewardship. Their work transcends maintenance. It involves new thought and new action to enhance and enrich ... the past.... We cannot rest on the achievements of the past. Rather, each generation must not only be stewards, but activists, innovators and enrichers" (Rockefeller 1993).

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