

Although few outside the environmental movement have heard of George Perkins Marsh, he is well worth remembering. Author of the classic text, *Man and Nature* (1864), he influenced his generation to become conscious of the deleterious impact of the industrial revolution on the American landscape; for example, a national commitment to conservation stewardship would solve the pressing problems of deforestation, an argument that has continued to shape environmental activism in the United States.

THE NECESSITY OF STEWARDSHIP

GEORGE PERKINS MARSH
AND THE NATURE OF CONSERVATION

The fear that George Perkins Marsh (1801–1882) felt for the future compelled him to write *Man and Nature*, which remains one of the central texts of American environmental thought. Although he believed in the application of science to problem-solving, his observations of the impact humans

were having on their environment—particularly through deforestation—led him to urge immediate action while scientific inquiry proceeded. As David Lowenthal, Marsh’s pre-eminent biographer, notes:

*After Marsh’s 1864 book, the conclusion was clear. Humans depend on soil, water, plants, and animals. But exploiting them deranges and may devastate the whole supporting fabric of nature. To forestall such damage we need to learn how nature works and how we affect it. And we must then act in concert to retrieve a more viable world. . . . Man and Nature was written to expose the menace, to explain its causes, and to prescribe antidotes. The human capacity to wreck must instead be used to replenish nature.*¹

Marsh’s landscape observations were drawn from his Vermont childhood, his experience as his native state’s representative to Congress, and his travels in Turkey and Italy as a diplomat. His

scholarship was also impressive. He spoke twenty languages, allowing him to read the relevant literature from many different countries. Drawing upon this vast global and historical knowledge, he began work on *Man and Nature*, referring to his ambitious undertaking as “a little volume.” In it he would refute prevailing thought that “the earth made man,” arguing instead that “man made the earth.”²

In his book, Marsh described the destruction resulting from human exploitation across the globe and made adroit comparisons to the fall of ancient civilizations. Environmental historian William Cronon has described Marsh’s vision as “apocalyptic”; however, he also noted that “Marsh. . . combined this dark prophecy with a deeply optimistic faith that disaster could be averted if only people responded in time.”³

Published in the mid-nineteenth century, a period described by Lowenthal as “the peak of Western resource optimism,” Marsh’s seminal work “refuted the myths of limitless plenty and spelled out the need for conservation.”⁴ He assembled convincing evidence

BY NORA J. MITCHELL AND ROLF DIAMANT

of “human’s unique potency” and the dramatic extent and unpredictable human influence on the environment.⁵ Because “Man is everywhere a disturbing agent,” Marsh argued, “wherever he plants his foot, the harmonies of nature are turned to discord.”⁶ An example was his warning that “felling of the woods has been attended with momentous consequences to the drainage of the soil... indigenous vegetable and animal species are extirpated... we are even now breaking up the floor and wainscoting and doors and window frames of our dwelling....”⁷

To reinforce his argument, Marsh, the practical Vermonter, “ransacked libraries and landscapes alike in search of evidence.”⁸ But he also presented practical solutions gathered from his foreign travels. As we would say today, he was documenting and sharing “best practices,” particularly focusing on a handful of good land management examples from Europe: “on narrow theatres, new forests have been planted, inundations of flowing streams restrained... [and these efforts were] more glorious than the proudest triumphs of war,” providing “faint hope” that restoration was possible.⁹ Though not as widespread as he hoped, Marsh lauded the importance of seeking these “practical lessons learned by the common observation of unschooled men.” He could not resist adding that on these practical topics, “philosophy has scarcely yet spoken.” To insure the success of landscape restoration, he asserted that humanity must learn to be a “co-worker with nature in the reconstruction of damaged fabric.”¹⁰

Marsh’s “little volume” had a big impact. Cronon has argued that “it is no exaggeration to say that that *Man and Nature* launched the modern conservation movement... [and was] endlessly cited and quoted in the decades following its initial publication.”¹¹ According to Lowenthal, the book’s primary impact was on the practice of forestry, quoting the former chief of U.S. Division of Forestry Nathaniel Egleston, who declared in 1896 that *Man and Nature* had awakened Americans “to our destructive treatment of the forests, and the necessity of adopting a different course.”¹² For Marsh, forest stewardship and watershed protection went hand in hand. He saw great potential in the nascent profession of forestry in Europe and its new schools of study. In his chapter, “The Woods,” he included many silvicultural details otherwise not readily available to “English speaking countries.” Consequently this chapter is one-third of the entire book.



A sepia photo of an oil portrait of George Perkins Marsh by G.P.A. Healy, painted about 1845. At the time, Marsh was a U.S. congressman and was beginning to turn his attention to the deforestation in his native Vermont.

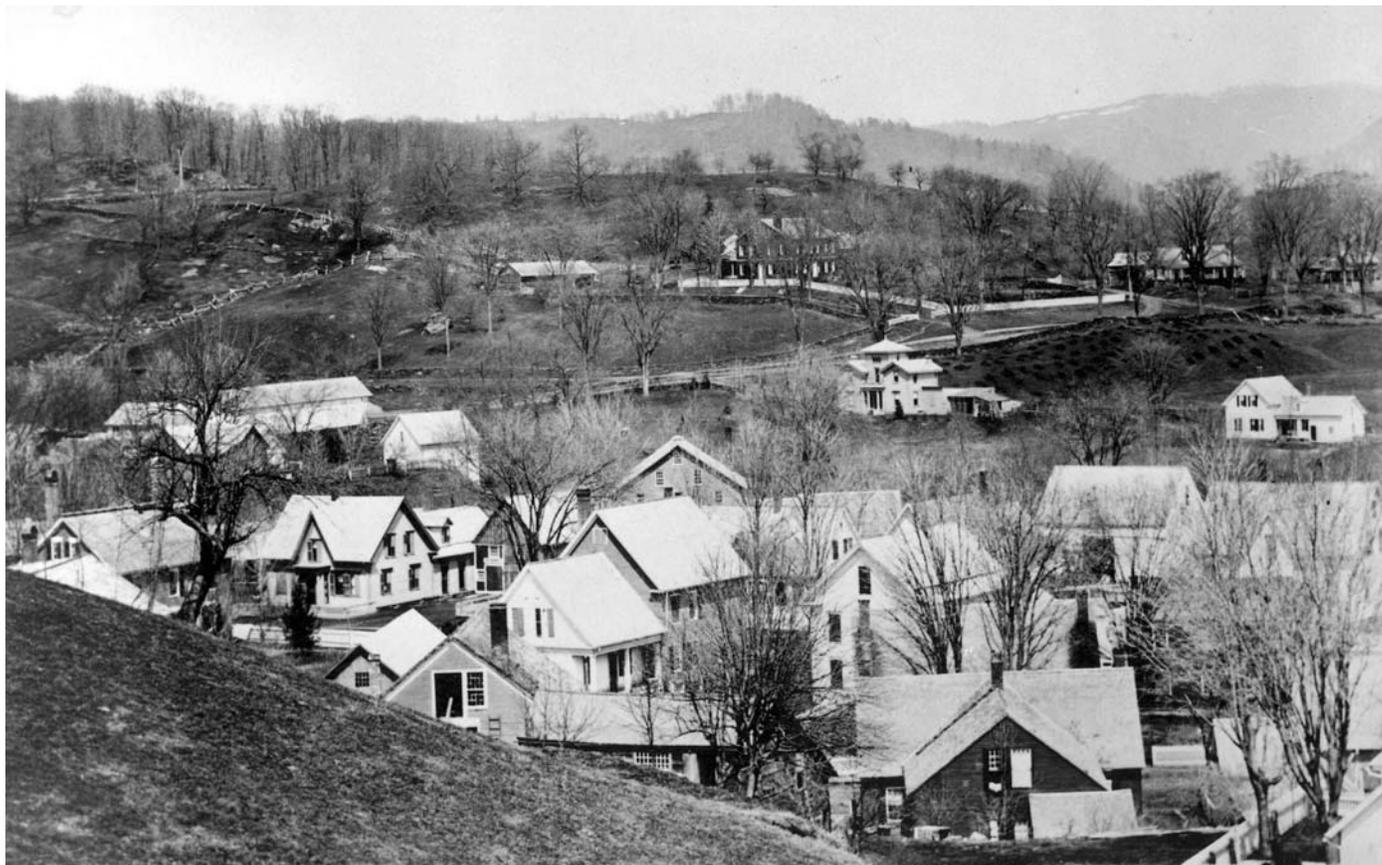
COURTESY OF BILLINGS FAMILY ARCHIVES.

Man and Nature, excerpted below, inspired forest stewardship efforts in America and was widely referenced in a successful petition to Congress in 1873 to create a national forestry commission.¹³ This document helped lay the groundwork for the 1891 Forest Reserve Act, which in turn led to the creation in 1905 of the national forest system as we know it today. *Man and Nature*’s influence also extended far beyond the United States, in particular to Italy, and its national forest acts of 1877 and 1888, and to Australia, South Africa, Japan, and other countries struggling to control unregulated exploitation of natural resources.¹⁴

Marsh wrote to influence scientists or politicians, and, more important, to appeal to “the general intelligence of educated, observing, and thinking men” whom he encouraged to become involved in environmental issues as a right and responsibility of citizenship. As Marsh explains in his introduction, he wanted to address poets and painters as well as to “the common observer” and “every traveler.” He implored them all to refine their art of observing. With his book, he hoped to “excite an interest” to “stimulate, not to satisfy curiosity.”¹⁵

With obvious pride, Marsh considered himself an “amateur” in the literal sense of the word. According to Lowenthal, Marsh “preached the civic necessity of informed public participation... as well as the necessity of stewardship.”¹⁶ However, Marsh was realistic about the obstacles these “amateur citizens” would face in trying to be good stewards of the land. Lowenthal described these barriers as “immediate urgent crises, restless mobility, faceless corporate irresponsibility, the fraying of community ties, the democratic process itself—all impose a tyranny of the present that threatens to throttle stewardship.”¹⁷ In response to these hindrances, Marsh called for educators to broaden their commitment to stewardship and to ensure passing this torch from one generation to the next. Throughout *Man and Nature*, Marsh urged caring for our world today with a sense of the future—what today we call sustainability.

Given his admiration of forests and foresters, his sudden death during an 1882 visit to the mountain-top forestry school at



The Marsh House and hillside in Woodstock, Vermont, taken between 1864 and 1869, around the time *Man and Nature* was published. The brick house visible in the photo was built in 1805–07. Marsh spent his boyhood on the property, where he developed an enduring sympathy for nature: “The bubbling brook, the trees, the flowers, the wild animals were to me persons, not things,” he later recalled.

Vallombrosa, near Florence, is particularly poignant. His body, wrapped in an American flag, was carried down the mountain by an honor guard of forestry students. The leadership of the diplomatic community gathered at the local train station to accompany the casket back to Rome along with an escort of

Italian dragoons. Marsh was laid to rest in Rome’s Protestant Cemetery. In an 1884 posthumous edition of *Man and Nature*, his publisher wrote that Marsh’s “conviction of the vital importance to the future of our race of a wiser economy...in the use of Nature’s gifts [had animated Marsh] to the last day of his life.”¹⁸

MAN AND NATURE¹⁹

BY GEORGE PERKINS MARSH, 1884

PREFACE

The object of this present volume is: to indicate the character and, approximately, the extent of the changes produced by human action in the physical conditions of the globe we inhabit; to point out the dangers of imprudence and the necessity of caution in all operations which, on a large scale, interfere with the spontaneous arrangements of the organic or the inorganic world; to suggest the possibility and the importance of the restoration of disturbed harmonies and the material improvement of waste and exhausted regions; and, incidentally, to illustrate the doctrine, that man is, in both kind and degree, a power of a higher order than any of the others forms of animated life, which, like

him, are nourished at the table of bounteous nature....

The extension of agricultural and pastoral industry involves an enlargement of the sphere of man’s domain, by encroachment upon the forests which once covered the greater part of the earth’s surface otherwise adapted to his occupation. The felling of the woods has been attended with momentous consequences to the drainage of the soil, to the external configuration of its surface, and probably, also, to local climate; and the importance of human life as a transforming power is, perhaps, more clearly demonstrable in the influence man has thus exerted upon superficial geography than in any other result of his material effort....



COURTESY OF BILLINGS FAMILY ARCHIVES.

George Marsh in his library in Florence, Italy, in 1875. His quarter-century of overseas service as a diplomatic minister on behalf of the American government afforded him the time and opportunity to study the Mediterranean world at his leisure.

I have only to add what, indeed, sufficiently appears upon every page of the volume, that I address myself not to professed physicists, but to the general intelligence of educated, observing, and thinking men; and that my purpose is rather to make practical suggestions than to indulge in theoretical speculations properly suited to a different class than to which those for whom I write belong.

CHAPTER I, INTRODUCTORY

Reaction of Man on Nature But, as we have seen, man has reacted upon organized and inorganic nature, and thereby modified, if not determined, the material structure of his earthly home.... But though the subject has been incidentally touched upon by man geographers... it has not, as a whole, so far as I know, been made matter of special observation, or of historical research by any scientific inquirer.

It is still too early to attempt scientific method in discussing this problem, nor is our present store of the necessary facts by any means complete enough to warrant me in promising any approach to fullness of statement respecting them.... At present, then, all that I can hope is to excite an interest in a topic of much economic importance, by pointing out the directions and illustrating the modes in which human action has been or may be most injurious or most beneficial in its influence upon

the physical conditions of the earth we inhabit.

Observation of Nature In these pages, as in all I have ever written or propose to write, it is my aim to stimulate, not to satisfy, curiosity, and it is not part my object to save my readers the labor of observation or of thought. For labor is life, and Death lives, where power lives unused....

To the natural philosopher, the descriptive poet, the painter, and the sculptor, as well as to the common observer, the power most important to cultivate, and, at the same time, the hardest to acquire, is that of seeing what is before him. Sight is a faculty; seeing, an art....

The pursuit of physical geography, embracing actual observation of terrestrial surface, affords to the eye the best general training that is accessible to all.... It may be profitably pursued by all; and every traveler, every lover of rural scenery, every agriculturist, who will wisely use the gift of sight, may add valuable contributions to the common stock of knowledge on a subject which, as I hope to convince my readers, though long neglected, and now inartificially presented, is not only a very important, but a very interesting field of inquiry.

Restoration of Disturbed Harmonies In reclaiming and reoccupying lands laid waste by human improvidence or malice, and abandoned by man, or occupied only by a nomad[ic] or thinly

scattered population, the task of the pioneer settler is of a very different character. He is to become a co-worker with nature in the reconstruction of the damaged fabric which the negligence or the wantonness of former lodgers has rendered untenable. He must aid her in reclothing the mountain slopes with forests and vegetable mould, thereby restoring the fountains which she provided to water them; in checking the devastating fury of torrents, and bringing back the surface drainage to its primitive narrow channels; and in drying deadly morasses by opening the natural sluices which have been choked up, and cutting new canals for drawing off their stagnant waters....

Destructiveness of Man Man has too long forgotten that the earth was given to him for usufruct²⁰ alone, not for consumption, still less for profligate waste....But [nature] has left it within the power of man irreparably to derange the combinations of inorganic matter and of organic life, which through the night of æons she had been proportioning and balancing, to prepare the earth for his habitation....

Apart from the hostile influence of man, the organic and the inorganic world are, as I have remarked, bound together by such mutual relations and adaptations as secure, if not the absolute permanence and equilibrium of both, a long continuance of the established conditions of each at any given time and place, or at least a very slow and gradual succession of changes in those conditions. But man is everywhere a disturbing agent. Wherever he plants his foot, the harmonies of nature are turned to discords. The proportions and accommodations which insured the stability of existing arrangements are overthrown. Indigenous vegetable and animal species are extirpated, and supplanted by others of foreign origin, spontaneous production is forbidden or restricted, and the face of the earth is either laid bare or covered with a new and reluctant growth of vegetable forms, and with alien tribes of animal life. These intentional changes and substitutions constitute, indeed, great revolutions; but vast as is their magnitude and importance, they are, as we shall see, insignificant in comparison with the contingent and unsought results which have flowed from them....

Physical Improvement True, there is a partial reverse to this picture. On narrow theatres, new forests have been planted, inundations of flowing streams restrained....These achievements are more glorious than the proudest triumphs of war, but, thus far, they give but faint hope that we shall yet make full atonement for our spendthrift waste of the bounties of nature.

Physical Decay of New Countries The geological, hydrographical, and topographical surveys, which almost every general and even local government of the civilized world is carrying on, are making yet more important contributions to our stock of geographical and general physical knowledge, and, within a comparatively short space, there will be an accumulation of well established constant and historical facts, from which we can safely reason upon all the relations of action and reaction between man and external nature.

But we are, even now, breaking up the floor and wainscoting and doors and window frames of our dwelling, for fuel to warm our bodies and seethe our pottage, and the world cannot afford to wait till the slow and sure progress of exact science has taught

it a better economy. Many practical lessons have been learned by the common observation of unschooled men; and the teaching of simple experience, on topics where natural philosophy has scarcely yet spoken, are not to be despised.

In these humble pages, which do not in the least aspire to rank among scientific expositions of the laws of nature, I shall attempt to give the most important practical conclusions suggested by the history of man's efforts to replenish the earth and subdue it; and I shall aim to support these conclusions by such facts and illustrations only, as address themselves to the understanding of every intelligent reader, and as are to be found recorded in works capable of profitable perusal, or at least consultation, by persons who have not enjoyed a special scientific training.

CHAPTER III, THE WOODS

Sylviculture The art, or, as the Continental foresters call it, the science of sylviculture has been so little pursued in England and America, that its nomenclature has not been introduced into the English vocabulary, and I shall not be able to describe its processes with technical propriety of language, without occasionally borrowing a word from the forest literature of France and Germany. A full discussion of the methods of sylviculture would, indeed, be out of place in a work like the present, but the almost total want of conveniently accessible means of information on the subject, in English-speaking countries, will justify me in presenting it with somewhat more detail than would otherwise be pertinent.

The growth of arboreal vegetation is so slow that, though he who buries an acorn may hope to see it shoot up to a miniature resemblance of the majestic tree which shall shade his remote descendants, yet the longest life hardly embraces the seedtime and the harvest of a forest. The planter of a wood must be actually motivated by higher motives than those of an investment the profits of which consist in direct pecuniary gain to himself or even to his posterity... But when we consider...the terrible evils necessarily resulting from the destruction of the forest, both the preservation of existing woods, and the far more costly extension of them where they have been unduly reduced, are among the most obvious of the duties which this age owes to those that are to come after it.

Instability of American Life 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 watered the earth....[This] would involve a certain persistence of character in all the branches of industry, all the occupations and habits of life...and would thus help us to become, more emphatically, a well-ordered and stable commonwealth, and not less conspicuously, a people of progress. □

Authors' note: We are deeply indebted to Professor Lowenthal for his lifelong work on Marsh as it has been through his eyes that many of us have discovered Marsh and his relevance to conservation today.

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NOTES

1. George Perkins Marsh, *Man and Nature, Or, Physical Geography as Modified by Human Action*, ed. by David Lowenthal (1864; Seattle: University of Washington Press, 2003), xv.
2. George Perkins Marsh to Spencer F. Baird, 21 May 1860, cited in David Lowenthal, *George Perkins Marsh, Prophet of Conservation* (Seattle: University of Washington Press, 2000), 267n1. Marsh was referring to the contemporary work of geographers who were focused on the “inquiry of how far external physical conditions...have influenced the social life and social progress of man.” Also see Marsh, *Man and Nature*, 13.
3. William Cronon, foreword to David Lowenthal, *George Perkins Marsh, Prophet of Conservation* (Seattle: University of Washington Press, 2000), xiii.
4. Marsh, *Man and Nature*, xvi; see also from Lowenthal, *George Perkins Marsh*, x: “At a time when the United States was moving at breakneck speed to industrialize and develop the national economy by exploiting its wealth of natural resources to the fullest, Marsh’s was a lonely voice cautioning against the risks of careless growth.”
5. Lowenthal, *George Perkins Marsh*, 295, and Marsh, *Man and Nature*, xxvi.
6. Marsh, *Man and Nature*, 36.
7. Marsh, *Man and Nature*, 3, 36, 52.
8. William Cronon, foreword to George Perkins Marsh, *Man and Nature, Or, Physical Geography as Modified by Human Action*, ed. by David Lowenthal (1864; Seattle: University of Washington Press, 2003), xii.
9. Marsh, *Man and Nature*, 43–44.
10. Marsh, *Man and Nature*, 35.
11. Marsh, *Man and Nature*, x. In Lowenthal’s introduction to the 2003 edition of *Man and Nature*, on page xvi, he cites several observations of the impact of Marsh’s work: Lewis Mumford said *Man and Nature* was “the fountainhead of the conservation movement,” in *The Brown Decades: A Study of Arts in America, 1865–1895*, rev. ed. (1931, New York: Dover, 1955), 78; Stewart L. Udall, in *The Quiet Crisis* (New York: Holt, Rinehart & Winston, 1963), 69–82, called it “the beginning of land wisdom in the country”; and Wallace Stegner, in “It All Began with Conservation,” *Smithsonian* (April 1990): 38, declared it “the rudest kick in the face that American initiative, optimism and carelessness had yet received.” While Gifford Pinchot’s reference to *Man and Nature* as “epoch-making” is often cited, his biographer Char Miller notes that Pinchot disputed its impact by asserting that only a handful of Americans had ever read it. Even so, Pinchot’s copy of Marsh’s book (1882 edition) that he had received on his twenty-first birthday in 1886, remains at Grey Towers NHL (Char Miller, *Gifford Pinchot and the Making of Modern Environmentalism* (Washington, D.C.: Island Press, 2001), 55, 56, 362).
12. N. H. Egleston, cited in Marsh, *Man and Nature*, xvi. See also Lowenthal, *George Perkins Marsh*, 302–305.
13. Another who was heavily influenced by Marsh’s ideas was Franklin B. Hough, a member of the American Association for the Advancement of Science, and who later became the first head of forestry in the federal agency established in 1876.
14. Marsh, *Man and Nature*, xvii: “Beyond America, Marsh’s precepts were also early espoused... Italian foresters and engineers found Marsh’s advice invaluable in framing national forest acts of 1877 and 1888. *Man and Nature* inspired British officials seeking to curb deforestation in India, Burma and the Himalayas, was cited as gospel to halt the ‘barbarous improvidence’ of tree felling in New Zealand, and spurred early conservation reform in Australia, South Africa, and Japan.”
15. Marsh, *Man and Nature*, 15.
16. Marsh, *Man and Nature*, xxxv, and Lowenthal, *George Perkins Marsh*, 427–8, writes of “the necessity of stewardship.”
17. Lowenthal, *George Perkins Marsh*, 428.
18. Lowenthal, *George Perkins Marsh*, xxiii. See footnote #33, Publisher’s note in Marsh, *The Earth As Modified By Human Action: A Last Revision of “Man and Nature”* (New York, 1884), v.
19. George Perkins Marsh, *Man and Nature, Or, Physical Geography as Modified by Human Action*, 1884.
20. According to Lowenthal, *George Perkins Marsh*, 282: “The notion of usufruct—the view that each generation had rights only to current use, not perpetual title, which would forbid both hoarding and waste—had been advanced several years previously by Thomas Jefferson, fearful lest his Virginia fellow-planters squander finite resources. Marsh elaborated Jefferson’s warning that individual entrepreneurs could not be trusted with long-range commitments. Only by assuming public responsibility could Marsh’s countrymen curtail private profligacy.”