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MARSH BILLINGS
National Historical Park

WOODSTOCK, VERMONT

DRAFT GENERAL MANAGEMENT PLAN
DRAFT ENVIRONMENTAL IMPACT STATEMENT

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MARSH-BILLINGS
National Historical Park

WOODSTOCK, VERMONT

DRAFT GENERAL MANAGEMENT PLAN
DRAFT ENVIRONMENTAL IMPACT STATEMENT

APRIL 1998

This document describes the conditions and experiences that should exist at Marsh-Billings National Historical Park 15–20 years into the future. It presents a proposal for management and a management alternative, then assesses the potential environmental and socioeconomic effects of the actions presented on site resources, visitor experience, and the surrounding area. This document will be available for public review for 60 days. During the review period, the National Park Service will accept written and oral comments. The National Park Service will carefully review all comments and incorporate them, as appropriate, in the final plan and final impact statement. The park managers will then implement the plan over the next 20 years as funding and other contingencies allow.

Comments should be submitted to:
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Stewardship

Marsh-Billings National Historical Park, encompassing the historic Marsh-Billings-Rockefeller Farm and Estate in Woodstock, Vermont, is the first unit of the national park system to focus on the theme of conservation history and the changing nature of land stewardship in America. The park, a gift to the people of the United States from Laurance S. and Mary F. Rockefeller, actually represents several generations of conservationist thought and practice. It was the grandfather of Mary French Rockefeller, Frederick Billings, who had created the estate in the late 19th century. He established a progressive dairy farm and a professionally managed forest--both significant improvements in a region severely depleted by deforestation and overgrazing. In these efforts, Billings had been influenced by the writer, statesman, and conservationist George Perkins Marsh, who earlier had grown up on the property. In his landmark book *Man and Nature,* first published in 1864, and reprinted and revised several times thereafter, Marsh described the spreading ecological destruction of America's countryside and argued for a new ethic of responsible stewardship.

Today the park is a cultural landscape of great historic significance and integrity. It reflects the continuity of more than a century of careful management by Billings, his wife and daughters, and Mary and Laurance Rockefeller. This landscape, with its forests, fields, and gardens offers tangible evidence of the historical contributions of George Perkins Marsh and Frederick Billings to the theory and practical application of land stewardship principles. Thus the park is an excellent place to interpret their contributions, as well as the more recent contributions of Laurance S. Rockefeller, to American conservation and the national park system. Marsh-Billings National Historical Park and Billings Farm & Museum are uniquely positioned to demonstrate and interpret a conservation philosophy that evokes a strong sense of place, created and sustained by human activity. Neither a wilderness nor entirely a product of culture, this is a place where natural processes and cultural traditions are equally respected. And underlying all this is a vision of stewardship, which can be interpreted on many levels, practical and philosophical. And so the park will be an important center for public interpretation, education, and innovative activity. Through a network of partnerships and outreach initiatives with nonprofits, universities, and other organizations, the park will encourage the best thinking and practices in conservation stewardship. The focus will be on Vermont, yet the principles will be relevant to the future of many other communities and landscapes.

Park Overview

Marsh-Billings National Historical Park is located in Woodstock, among the rolling hills and pastures of eastern Vermont. Incorporated in 1772, Woodstock was renowned in the late 1800s and early 1900s as one of New England's most beautiful villages. It has been a resort town for over a century.

The boundary of the national park includes Mount Tom forest land and pastures as well as the Marsh-Billings Mansion and surrounding residential buildings, gardens, and grounds. Within the park's boundary, in a "protection zone," is Billings Farm & Museum, which is privately owned and operated by the Woodstock Foundation, Inc. The Woodstock Foundation and the National Park Service are working in partnership to present both the park and the museum to the public.

Forest

The national historical park includes 550 acres of forest on the slopes of Mount Tom. Beginning in the 1870s, Frederick Billings developed what he considered to be his crowning achievement in Woodstock—the forest, with its tree plantations and networks of trails and carriage roads. Encompassing 50 different forest stands, the Marsh-Billings forest includes plantations of single and mixed species as well as former farm fields now in various stages of forest succession. Of those tree plantations set out by Billings in the 1800s, 11 survive today. One of the oldest continuously managed woodlands in North America, this forest still produces saw logs and firewood. At the same time, it is managed with a strong emphasis on aesthetics, education, and recreation.

Ever since Billings constructed his 20-mile network of footpaths and carriage roads to showcase the managed forest and picturesque views of the countryside, the community has been welcome in the Mount Tom woodland. Today these trails and carriage roads are also a major component of a wider network of cross-country skiing trails, operated under an easement by the Woodstock Ski Touring Center. To preserve the tranquil character of the forest and opportunities for these recreational uses, the deed of gift by which the National Park Service accepted the property prohibits the use of mountain bicycles, snowmobiles or other motorized vehicles (except those needed to manage the property and trails); camping and camp fires; hunting; fishing; and swimming in the pond called the Pogue.

Residential Complex

The mansion, a large three-story brick residence sited on a promontory at the head of Elm and River streets, is the centerpiece of the residential complex. The mansion was originally built for George Perkins Marsh's parents and their growing family, in 1805-7. After Billings purchased it in 1869, the mansion was thoroughly renovated twice. It was remodeled a final time after it became the residence of Mary F. and Laurance S. Rockefeller in 1954. Collections belonging to the Billings and Rockefeller families include more than 500 paintings and prints--works by such artists as Thomas Cole, Albert Bierstadt, John Frederick Kensett, and Asher B. Durand. Together these works shed light on changing environmental perceptions and suggest the influence of art and artists on the conservation movement in the mid- to late-19th century. The residential complex also includes a two-and-a-half-story belvedere reminiscent of a Swiss cottage and a three-story Queen Anne-style carriage barn.

Farm

The Billings Farm & Museum includes 88 acres of pastures, hay meadows, cropland, and small portions of lowland woods, along with a herd of registered Jersey cows, Southdown sheep, draft horses, oxen, chickens, and other farm animals. An active dairy, which grows its own feed and sells milk, is a major component of the outdoor museum that is operated on the farm.

A living museum of Vermont's rural heritage, Billings Farm & Museum interprets significant themes of the national historical park. There, permanent exhibits portray the values of 1890s farm families of east-central Vermont and explore the relevance of those values to today's culture. The restored 1890 Farm House expands on the museum's interpretation of rural farm culture, addressing the historical role of the Billings Farm. The operating dairy farm, where championship Jersey cows have been raised since 1871, conducts and interprets responsible agricultural land stewardship. Museum programs interpret the progressive agricultural interests of Frederick Billings as well as the relationships between rural farm culture and the stewardship of working landscapes in an agricultural countryside.

THE SIGNIFICANCE OF THE PARK

Marsh-Billings National Historical Park has an important place in the history of conservation stewardship. Its significance lies in both people and practices—several prominent American conservationists and more than a century of continuous, careful stewardship, evident in the park's landscape, buildings, and museum collections.

Before the park was established, the mansion and its environs were determined to be of such national significance that they were listed as a National Historic Landmark. In addition, as part of the Woodstock Village Historic District, the residential complex and much of the farmland were listed in the National Register of Historic Places.

WHAT WILL MARSH-BILLINGS NATIONAL HISTORICAL PARK BE LIKE IN THE FUTURE?

The National Park Service began to plan for the management of Marsh-Billings National Historical Park in 1993. Park planners conducted a conservation stewardship workshop, a community study, visitor and community surveys, a transportation analysis, neighborhood meetings, and other resource inventories and assessments. The planning team also developed different management scenarios that share some fundamental assumptions about the future of the park. These are the assumptions:

- A careful, measured approach to the development of the park will be pursued. Wherever possible, park functions will be consolidated and located in existing historic structures to reduce the need for new construction and thereby minimize the footprint of new development on the land.

- Park managers will moderate the number of visitors to the park through admission fees and other strategies. For a fee, people will be able to visit the residential complex in small tour groups. Tours will be scheduled so as to minimize the impact of visitors on the historic structures as well as to offer each visitor an intimate and rewarding educational experience.

- Passive, day-use recreational activities will be encouraged. No facilities will be developed for motorized recreational vehicles or camping in the park.

- Because the buildings and cultural features of Marsh-Billings National Historical Park reflect nearly two centuries of historically significant occupancy, no single period of history will be favored over another. Rather, the property will be managed to convey a sense of the site's evolution. Historical changes to the buildings and landscape will be retained, and visitors will experience the property largely as it appears today.

- Billings Farm & Museum will continue to operate as a private, nonprofit educational organization, working cooperatively with the National Park Service. The degree of interaction, particularly the sharing of facilities, will vary, however, depending on the management scenario.

- In the tradition established by Frederick Billings, the forest within the park, including the network of carriage roads and trails, will continue to be accessible to the public without fee.

- Originally established as a model farm and forest, the Billings estate was managed as a working landscape for more than 130 years. Continuing these traditional uses, innovations in sustainable forestry and agriculture will be demonstrated wherever possible. The Billings Forest will remain Vermont's first and oldest Tree Farm.

Management Scenarios

The Proposal: Partnership Park Concept

Marsh-Billings National Historical Park will be managed in partnership by the National Park Service and the Woodstock Foundation, which operates Billings Farm & Museum. By building upon the audience, program, infrastructure, and facilities of the existing Farm & Museum, the Proposal can achieve several economies of scale. The expertise, experience, and capabilities of both the National Park Service and the Woodstock Foundation will be linked as the staffs of the two organizations work in cooperation to manage and interpret this working cultural landscape. Such a relationship will also reflect George Perkins Marsh's view that government should operate in the interests of the common good, just as private landowners should manage their property as good stewards.

Billings Farm & Museum's established audience will, most likely, be a major component of the national historical park's anticipated audience. People who currently enjoy visiting Billings Farm & Museum will probably be inclined to visit the park as well, although some visitors might be more interested in a particular area—the forest, perhaps, or the residential complex, or the farm.

Conservation and stewardship of the land were vitally important to the Billings and the Rockefeller families, following in the wake of George Perkins Marsh—who is considered to be the nation's first ecological thinker. Accordingly, the National Park Service will develop interpretive materials, exhibits, and programs to enhance visitors' understanding of the forest, the farm, and the successive owners' contributions. On scheduled guided tours of the residential complex as well, park managers can explore with visitors these essential values and visions.

Billings Farm & Museum will continue to be privately owned and operated in partnership with the park. The museum experience will become a major component of the interpretive program for the whole park. The museum's continuing emphasis on agriculture and the era of Frederick Billings will fully embrace important aspects of the park's central theme of conservation stewardship. Historical and contemporary examples of agricultural land stewardship will enhance current programming and interpretation.

To many people in Vermont and across the country, it is clear that Marsh-Billings National Historical Park, with its theme of responsible stewardship, is being established at a particularly auspicious time and place. The Woodstock Foundation and the National Park Service will work in partnership to develop a Stewardship Initiative that will encourage effective, innovative thinking and practice in conservation stewardship. Although national in scope, this initiative will also focus on the needs of Vermont and the role of stewardship in shaping the future of Vermont's communities and landscapes. Another component of the Stewardship Initiative could be a conservation study institute. The institute could be affiliated with a university and could provide a forum for the study of conservation history, the practice of conservation today, and future directions in the field.

On arrival, visitors will park their cars at Billings Farm & Museum. They will be greeted at the Billings Farm & Museum entry building, which will be modestly expanded by the Woodstock Foundation to serve as a joint orientation center for Marsh-Billings National Historical Park and Billings Farm & Museum. This center will feature an introductory film and a display that will orient visitors to the park and its programs. Also available at this center will be basic services—restrooms, a museum shop, ticket sales—and information about activities. Fees will be charged for

admission to Billings Farm & Museum as well as for scheduled tours of the residential complex.

Walking from Billings Farm & Museum to the mansion and forest areas, visitors will cross Vermont Route 12 at a controlled crosswalk to be established with the Village. Whenever a large number of visitors were expected, a uniformed crossing guard—ideally employed by the Woodstock Village Police and funded by the national historical park—will supervise this crosswalk.

For guided tours of the mansion and gardens, people will assemble at the carriage barn. Once rehabilitated, this building will display in-depth exhibits on George Perkins Marsh and the evolution of conservation stewardship. The building will also house park administrative offices and curatorial storage for museum collections.

This Proposal will achieve programmatic benefits and economies of scale through an operational partnership between the National Park Service and the Woodstock Foundation (Billings Farm & Museum). Federally funded staffing and capital construction needs will be reduced through staff collaboration and sharing of facilities between the partner organizations. The park's historic setting and environment will also be preserved from unnecessary encroachments, as new construction will be kept to a minimum. Most maintenance activities will be contracted with local trades and service providers, thereby reducing the need for National Park Service maintenance infrastructure. The Woodstock Foundation endowment will provide funds for preservation maintenance and conservation activities.

To implement this Proposal it will require a federal annual operating base budget of about $1.2 million. Carriage barn renovations will require $2.4 million. Without the active partnership of the Woodstock Foundation, however, the cost of developing and operating the park would be considerably higher for the National Park Service. Under the Proposal, the Woodstock Foundation's participation in operating resources and construction capital (for the expanded orientation center) will be comparable to federal expenditures. These expenditures will be over and above the endowment fund for the preservation maintenance of the park.

The Alternative: Independent Coordinated Park Management

In their approaches to management, the Proposal and the Alternative differ significantly. To manage the park, the Proposal calls for a strong partnership between the Woodstock Foundation and the National Park Service. The Alternative assumes that these two organizations would work independently—not in collaboration.

Under the Alternative, visitors would experience the park as two distinct units: Marsh-Billings National Historical Park and Billings Farm & Museum. There would be some duplication of basic functions and facilities; preservation maintenance, conservation practices, and other management activities would be carried out independently. The National Park Service would rehabilitate the carriage barn as an orientation center separate from the visitor center at Billings Farm & Museum. In the residential complex and the forest, the National Park Service would conduct its own interpretive programs. Visitors would still park at Billings Farm & Museum and walk to the carriage barn via a supervised crosswalk. Although Billings Farm & Museum programs might not be integrated with National Park Service interpretations, visitors to areas administered by the National Park Service would be encouraged to visit Billings Farm & Museum. In turn, museum visitors would be directed to the National Park Service carriage barn.

Near the woodshed the National Park Service would construct a new maintenance facility and parking spaces for maintenance vehicles. Operating independently, the National Park Service would conduct its own maintenance activities rather than contracting for them.

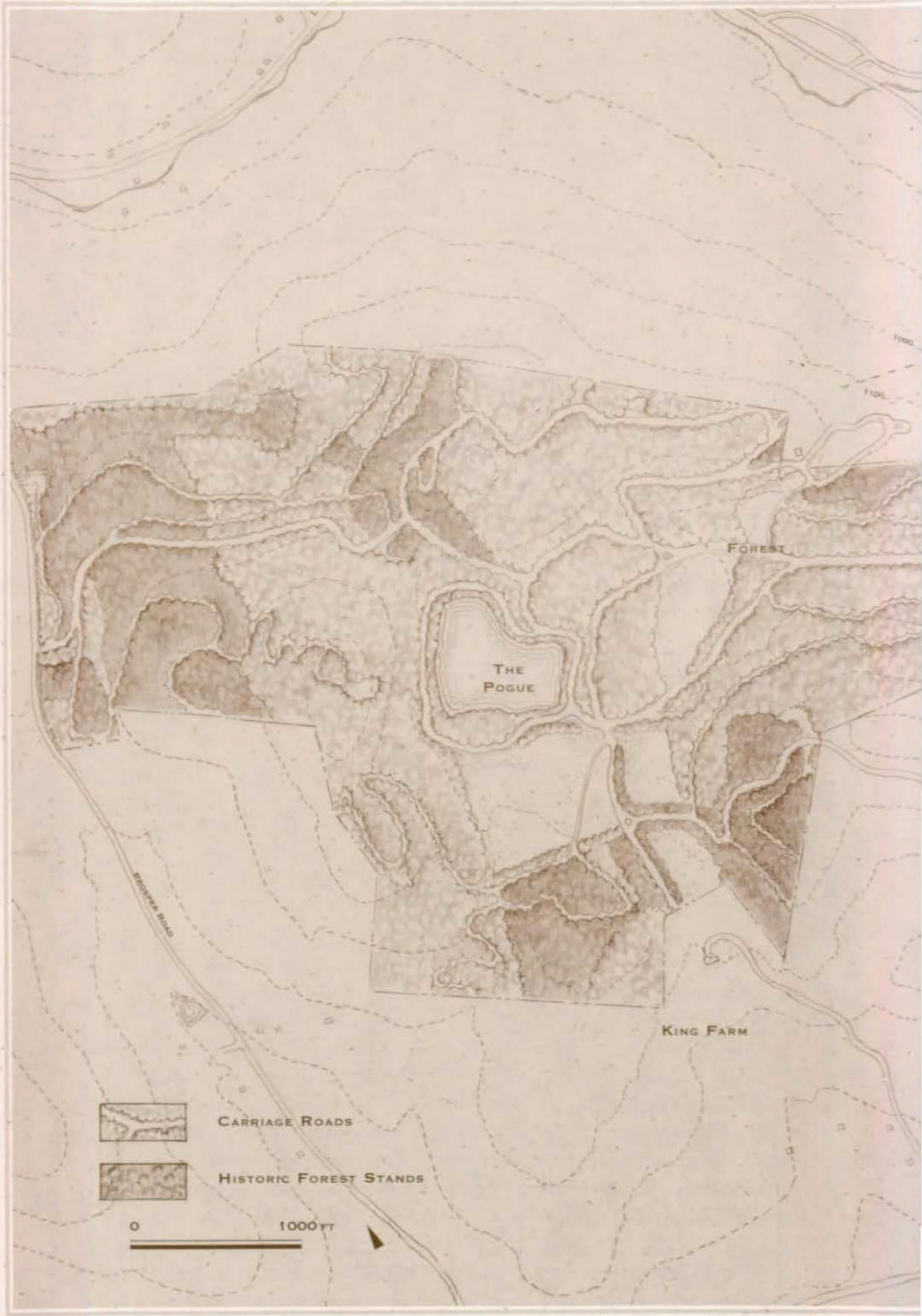
It would require a federal annual operating base budget of about $1.4 million to implement the Alternative. An additional $4 million in line-item construction funds would be needed to renovate the carriage barn and construct the new maintenance facility. Under the Alternative, the Woodstock Foundation would manage its preservation maintenance endowment for the park, just as it would under the Proposal. However, the federal expenditures would be significantly greater than the federal costs of the Proposal for two main reasons: (1) the limited private participation by the Woodstock Foundation and (2) the costs of maintenance activities.

Next Step

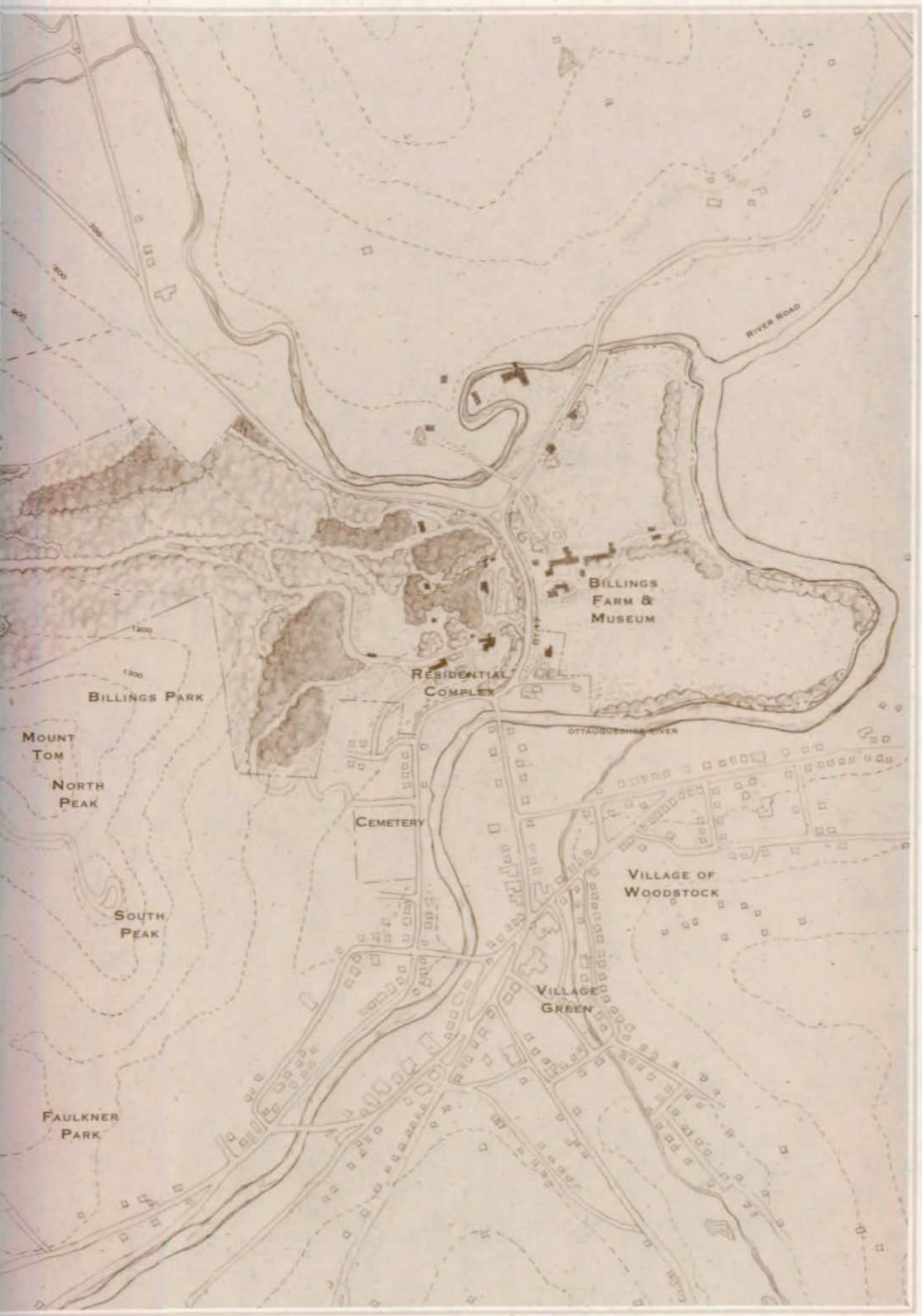
After the public review period is completed, the park planners will refine the recommendations and prepare the final management plan based on the comments received, applicable agency policies, and the feasibility of the recommendations. The final management plan also will be made available to the public.

RESIDENTIAL COMPLEX

1 MANSION
2 BELVEDERE
3 CARRIAGE BARN
4 BUNGALOW
5 TERRACE GARDEN(S)
6 HILLSIDE WATERGARDEN
7 DOUBLE COTTAGE
8 TENNIS COURT
9 GENERATOR GARAGE
10 SUMMER HOUSES
11 HORSE SHED
12 WOODSHED
13 UPPER (MUSEUM) BARNS
14 LOWER (FARM) BARNS
15 1890 FARM HOUSE
16 HERDSMAN'S HOUSE
17 HOG (WAGON) BARN
18 MACHINE SHED & FEED COMPLEX
19 STAFF COTTAGES



MARSH–BILLINGS NATIONAL HISTORICAL PARK


RIVER ROAD
BILLINGS FARM & MUSEUM
RESIDENTIAL COMPLEX
BILLINGS PARK
MOUNT TOM
NORTH PEAK
CEMETERY
VILLAGE OF WOODSTOCK
SOUTH PEAK
VILLAGE GREEN
FAULKNER PARK

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The very processes of deforestation, flooding, soil erosion, desertification and the like that George Perkins Marsh had deplored are being pursued on a scale more massive than when he observed. The result is human tragedy and degradation of nature of kinds which he foretold. . . . Thus, the work of Marsh as synthesizer, interpreter and prophet, and of Billings as practical forester and steward of land, are of high contemporary relevance to the world's needs. Their story can illuminate not only the history of conservation in America, but also the future of stewardship in the world.

MICHAEL DOWER, DIRECTOR GENERAL,
COUNTRYSIDE COMMISSION (U.K.)
CONSERVATION STEWARDSHIP WORKSHOP,
NOVEMBER 1993

PART ONE:
INTRODUCTION

STEWARDSHIP

PARK OVERVIEW

PARK SIGNIFICANCE

PLANNING BACKGROUND

VIEW, LOOKING WEST, OVER MARSH-BILLINGS NATIONAL HISTORICAL PARK.

THE POGUE

STEWARDSHIP

Marsh-Billings National Historical Park encompasses the historic Marsh-Billings-Rockefeller property in Woodstock, Vermont. It is a gift to the people of the United States from Mary F. and Laurance S. Rockefeller. Mary French Rockefeller's grandfather, Frederick Billings, developed the property into an estate during the late 1800s. Billings's stewardship efforts, including a model farm and forest, were influenced by George Perkins Marsh. A conservationist and author of the 1864 landmark book *Man and Nature*, Marsh had grown up on the property many years earlier.

The park today is a cultural landscape with a high degree of historical integrity dating from the Billings era. It includes within its boundary actively managed woodlands and a working farm that were historically part of a single estate. It reflects the continuity of more than a century of careful management by Billings's heirs and the Rockefeller family as well as the individual contributions of George Perkins Marsh, Frederick Billings, and Laurance S. Rockefeller to both the theory and practical application of land stewardship principles. It is the first unit of the national park system to focus on the history and evolution of conservation stewardship in America.

In this plan for Marsh-Billings National Historical Park the word stewardship, derived from the old Norse word *sti-vardr*, meaning "keeper of the house" (Murray 1993), is used in two contexts: as an expression of deeply held personal beliefs associated with a commitment to future generations; and as an approach to conservation practice that values both nature and culture, including the imprint of people on the land.

PARK OVERVIEW

The following is a summary of the present conditions at Marsh-Billings National Historical Park. See "Part Three: Existing Conditions" for historical background and more detailed descriptions of park resources.

Community Context

Marsh-Billings National Historical Park is located in Woodstock, Windsor County's seat, among the rolling hills and pastures of eastern Vermont. Woodstock is the second largest town in the county, with a 1990 population of 3,212. It lies along the Ottauquechee River, which flows to the east from the highlands of the Green Mountains to the confluence with the Connecticut River in North Hartland, Vermont. The Connecticut River watershed's "Upper Valley" is home to some 125,000 people, mostly concentrated around White River Junction, Vermont, and Hanover and Lebanon, New Hampshire.

Incorporated in 1772, Woodstock has been a resort town for over a century, and was renowned in the late 1800s and early 1900s as one of New England's "most beautiful" villages. It was home to the state's first golf course (1897) and New England's earliest ski tow (1934). The town and village have grown with the development of the ski industry in northern New England, yet the current population is below the town's historic peak achieved in 1840. Historians and architects have cited Woodstock as one of perhaps a dozen Vermont towns to possess exceptional architectural integrity and to have suffered a minimal loss of significant structures.

While the village of Woodstock is densely developed, land in the outlying town is largely rural and contains a mix of wooded and open areas with low-density residential development as well as farms. Mount Tom bounds the village to the north, culminating in two peaks. The rocky outcroppings rise 530 and nearly 650 feet above the Village Green (1,237 feet and 1,342 feet above sea level). Since Frederick Billings's tenure the woodlands of Mount Tom have been open to Woodstock residents and visitors for passive recreation, contemplation, and education. In 1953 the Billings heirs donated part of Mount Tom to the community as a public park, Billings Park, which is adjacent to Marsh-Billings National Historical Park and encompasses the two peaks.

The national historical park is close to numerous historical and recreational attractions. Attractions within a 30-mile radius include the Appalachian National Scenic Trail, downhill and cross-country ski areas, state parks and forests, science and natural history centers, and historic sites.

Although most of the land around Marsh-Billings National Historical Park is privately owned, three key parcels are in public or quasi-public ownership. Billings Park (136 acres) and the contiguous Faulkner Park (5 acres) on Mount Tom are managed by the Town of Woodstock. Trails link the two town parks and the national historical park. The trails and carriage roads on Mount Tom are a major component of a wider network of hiking and cross-country skiing trails that are operated, with skiing fees charged, by the Woodstock Ski Touring Center. To the south of the national historical park is the third public property, the King Farm, which is owned by the Vermont Land Trust. The 154-acre property is home to the land trust's conservation stewardship office and is being developed as a demonstration farm in partnership with the Vermont Beef Producers Association.

Park Resources

There are three general land areas within the Marsh-Billings National Historical Park boundary: farmland, forest land, and the residential complex. The farmland lies along the floodplain of the Ottauquechee River. The forest land covers the slopes of Mount Tom. The residential complex sits at the foot of Mount Tom, from where the Marsh, Billings, and Rockefeller families have overseen and enjoyed the resources of the farm and forest lands during nearly 200 years.

FARMLAND: Eighty-eight acres of prime farmland within the park boundary are in private ownership and managed as Billings Farm & Museum by the Woodstock Foundation. The farmland is a mix of pastures, hay meadows, cropland, and small portions of lowland woods that supports a herd of registered Jersey cows and other farm animals, including draft horses, oxen, chickens, and Southdown sheep. An active dairy, which grows its own feed and sells milk, is part of a farm museum that is operated on the land.

The structures of the farm and museum include: the restored 1890 Farm House, herdsman's house, hog barn, upper and lower barn complexes, two staff cottages, parking, sheds, and walkways. The 1890 Queen Anne-style Farm House was the headquarters and centerpiece of Frederick Billings's model farm. Period furnishings and equipment complete the structure's restored farm office and creamery, as well as the historic farm manager's residence. The herdsman's house and staff cottages (currently occupied by the farm manager and staff) and the lower complex of barns reflect their continuing use in support of the farming operation. The upper barn complex has been adapted to house exhibits and visitor orientation.

Billings Farm & Museum is a living museum of Vermont's rural heritage that interprets important aspects of the themes of the national historical park. The museum's permanent exhibits portray the values of 1890s farm families of east-central Vermont, and explore the relevance of those values to today's culture. The restored 1890 Farm House expands the museum's interpretation of rural farm culture, addressing the historical role of Billings's farm. The operating dairy farm, which has raised championship Jersey cows since 1871, demonstrates living farm processes and practices of responsible agricultural land stewardship. Active interpretive programs address the progressive-era agricultural interests of Frederick Billings as well as the relationships between rural farm culture and the stewardship of working landscapes and an agricultural countryside.

The museum's library contains a research collection that focuses on agricultural and rural life in east-central Vermont during the late 1800s. Archives hold historical materials dealing with the Billings family and estate, the Vermont Folklife Project, and the museum as an institution. (Both the library and archives are housed in an administrative complex that lies outside the boundary of the national historical park.)

The museum receives approximately 57,000 visitors annually, including about 6,000 in organized educational groups. More than 500,000 persons had visited Billings Farm & Museum in the 12-year period from its opening through the summer of 1995. Six hundred individuals, families, and businesses support the museum annually through membership.

Billings Farm & Museum is operated by the Woodstock Foundation, Inc., a nonprofit corporation. The foundation was created by Mary F. and Laurance S. Rockefeller in 1968 primarily for the benefit of the town of Woodstock, Vermont, and the surrounding Ottauquechee River Valley. The Woodstock Foundation initiated the Vermont Folklife Project in 1972 which assembled a significant collection of artifacts, oral histories, and photographs that document rural life and agriculture based on family farms and changing human relations to land. The permanent exhibits at Billings Farm & Museum incorporate much of the collection that was assembled by the project. The Foundation also administers an endowment that will provide for the preservation and conservation of the national historical park, and conducts other philanthropy in the surrounding community.

Forest Land: The national historical park includes approximately 500 acres of forest land on the slopes of Mount Tom. A 20-mile network of footpaths and carriage roads showcases the managed forest and picturesque views of the surrounding countryside. Frederick Billings developed the forest—with its tree plantations, looping trails and roads, and a 15-acre pond called the Pogue—and considered the Mount Tom forest his crowning achievement in Woodstock. Since his tenure the land has been actively managed with an emphasis on aesthetics, education, and recreation, and firewood and saw logs have been harvested and sold.

In total, more than 50 forest stands compose the forest, ranging from plantations of single and mixed species, to former farm fields in various stages of forest succession. Eleven of the tree plantations set out by Billings and his farm managers in the 1800s survive today, containing specimens of European larch, European ash, and Norway spruce. Present management focuses on maintaining panoramic views and the park-like atmosphere, and trees are regularly harvested and sold. The forest land is part of the National Tree Farm system, a program that recognizes and publicizes sound forest management.

The Mount Tom woodland has been open to the community from Billings's time forward. Many Woodstock people hike to its summit on a regular basis, walking the network of carriage roads through the woods and around the scenic Pogue—a mountain lake enlarged by Billings from a bog.

The Woodstock Resort Corporation has used and maintained the forest's network of historic carriage roads and trails for cross-country skiing since 1977. Under an easement, the Resort Corporation retains continued access to operate cross-country ski touring, as well as for recreational activities including hiking, orienteering, picnicking, horseback riding, and carriage driving.

Residential Complex: The residential core of the park is situated on a promontory at the head of Elm and River streets. A large three-story brick residence, known as "the mansion," overlooks the farm and the Ottauquechee River Valley. Originally built for the Marsh family in 1805 07, the Federal-style house was sold to Frederick Billings in 1869. The structure was thoroughly renovated twice by Billings, resulting in a high-style Queen Anne house that includes relatively little of the original fabric of the structure. In 1951, the mansion became the property of Billings's granddaughter, Mary F. Rockefeller, and her husband, Laurance S. Rockefeller. Both the exterior and the interior were sensitively renovated during the Rockefellers' tenure. Nevertheless, the mansion retains a high degree of integrity from the Billings period.

Important resources associated with the mansion are the furnishings and art assembled by the Billings and Rockefeller families. Among the paintings are a number of American landscapes by artists such as Thomas Cole, Albert Bierstadt, John Frederick Kensett, and Asher B. Durand. Taken together, the 541 paintings and prints illustrate the influence of art and artists on the developing conservation movement in the mid- to late 1800s and changing popular perceptions of the environment. These fine and decorative arts are complemented by collections of utilitarian goods and equipment, family mementos, and family papers connected with the property.

To the west of the mansion is the belvedere, with its game room, bowling alley, office, greenhouse, garden workshop, fall out shelter, and swimming pool. The major portion of the structure is in a "Swiss cottage"-style with gingerbread trim and small balconies. To

the east of the mansion is the square, three-story carriage barn. The Queen Anne-style structure retains the stalls and other accoutrements from its 100 years of use in support of the carriage road system. Located on the hillside above the carriage barn is the Craftsman-style bungalow built for Frederick Billings's daughter Mary Billings French, who used it as a summer retreat and guest cottage.

Two landscape architects were involved in planning the estate's grounds in the late 1800s, and two others made significant contributions in the 1900s. Today there is a variety of formal gardens including an azalea-rhododendron garden, rock gardens, terraces, and a hillside woodland garden with waterfalls and winding pathways. Picturesque groupings of evergreens and deciduous trees frame vistas from points inside and outside the mansion.

Management Zones

The park's 1992 enabling legislation (Public Law 102-350) established two management zones within the park boundary. The 555-acre historic zone, owned by the United States of America, consists of the residential complex and the Mount Tom forest land. Donated to the United States by Mary F. and Laurance S. Rockefeller, lands within the historic zone are dedicated to interpretation, education, and protection of the park's cultural and natural resources. The 88-acre protection zone, managed by the Woodstock Foundation as Billings Farm & Museum and privately owned, lies at the confluence of the Ottauquechee River and Barnard Brook. The protection zone preserves the historic setting of the park and will remain in private ownership as long as its character and use support the overall purposes of the park.

Two scenic zones, located outside of the park boundary, consist of approximately 300 acres of private property where the federal government holds scenic easements. Their purpose is to protect the natural setting in the viewshed of the Marsh-Billings mansion.

Establishment of the Park

Marsh-Billings National Historical Park was created by an Act of Congress signed into law by President George Bush on August 26, 1992 (Public Law 102-350). The legislation includes the following objectives:

- to interpret the history and evolution of conservation stewardship in America;
- to recognize and interpret the birthplace and contributions of George Perkins Marsh, pioneering environmentalist, author of *Man and Nature*, statesman, lawyer and linguist;
- to recognize and interpret the contributions of Frederick Billings, pioneer in reforestation and scientific farm management, lawyer, philanthropist, and railroad builder, who extended the principles of land management introduced by Marsh;
- to preserve the Marsh-Billings Mansion, which is a National Historic Landmark, and its surrounding lands; and
- to recognize the significant contributions of Julia Billings, Mary Billings French, Mary French Rockefeller, and Laurance Spelman Rockefeller in perpetuating the Marsh-Billings heritage.

In other major provisions of the legislation, Congress established a park boundary, created management zones, authorized the use of cooperative agreements to facilitate park management, established guidelines for receiving and expending funds from an endowment, and called for the preparation of a plan to guide park management and operations.

The idea of the national historical park was shaped by the vision of Mary F. and Laurance S. Rockefeller. In 1978, the Rockefellers expressed their hope to create "an integrated unit" for the preservation and enhancement of the historic resources of the property and other lands in Woodstock, Vermont. In so doing, they hoped to "help to protect the larger Woodstock area from deterioration through unwise development" while at the same time protecting the community's historical integrity and enhancing its "long-term economic vitality and stability." From this vision emerged Billings Farm & Museum, operated by the Woodstock Foundation, and ultimately the creation of Marsh-Billings National Historical Park.

The National Park Service undertook a feasibility study which concluded that the property possesses national significance and recommended its designation as a national historical park. The National Park Service subsequently assisted in the development of the enabling legislation.

In 1992, the Woodstock Foundation established a Marsh-Billings National Historical Park Fund to preserve the mansion and immediately surrounding property and to manage the forest land of the park. Income from the fund is to be used to preserve and maintain the mansion, outbuildings, grounds, and the dam at the Pogue (the site's 15-acre pond) and to manage forestry in the park. The fair-market value of the fund is $7.5 million.

Mary F. and Laurance S. Rockefeller executed a letter of intent in 1992 to transfer most of the personal property used at the mansion to the United States. On January 11, 1993, the Rockefellers donated title to the United States for the majority of the park's historic zone, and scenic easements for the two scenic zones (see page 5), subject to a life estate to the property. Mr. Rockefeller relinquished the life estate at the end of 1997 in order for the park to begin operation in 1998. As a consequence, Marsh-Billings National Historical Park received initial operational funding in fiscal year 1997 to recruit staff and prepare for the transition to operating the park.

The deed for Marsh-Billings National Historical Park prohibits the use of mountain bicycles or devices that would unduly damage the property, the use of recreational snowmobiles or other motorized vehicles (except those needed to manage the property and trails), camping and campfires, hunting, fishing, and swimming in the Pogue. In May 1993, Laurance S. Rockefeller made a contribution to the Town and Village of Woodstock that established a fund to help offset the loss of future tax revenue represented by the designation of these lands as federal property.

PARK SIGNIFICANCE

Marsh-Billings National Historical Park is an important place in conservation stewardship history. It has significance due to its associations with prominent individuals in American conservation and due to more than a century of careful stewardship that has left a remarkable record of continuity evident in the landscape, in the park's buildings, and in museum collections.

Prior to establishing the park, some resources were determined to be nationally significant with listing on the National Register of Historic Places. The mansion and its environs were listed as a National Historic Landmark, and portions of the residential complex and farmland were listed on the National Register Woodstock Village Historic District. The park as a whole is now listed on the Register, although the contributions made through the continuum of stewardship, including the Rockefeller era, have not been formally evaluated using National Register criteria.

Certain structures stand alone as nationally significant; other resources contribute to the overall integrity of the park as a historic district. The total significance of the park's historical associations, buildings, landscapes, and environs is greater than the sum of the individual significance of its parts.

MARSH, BILLINGS, AND ROCKEFELLER IN THE AMERICAN CONSERVATION MOVEMENT

Marsh-Billings National Historical Park draws its primary significance from its association with two individuals who played important roles in American conservation stewardship during the 1800s: George Perkins Marsh (1801–82) and Frederick Billings (1823–90). In addition, Laurance S. Rockefeller (1910–) represents important aspects of the transformation of the broader conservation movement in the 20th century. It is likely that the important association with Rockefeller will be recognized as historically significant by future historians. The lives and contributions of these three individuals reflect important elements of the wide range of attitudes and ideas in the evolution of the conservation movement in the United States. Marsh is a key figure in the intellectual ferment from which the movement sprang in the mid-1800s. Billings reflects the ethos of conservation stewardship that developed as a part of the progress-driven spirit of the late-19th-century industrial age. Rockefeller applied the human values of stewardship to further the goals of conservation, outdoor recreation, and environmental protection in both the private and public arenas.

George Perkins Marsh drew connections between human use of nature and the consequences of exploitation. He is now viewed as the nation's first true ecologist. Marsh argued that while some "think that the earth made man, man in fact made the earth," suggesting that for good or ill, human action shaped the environment upon which civilization depended (Lowenthal 1958). In his 1847 address to the Agricultural Society of Rutland County, Vermont, he called for farmers to become self-conscious stewards of the land. Appealing to "higher motives than those of investment," he urged the farmers to reforest unproductive uplands and pointed out that the ways of good husbandry would ensure the land's ability to sustain future generations of farm families. Marsh's most important work, *Man and Nature*, was first published in 1864 and became the fountainhead of American ecological thought. His work was a warning against the dire and sometimes irreversible consequences of unwise human actions. But it also was optimistic, pointing out that through enlightened use of nature, human civilization could develop in harmony with the natural world, or could even remedy some of the damage done by prior generations.

Frederick Billings was both a conservationist and a successful 19th-century man of business. In the spirit of his age, he was an optimist who believed in progress and the efficacy of human endeavor. Embracing the concepts of Marsh's *Man and Nature*, Billings developed the old Marsh property as a self-conscious model of land stewardship and progressive husbandry. Reforesting unproductive mountain lands and developing the farm as a productive dairy operation, Billings addressed the fundamental challenges and changes that threatened the livelihood of rural Vermont as it approached the 20th century. To accomplish this, Billings applied the best science and management techniques of the industrial age, as well as spiritual, romantic, and aesthetic ideals. Billings also believed in the importance of public access to awe-inspiring or restful natural places, and he held that "commerce could serve the cause of conservation by bringing visitors to a site worthy of preservation" (Winks 1991). He was interested in the preservation

of Yosemite, he promoted railroad tourism to Yellowstone, and later he invited Woodstock residents and visitors to enjoy the scenic delights of his park-like Mount Tom forest.

Laurance S. Rockefeller perpetuated the Marsh-Billings heritage in Woodstock, Vermont. More broadly, he fused a family heritage of stewardship with a career as a venture capitalist, resort developer, conservationist, and philanthropist. At the intersection of his interests and values is the belief that humans, possessed with insight and self-knowledge and equipped with appropriate technology, can shape and direct their lives, cultures, and surroundings in ways that will enhance both their own personal health and well-being and the well-being of their environment. Through his personal contributions and efforts in the Grand Tetons, the U.S. Virgin Islands, Woodstock, and other places, he has furthered the development both of parks and of visitor amenities that help people to enjoy and take spiritual sustenance from their national park experiences. His philosophy of conservation for people found expression in the work of the Outdoor Recreation Resources Review Commission and subsequent national commissions and boards, which he led through five presidential administrations—Democrat and Republican alike. These efforts provided leadership through the period when the ideals of conservation matured beyond simple concepts of natural beauty and outdoor recreation to embrace complex issues of environmental quality, and his effectiveness helped to make conservation a priority on the nation's agenda—a responsibility of individuals, businesses, and communities, as well as government.

Although nearly a century separates Rockefeller's career from the eras of Marsh and Billings, the theme of stewardship is a consistent element in the values of all three: Marsh articulated the ecological connection between human activity and the natural world; Billings applied these principles in the development of his progressive model farm and forest park; and Rockefeller advanced the mutual concepts of conservation for people and societal responsibility for conservation. When Rockefeller reflects that conservation is both the right thing and, in the long run, the rewarding thing to do, his sentiments resonate with the values and work of Marsh and Billings.

The careers of Marsh, Billings, and Rockefeller had impact nationally and internationally, but they found much of their footing in the stony hills of Woodstock, Vermont. Marsh and Billings both spent their formative years here, and their perspectives were shaped by the experience; although not a native Vermonter, Rockefeller too was influenced by the place as he sought to preserve and shape it in the ways of good stewardship. Thus, the story of Marsh-Billings National Historical Park is very much a Vermont story, rooted in place, but with transcendent significance and applications nationally and beyond.

Marsh-Billings National Historical Park can reveal the complex intellectual, spiritual, and pragmatic roots of conservation through exploring the ideas and actions of the people who lived here. The landscape itself reflects the attitudes and ideals of its historical occupants and stewards about human interaction with the land. Like Frederick Law Olmsted, John Burroughs, and many others associated with conservation, neither George Perkins Marsh nor Frederick Billings was principally interested in wilderness. Although in awe of exceptional examples of wild nature, they preferred and worked to improve the agrarian landscapes of their origins, essentially settled landscapes with an idealized balance of villages, open fields, and woodlands. David Lowenthal (1958) has

observed that, "Unlike Thoreau, who loved nature and wished it kept wild, Marsh wanted it tamed; Thoreau appealed chiefly to aesthetic sensibility, Marsh to practicality." Likewise, Laurance S. Rockefeller's stewardship efforts in Woodstock and other places, seeks a balance of landscape, commerce, culture, and nature.

Special Recognition

National recognition of the resources of the Marsh-Billings property is not a recent phenomenon. The mansion was nominated to the National Register of Historic Places and listed as a National Historic Landmark in 1967. In 1973 the residential complex and farmland were documented and entered in the Woodstock Village National Register Historic District. The new park was entered on the National Register in 1992.

Included in the National Historic Landmark designation are subsidiary buildings and approximately 40 acres of land on the lower slopes of Mount Tom. Both the National Historic Landmark nomination and an Historic American Buildings Survey report took note of subsidiary structures in the residential complex. Among these, the bungalow and carriage barn are nationally significant. The remaining structures contribute to the overall significance of the property.

Overall, the value of the property as the boyhood home of George Perkins Marsh was cited as a primary value in the landmark designation. Additional historical and architectural values are attributed to the property as a result of it being the home of Frederick Billings, and to his transforming the Federal-style Marsh home into an imposing Queen Anne-style residence. (The landmark plaque on the mansion was reworded in 1991 to reflect Billings's role.) Architect William Ralph Emerson and the renowned author and architect Henry Hudson Holly assisted with Billings's 1869 and 1885 renovations. The Historic American Buildings Survey found the fine craftsmanship of the interiors and the Billings-period lighting fixtures and furnishings noteworthy.

The collection of furnishings and decorative arts is significant not only because of the intrinsic aesthetic value of many of its fine and decorative arts objects but also for its association with the Billings and Rockefeller families. The collection also has exemplary integrity as a whole: except in its arrangement, it has been little altered for more than a century and thus represents a seamless continuum of use from one century to another. The collection has tremendous research value not only to this site, but to other researchers interested in its many associated historical themes.

Using criteria of the National Register of Historic Places, the National Park Service Olmsted Center for Landscape Preservation reports that the residential complex may have significance in the area of landscape architecture. Although little remains from the Marsh period, the site retains a high level of integrity from the Billings period, exemplified in its setting, location, and feeling. The property embodies nearly all of the distinctive characteristics of a residential estate from the "country place" era (1880–1930). The site also draws significance from the work of four important designers in the field of landscape architecture: Robert Morris Copeland, Charles Platt, Martha Brooks Hutcheson, and Ellen Shipman. Additionally, the former estate is the masterwork of Frederick Billings, who carefully guided the development of the farmland, forest land, and residential complex from his purchase in 1869 until his death in 1890 and even beyond through instructions carried out posthumously.

The residential complex and farmland are included in the Woodstock Village National Register Historic District. The farm demonstrates the impact of the gentleman farmer and the application of scientific methods to late 19th-century agriculture and reforestation. Nationally significant structures at the farmstead are the 1890 Farm House, herdsman's house, hog barn, and upper and lower barn complexes. Other farm structures contribute to the overall significance of the park. Since opening to the public in 1983, Billings Farm & Museum has received awards and professional recognition for its architecture, historic preservation, landscape, exhibits, dairy herd, as well as for its programs and publications.

Marsh-Billings National Historical Park is the only unit within the national park system to include managed forest land and farmland that were historically part of a single estate and continue to be actively managed. The fields and pastures are among the most productive agricultural lands in Vermont. The Mount Tom forest land was the first in the state to be designated a Tree Farm, having been designated in the 1950s; today the Billings-era tree plantations are some of the oldest in Vermont.

Planning Background

Purpose and Need for This Document

The National Parks and Recreation Act of 1978 (Public Law 95-625) requires that the National Park Service maintain up-to-date general management plans for each unit of the national park system. The park's 1992 enabling legislation (Public Law 102-350) calls specifically for the National Park Service to prepare a general management plan for Marsh-Billings National Historical Park. An environmental impact statement (EIS) is also being prepared to ensure that the policies and goals defined in the National Environmental Policy Act (42 USC 4321 et seq.) are integrated into the planning, decision-making, and actions of the National Park Service regarding the general management of the park.

The general management plan describes the conditions and experiences that should exist at Marsh-Billings National Historical Park and why. It provides broad direction for resource management, visitor use, and development 15–20 years into the future. An environmental impact statement provides information to the park superintendent, northeast regional director, and the general public before decisions are made and actions taken that may have impacts on the human environment. This combined draft management plan and draft environmental impact statement presents a proposal for management and a management alternative, then assesses the potential environmental and socioeconomic effects of the actions outlined in the draft general management plan on site resources, visitor experience, and the surrounding area.

Planning Approach

Park management planning began in 1993, when the National Park Service and the Woodstock Foundation, with the assistance of the Library of Congress, cosponsored a workshop to articulate an intellectual framework for interpreting the stewardship theme. The workshop brought together 50 scholars and practitioners working both within and outside the National Park Service. The National Park Service also conducted and commissioned numerous studies in support of planning (see page 11).

The National Park Service has systematically involved and will continue to involve the public in the process of developing the general management plan. Two newsletters, distributed broadly within the community, have provided background information on the

park and described the planning process. Town selectmen and village trustees designated two community members to act as liaison between the National Park Service and Town and Village officials. The liaisons provide insight into community issues, help schedule local meetings, and identified local people for oral history interviews. In addition, the community liaisons occasionally publish articles in the local newspaper to keep the public informed about the park and the progress of planning.

With the assistance of the community liaisons, local government officials, the Vermont Folklife Center, and the University of Vermont, the National Park Service completed a survey of the community in September 1994. The survey gathered information on historical uses of the land within the park and on attitudes toward the new park both through 29 in-depth interviews (involving 46 people, most of them native or longtime residents) and through written questionnaires to both residents and Woodstock visitors. The results of both the interviews and the questionnaires are presented throughout this document.

The planning team met with 13 groups of community residents, including neighbors of the park on North Street and Mountain Avenue, farmers, senior citizens, schoolchildren, and merchants. The team also met with the staffs of the Vermont Institute of Natural Science, and of regional planning and local conservation organizations; local preservationists and representatives of Billings Park; and representatives of relevant state agencies and congressional delegations.

Recommendations from the conservation stewardship workshop and information provided by members of the public were considered along with legislative and planning data to provide a foundation for the development of the scenarios for management (see page 20).

This draft general management plan and draft environmental impact statement will be available for public review for 60 days. During this review period, the National Park Service will accept written and oral comments. The National Park Service will carefully review all comments and incorporate them, as appropriate, in the final plan and final impact statement. The final plan will be implemented over the next 20 years as funding and other contingencies allow.

DATA COLLECTION

Prior to developing the alternatives described in this plan, the National Park Service coordinated baseline data collection and worked with community liaisons to gather public comments. A summary and description of the major findings of these projects follows.

CONSERVATION STEWARDSHIP WORKSHOP: Jointly sponsored by the Woodstock Foundation and the National Park Service, the November 1993 conservation stewardship workshop assembled conservation professionals and scholars to define broad outlines of the story to be told at Marsh-Billings National Historical Park. The workshop developed three fundamental guidelines for site interpretation:

- reflect the complex past of conservation and its dynamic and vital legacy
- affect the future by stimulating, provoking, teaching, and inspiring appropriate stewardship
- ground interpretation in the specific identity of the place by presenting the historic and evolving relationship between the land and the Marsh, Billings, and Rockefeller generations that have shaped it and been its stewards

The workshop also recommended six goals subsequently adopted by the National Park Service in developing a management approach and an interpretive framework at Marsh-Billings National Historical Park:

- demonstrate stewardship through park management
- work in partnership with the people of Woodstock and the region in developing park programs
- establish an outreach program that will carry the conservation message beyond the boundaries of the park
- use the history of the site and its protagonists (Marsh, Billings, and Rockefeller) as a lens for interpreting the history of stewardship in America
- adopt a holistic approach to the interpretation of stewardship, celebrating the broad diversity of its historic roots—spiritual, aesthetic, and scientific
- emphasize stewardship as an evolving and dynamic concept shaped by human interaction with the natural world

COMMUNITY STUDY: In the summer of 1994, under contract with the National Park Service, the Vermont Folklife Center conducted 29 personal interviews with 46 residents, most of them natives or long-term residents of Woodstock. The interviews covered the residents' uses of the property over time and their views about Marsh-Billings National Historical Park.

The interviews revealed that most long-term residents believe the Rockefellers' decision to donate the residential complex and forest land to the National Park Service is a good solution to the perceived need to preserve the property. Woodstock residents who have enjoyed relatively unrestricted access to the site throughout their lives share strong associations with the property. They respect the property's management, and they value the public's ability to have free access. The greatest concerns of this group revolve around present and future restrictions on their use of the land, the impact the park will have on Woodstock, and the exact nature of National Park Service management. Many interviewees urged the National Park Service to work closely with the community in making decisions about the park, to offer the community free access to the park, and to minimize changes in the management of park property.

VISITOR AND COMMUNITY SURVEYS: Faculty and staff of the Recreation Management Program, School of Natural Resources, University of Vermont, conducted a two-phase project to determine visitor use patterns at Billings Farm & Museum and on the Mount Tom forest land prior to the opening of the national historical park. Phase one, completed in July 1994, included three surveys, one of community members, one of visitors to Billings Farm & Museum, and one of Mount Tom skiers (at the Woodstock Ski Touring Center). Phase two projected visitation levels for the park and was completed in January 1995 and updated in August 1996.

Response to the visitor surveys yielded a response rate exceeding 75%; response to the community survey was just under 10%. The disparity in response rates is attributable to differences in data gathering techniques. The visitor surveys involved numerous contacts with respondents, while the community survey was conducted via direct mail. Response rates for direct mail surveys are generally between 8% and 10%.

Visitors to Billings Farm & Museum and Mount Tom skiers showed similar characteristics, most of them being

in their mid- to late 40s, well educated, and having annual household incomes exceeding $50,000. Nearly all describe their travel as trips of two to four days in small groups of family and friends from other places in Vermont or the northeast. Billings Farm & Museum and Mount Tom are generally not considered to be the visitors' primary destinations; instead, they typically are important points in a larger regional itinerary. Other sites often visited on the same trips included Quechee Gorge, Simon Pearce Glass Blowing, and, for Mount Tom skiers, the Suicide Six ski area. Most Mount Tom skiers stay in Woodstock at least one night, compared to about a third of visitors to Billings Farm & Museum.

Many visitors learned of these sites by word of mouth from family and friends. The only formal sources of information reported by more than 10 % of visitors were the "Vermont Attractions" brochure and the Woodstock Ski Touring Center map. Most traveled by car to Woodstock, but indicated that they would use other means of transport—shuttle buses, bicycles, and walking trails—if they were available. While most showed little awareness of the lives and work of Marsh, Billings, and Rockefeller, both visitors and community residents supported the development of conservation and park history interpretation, park tours, and outdoor recreational opportunities. Based on survey data, it is estimated that, in 1993, Billings Farm & Museum visitors spent about $2.6 million and Mount Tom skiers spent about $1.9 million in Woodstock.

Community survey results revealed that community members most often use the non-residential side of Mount Tom and the Pogue during the fall and summer seasons. The primary activity is walking/hiking, with skiing and nature study/birdwatching as secondary activities. A large majority of respondents reported that traffic and parking problems occur frequently in Woodstock.

In phase two, data from the surveys were used to project park visitation levels. Annual park visitation is projected to grow somewhat from the 57,000 level, at which Billings Farm & Museum attendance has been stable since the early 1990s. The study concluded that, by the year 2004, attendance to the park (including Billings Farm & Museum) could grow to 80,000 during the principal operating season of May–October, with additional visitation during November–April, depending on the development of "off season" programming. The average length of visitor stay will most likely lengthen from about two hours to about three hours. The largest component of park visitation is anticipated to be continued patronage of Billings Farm & Museum.

Transportation Analysis: The National Park Service commissioned the engineering firm Fay, Spofford & Thorndike, Inc. (a subcontractor to David Dixon/Goody, Clancy and Associates) to analyze park-related transportation issues in 1995. Specifically, the consultants performed an analysis of:

- potential effects of national park visitors on village traffic
- feasibility of operating a shuttle from the park to an off-site visitor orientation center
- safe ways for visitors to cross Vermont Route 12 from Billings Farm & Museum to the residential complex
- visitor parking requirements

A description of the methodology and findings of the transportation analysis is contained in Appendix B. The study determined that there would be a barely perceptible increase in peak-hour traffic volume in the village resulting from traffic generated by Marsh-Billings National Historical Park. The study also determined that the level of service for the four intersections analyzed would not be substantially altered by park-related traffic.

The consultants concluded that constructing a pedestrian underpass or overpass across Vermont Route 12 would incur high costs and have substantial negative impacts on cultural resources and scenic quality (see page 32). It was determined that a crosswalk between Billings Farm & Museum and the northern access to the residential complex, with a crossing guard at times of peak visitation, would be the most efficient and least intrusive way to provide safe pedestrian access across Vermont Route 12. The crosswalk concept was further reviewed and found to be feasible by the Woodstock engineering firm of Bruno Associates.

It was determined that existing parking facilities at Billings Farm & Museum would be adequate to serve the total number of projected visitors for most of the year. During the month of October, an especially high visitation period, approximately 40 more overflow parking spaces would be needed.

The National Park Service rejected the concept of operating a shuttle system between the park and an off-site parking facility, which would have required four to six vehicles entailing capital costs estimated at $400,000 and operating costs of at least $6,000 per week.

The consultants noted that the small number of existing directional signs to Billings Farm & Museum causes drivers to needlessly enter the village center, contribute to traffic volume and congestion, and exacerbate parking problems by stopping to ask directions. With a potential for up to 90% of future site-related traffic approaching on U.S. Route 4 westbound, it would be an oversight to assume that drivers unfamiliar with the area will turn off Route 4 and onto Pleasant Street or Elm Street and find their way to the park without assistance from signs. Although off-premises signs are restricted in Woodstock, the placement of directional signs at key points would be beneficial to the village, because they would simplify the trip for visitors and minimize the number of unnecessary vehicles in the village center.

GEOPHYSICAL MAPPING: The National Park Service commissioned Two Rivers-Ottauquechee Regional Commission and DuBois & King, Inc. to compile base maps that depict the land uses and geophysical composition of the park and the surrounding area. The series of maps that were developed illustrate features such as land cover, property ownership, forest stands, park boundary, topography, wetlands, floodplain, water features, structures, habitats, and soils.

LAND-USE HISTORY: In March 1994, the National Park Service Olmsted Center for Landscape Preservation, in collaboration with staff of Billings Farm & Museum and the Woodstock Resort Corporation, compiled a summary of the conservation philosophies of Marsh, Billings, and Rockefeller and a history of land uses on the site: before the Marsh family occupancy; during the Marsh period (1789–1869); during the Billings period (1869–1914); and during the period of the Billings heirs, including the occupancy of Mary F. and Laurance S. Rockefeller (1914–1997).

The study evaluated the significance of the property in regards to Marsh, Billings, and Rockefeller as well as the work of individuals in the field of landscape architecture using the criteria of the National Register

of Historic Places. The study recommended an extensive research agenda.

Historic Structures Inventory: National Park Service architects inventoried the historic structures at Marsh-Billings National Historical Park for the list of classified structures, an inventory that documents and evaluates the condition of historic structures included in the national park system. In conjunction with the inventory, in May 1994, the National Park Service assessed the construction dates of historic structures, changes made to buildings over time, the significance of the structures, and their general condition. It was determined that most of the structures are in excellent interior and exterior condition, though the basement of the bowling alley (which contains one of the site's two circa-1960 fallout shelters), the greenhouse, the bungalow, and the lower level of the carriage barn show signs of excessive humidity. A few other structures show minor water damage, brick deterioration, and general decline through exposure.

Structures and Grounds Management Report: The National Park Service studied the current management of the museum collections, the mansion, the outbuildings, and the grounds. The study reviewed the number and type of staff, and the amount of time and the specific activities required to maintain the property in its current condition.

Museum Collection Review: The National Park Service Northeast Museum Services Center prepared a preliminary review and evaluation of the collection of Marsh-Billings National Historical Park in July 1994. The collection is housed primarily in the mansion and in several of its outbuildings. The study recommends that the museum collections remain in situ to the greatest possible extent once the site opens to the public. It also recommends development of a new museum collections storage and office facility. Currently the Museum Services Center is conducting a complete inventory and assessment of the collection on site. Assistance is being provided by the Society for the Preservation of New England Antiquities.

Historic Resource Study: The National Park Service is evaluating park resources, particularly the art collection, in relation to the theme of conservation stewardship. The study focuses on documenting the landscape paintings and photographs; documenting the relationship between the Billings family and the artists they supported within the context of late-19th-century art collecting; and evaluating the role of the artists and photographers in furthering the conservation movement.

Forest Management and Rare Plant Survey: Staff of the Woodstock Resort Corporation prepared a detailed description and assessment of the condition of park forest lands in October 1993. The report analyzed the composition of 50 discrete stands of forest, identified those that contain tree plantations and other plantings that date from Billings's ownership of the site, and identified those stands that contain state-listed endangered plant species (no federally listed species are known to exist within the park). The report also described current forest management practices and determined that park forest lands are in relatively good health.

Water Quality Assessment: In November 1994, a National Biological Survey team assessed the main drainage areas in the park, including the Pogue and its creek. The survey examined water quality, watershed drainage trends, and potential sources of pollution, such as old well heads, cow pastures, brush piles, dumps, and agricultural runoff.

The study found that concentrations of nitrate, phosphate, ammonia, and fecal coliform at four sampling points were below or well below water quality criteria for Class B waters (recreational but not potable) established by the U.S. Environmental Protection Agency. It concluded that the park does not contain sources of pollution that would adversely affect existing water quality; however, steps need to be taken to continue to reduce nutrient loading and fecal contamination of water sources on Mount Tom, resulting from grazing practices.

Stewardship Initiative Feasibility Study: The National Park Service and the Woodstock Foundation are sponsoring a study to determine the feasibility of developing an initiative to highlight and encourage innovative and effective examples of stewardship. With particular attention on Vermont and the role of stewardship in shaping the future of its communities and landscapes, the study will explore the scope of stewardship today in order to identify the opportunities for the proposed initiative and the most effective way to realize its program objectives. The Watershed Center of Bristol, Vermont, is the lead organization for the study in cooperation with the sponsors. The Atlantic Center for the Environment will provide expertise regarding international stewardship programs.

Planning Issues

Based on analysis of public comments and of the findings of resource studies, the following key issues are addressed in the Proposal and the Alternative.

Maintaining the Relationship Between Working Farm and Forest: Historically, the farmland, forest land, and residential complex were part of a unified estate that employed state-of-the art techniques in silviculture and agriculture. There is an opportunity for the Woodstock Foundation and the National Park Service to work together in managing Marsh-Billings National Historical Park to present a "seamless" experience to visitors and maintain the traditional link between forest and farm—the managed woodlands on Mount Tom and an active Billings Farm operation along the banks of the Ottauquechee River.

Interpreting Stewardship: Interpretation of the outstanding cultural resources associated with the residential complex must be developed in the context of the park's primary theme of conservation. The timeless messages of stewardship and the land-use legacy of Marsh, Billings, and Rockefeller provide potent opportunities to relate global conservation issues to the environment close to home. A challenge facing the park is to effectively use the many personal stories and features associated with the farmland, forest land, and residential complex (including important 19th-century landscape paintings) to better understand changing public attitudes toward conservation and the role of stewardship. Another is to expand and develop educational programs that provide visitors with first-hand conservation experiences that can relate to their own circumstances and opportunities.

Marsh-Billings National Historical Park, with its theme of responsible stewardship, has been welcomed by many who believe that this park is being established at a particularly auspicious time and place, and can make an important contribution in a regional and national context. There is growing interest in Vermont and across the country in linking conservation and historic preservation concerns with human and economic concerns, and in better understanding the complex relationship between stewardship and sustainability. There is particular interest in the role stewardship can play in strengthening Vermont's rural communities and preserving the character and productivity of its agricultural landscapes. There exists

an unusual opportunity for Marsh-Billings National Historical Park—working in cooperation with other institutions and organizations—to help facilitate and enhance this discussion.

Managing the Forest: Through the tenures of Billings and Rockefeller, the forest has been actively managed. Because of this long-standing tradition of forest management, the forest is a key component of the park's cultural landscape and can play an important role in interpreting and demonstrating sound stewardship. Preserving the forest's basic character will likely require continued thinning of stands, vista clearing, removal of trees, and periodic reestablishment of some plantations. A challenge facing the park is how continued management of the forest can be conducted and interpreted to create new educational opportunities and broaden public awareness about forest history and the practice of responsible forestry.

Providing Recreational Activities: Nearly two-thirds of residents surveyed, who use the forest land for recreational purposes, indicated that their primary use of the property is for hiking or walking. No other activity exceeded 10% of the responses. Continued open public access to the forest is subject to restrictions on certain activities on the property, including the use of mountain bicycles, the recreational use of snowmobiles and other motorized vehicles, camping and campfires, hunting, fishing, and swimming in the Pogue.

Managing Traffic and Parking: In open-ended community survey questions, residents repeatedly called for a "low-impact" national park management approach promoted in a "low-key" manner. Three of every four community survey respondents identified parking as a problem in the village; nearly two-thirds cited traffic as a frequently experienced problem as well. Many residents and officials worry that Marsh-Billings National Historical Park might exacerbate current parking and traffic problems. Other residents are concerned about the potential safety of visitor-pedestrians who cross Vermont Route 12 from Billings Farm & Museum to the residential complex. The National Park Service must assess park visitors' impact on traffic and parking; consider visitor management strategies, and provide for safe park access.

Marsh-Billings National Historical Park represents a story, too, and a map. It suggests how, over the generations, soil may be enriched and forests preserved. It shows that the example of discerning stewardship may be a gift as valuable in its own way as the balanced, healthy landscape that it perpetuates.

John Elder,
Middlebury College,
Orion Magazine,
Spring 1997

Part Two:
The Future

A Vision for the Park

The Proposal

Management Alternative

Elements Common to Both the Proposal and the Alternative

Options Considered But Rejected

Farm fields of Billings Farm & Museum.

LOGS FROM HORSE-DRAWN SKID TO PORTABLE SAWMILL. DEMONSTRATION FOR WOODLAND OWNERS, 1995.

Part Two presents a vision for the park over the next 20 years. Two scenarios for management of Marsh-Billings National Historical Park implement that vision and address the issues identified during planning. One approach is the Proposal, which is preferred by the National Park Service. An Alternative is also presented. Both the Proposal and the Alternative fulfill the site's purpose as outlined in its enabling legislation. Treatment of park resources is the same in each, as described in the section about elements common to both. Several management options that were considered and rejected are also described in Part Two.

A VISION FOR THE PARK

Management of Marsh-Billings National Historical Park, with an operational farm and managed forest, demonstrates and interprets a conservation philosophy that evokes a strong sense of place, created and sustained by human activity and stewardship. Stewardship of the park is respectful of natural processes and cultural traditions, and is relevant to community needs. The National Park Service works through a network of park partners and outreach initiatives to highlight and encourage the best thinking and practice in conservation stewardship. Park programs have a particular focus on Vermont and the role stewardship can play in shaping the future of its communities and landscapes.

Marsh-Billings National Historical Park represents much more than a single significant historical period or event. The park reflects a rich continuum of social history and land stewardship practice that continues to evolve. Much of this continuum is interpreted through the lives of Marsh, Billings, and Rockefeller, as well as their families and descendants who maintained the estate (including its model farm and forest) for over a century. "Our human calling is less preservation in a distanced, magisterial sense," writes author John Elder (1995) of Middlebury College, "than participation in its web of stories."

Stewardship is not only examined from a practical perspective but also from an ethical perspective, exploring the nature of the often complex but important role of personal values in decision making.

In looking at stewardship from this more individual perspective, historian William Cronon (1995) sums up the challenge of stewardship:

> *...to see a natural landscape that is also cultural, in which city, suburb, countryside and wilderness each has its own place. We need to discover a middle ground in which all things, from city to wilderness, can somehow be encompassed in the word "home." Home, after all, is the place where we live. It is the place for which we take responsibility, the place we try to sustain so we can pass on what is best in it (and in ourselves) to our children.*

Education for the visiting public and other interested audiences is the park's most strategic tool. Through interpretation of regional history, rural culture, and agricultural traditions, the programs and exhibits of Billings Farm & Museum rekindle strong associations between the people of New England and their landscapes. Marsh-Billings National Historical Park builds on the success of these connections and provides visitors with firsthand conservation experiences that they can relate to their own circumstances and opportunities.

Marsh-Billings National Historical Park is an unusual type of national park: a park about history as well as contemporary life and work; a place where conservation and stewardship can be experienced firsthand. Basic principles of good stewardship should be applicable wherever conservation can play a role in enhancing the vitality and quality of people's lives and communities—ensuring that what people value most can be continued and sustained over time. To this end, the experiences that individuals have at Marsh-Billings National Historical Park seek to be relevant and, wherever possible, transferable to special places back home.

The Proposal

Concept: National Park Partnership

Marsh-Billings National Historical Park will be managed in partnership by the National Park Service and the Woodstock Foundation, which operates Billings Farm & Museum. This relationship reflects George Perkins Marsh's prescription for government operating in the interests of the common good, in tandem with the careful stewardship and management of private lands. It also reflects the realities of conservation today: success depends on strong, effective partnerships.

This public-private park partnership will be the foundation of the new park under the Proposal. The National Park Service and the Woodstock Foundation will work in close cooperation in all areas of park management, collaborating to operate and interpret the working cultural landscape of the national historical park. Visitors will experience the park as a cohesive unit reflecting the long history of association between the farmland, forest land, and residential complex. The park partnership will be created by agreements that establish each partner's responsibilities to manage and maintain park resources, and to provide visitor services.

Significantly, the Proposal achieves valuable economies of scale by building upon the audience, program, infrastructure, and facilities of Billings Farm & Museum. It also draws upon the demonstrated expertise, experience, and capabilities of both the National Park Service and the Woodstock Foundation.

Visitor Programs and Services

Interpretive programs will explore how the lives of Marsh, Billings, and Rockefeller, and their families, relate to American conservation history. Their stories reflect evolving concepts of stewardship played out on the entire property, including the farmland, forest land, and residential complex; specific examples

will be used to show their roles as stewards of this property. The following objectives will guide visitor programming:

- visitors will understand the role of conservation in the history of America
- visitors will understand that Marsh, Billings, and Rockefeller each played a particular role in the stewardship of this land and the larger conservation movement
- visitors will understand that they can be good or poor stewards of their place, home, and environment
- visitors will examine their own personal values/ethics about their own place, home, and environment
- visitors will be able to acquire some personal competency, skill, or ability to be a good steward of their own place, home, and environment

The established audience of Billings Farm & Museum is a major component of the anticipated audience of Marsh-Billings National Historical Park, and in the perception of most visitors, the park will be viewed as a single entity managed by the park partners. Although some visitors will be interested principally in one facet or another of the farmland, the forest land, or the residential complex, it is anticipated that the majority will want to see some of all three areas of the park.

UNIFIED ORIENTATION CENTER: It is expected that most visitors will arrive and park their cars at Billings Farm & Museum. Visitors will be greeted at the orientation center, an enhanced and modestly expanded version of the existing museum entry building located at Billings Farm & Museum. The center will feature audiovisual presentations and exhibits to orient visitors to the park and its programs. On arrival at the orientation center, visitors will be presented with a range of options from which to select activities. The center will also provide basic visitor services such as restrooms, a museum shop, and ticket sales.

PARKING: Existing paved, gravel, and prepared grassy parking areas at Billings Farm & Museum will serve visitors. (A few spaces near the carriage barn may be designated for visitors with mobility impairments.) As total visitation grows, and the average length of a visit increases, the demand for parking will grow compounded by slower turnover of parking spaces. At most times, the existing lots will be adequate, but for peak times—such as during the month of October and during special events—additional parking space will be provided in unpaved peripheral areas. The current practice of actively managing parking during peak midday hours on the busiest days of the season will be continued as a means of preventing on-street parking and congestion at the intersection of Vermont Route 12 and River Road.

BILLINGS FARM & MUSEUM: The museum will continue to be privately owned and operated as part of the overall park partnership, and the museum experience will be a major component of the park interpretive program. Interpretation of farming and the era of Frederick Billings will be enhanced, embracing the theme of conservation stewardship. Site-specific examples of land stewardship in the agricultural setting of the Billings Farm, both historically and in contemporary farm practices, will enhance current programming and interpretation. For example, in cooperation with the National Park Service and the Library of Congress, the Woodstock Foundation is funding and producing an introductory film about conservation stewardship and the stories of Marsh, Billings, and Rockefeller. The new film will be a centerpiece for orientation to the park.

Residential Complex: Guided tours of the residential complex (the mansion, the belvedere, and gardens) will be another major focus of the interpretive program. It is expected that mansion and garden tours will be popular. Because of limited carrying capacity, and as a means of controlling visitation, group size and frequency of tours will be regulated and reserved tickets will be required. Tours will be scheduled at regular intervals. They will originate at the carriage barn, which will be adapted to include public restrooms, educational program space, offices, museum collections storage, and interpretive exhibits. The exhibits will focus on George Perkins Marsh's contributions and the continued evolution of stewardship in American conservation. Space will be provided to illustrate contemporary examples of stewardship.

After viewing the introductory exhibits, mansion tours of about 12 visitors each will leave from the carriage barn. Visitors will then view the principal rooms of the mansion, tour the gardens, and finally visit the belvedere. Garden tours (about 25 visitors each) will also originate at the carriage barn but will focus on the landscape and architecture of the residential complex and will not enter the mansion.

Forest Land: The forest is a key component of the park's cultural landscape and will play an important role in interpreting and demonstrating sound stewardship. Guided tours of the forest and special forestry activities will form a third major element of park interpretation. Scheduled tours will be given on a variety of forest related subjects including forest history, conservation history, and concepts of stewardship. A variety of educational programs will also be developed that demonstrate the basic principles of forestry. Programming will stress the importance of balance in forest management respecting historic character, natural values, aesthetics, and recreational use. To the greatest extent possible, firsthand public interaction with foresters will be encouraged. Audiences for tours and educational programming might include forest managers, park visitors, and school groups.

Forest management professionals, college students, and landowners will benefit from occasional demonstrations of best practices in small-scale, responsible forestry and woodlot management. One recent example was a demonstration of low-impact harvesting techniques, including a portable sawmill and horse logging. Most park visitors will not have time for an extended visit to the forest land but may take advantage of short guided walks through the managed forest on the carriage roads. Visitors will be guided by staff or by using either an audio tour or a brochure prepared by park managers. As with other areas of the park, the forest land provides an experiential "classroom" to address the issues of stewardship with local and regional school groups.

Fees: There will be a general admission fee for Billings Farm & Museum, as in the past. There will be no entrance fee for the remainder of the park, though a special interpretive fee will be charged for scheduled guided tours of the residential complex. Park visitors, including local residents, will continue to have free access to the forest; access to the residential complex will be by reserved ticket accompanied by the interpretive fee. Museum admission tickets and reserved interpretive tour tickets will be sold at the unified orientation center, possibly as a single package.

Community Outreach

"The older I grow and the longer I look at landscapes," the noted landscape geographer J. B. Jackson has written (1984), "the more convinced I am that their beauty is not simply an aspect but their very essence, and that beauty is derived from the human presence." This

philosophy respects the constant interaction between nature and culture that has shaped the landscape of Vermont as we know it today. The park partners will collaborate with others in a Stewardship Initiative to highlight and encourage the best thinking and practice in conservation stewardship in Vermont and around the country. The Stewardship Initiative will seek out a broad audience, reaching beyond the boundary of Marsh-Billings National Historical Park so that in the words of Laurance S. Rockefeller, "the message and vision of conservation stewardship and its importance for the future will, once again, go out across the nation from the hills of Vermont" (NPS 1994b).

The Stewardship Initiative will take a measured approach to program development, adding components as success is demonstrated. One element will be an awards program aimed at honoring excellence and innovation in stewardship in different places around the country. Other projects may eventually include traveling exhibits, internships, community roundtables, symposia, and publications. Particular attention will be given to Vermont and the role of stewardship in shaping the future of its communities and landscapes. A conservation study institute, affiliated with a university, could provide another building block for the park's outreach program and support the activities of the Stewardship Initiative. The institute could provide a forum for the study of conservation history, the practice of conservation today, and future directions in the field.

In addition to the Stewardship Initiative, the park partners will develop school programs about the history and practice of conservation stewardship. Other community programming may include evening lectures and cooperative conservation projects with local organizations.

Park Operations

Partnership Roles: Under the Proposal, the park partners will share the day-to-day aspects of management, resource protection, and visitor services for the overall park entity through formal agreements. The National Park Service will be responsible for managing the federal land within Marsh-Billings National Historical Park and will ensure that activities on national park property are conducted in accordance with applicable management policies and guidelines. Billings Farm & Museum will continue to be privately owned, and operated within the park boundary by the Woodstock Foundation. The park partners may initiate additional cooperative ventures with nonprofit organizations, local and state agencies, and educational institutions.

Specific roles and responsibilities of the park partners will be refined once the general management plan is adopted. It is anticipated that the Woodstock Foundation; through Billings Farm & Museum, will manage on-site parking, fee collection, the museum shop, and other visitor services, in addition to a dairy-related food service located at the museum. The National Park Service will collaborate with the Woodstock Foundation in facility planning and the development of exhibits for the unified orientation center, including the introductory film. The center will likely be staffed by Billings Farm & Museum with additional National Park Service presence as appropriate. Forest and residential complex tours may be conducted by National Park Service staff, Billings Farm & Museum staff, or volunteer interpreters. Assistance for preservation maintenance and conservation of the national park property will be provided by the Woodstock Foundation through a dedicated endowment.

STAFF: Staff will be employed separately by the National Park Service and the Woodstock Foundation to operate Marsh-Billings National Historical Park. A list of a small National Park Service core staff in Appendix E provides an example of the approximate level of federal staffing envisioned for the Proposal. A year-round staff will be supplemented by seasonal employees.

OFFICES AND MUSEUM COLLECTIONS STORAGE: The carriage barn will be rehabilitated to house administrative offices and museum collections storage. The museum collections storage will be of sufficient size to provide access for researchers and work space for curators. The woodshed will be stabilized, made weather-tight, and used to store objects in the park museum collections that do not require environmentally controlled conditions. A small portion of the woodshed may be designated as a staging area for guided tours in the forest.

COSTS: Implementing the Proposal will require a federal annual operating base budget of approximately $1.2 million. Carriage barn renovations require $2.4 million in line-item construction funds (see Appendix E for cost estimates). These federal funding requirements are significantly reduced from the amounts that would be expected if the National Park Service were to develop and operate the park without the active partnership of the Woodstock Foundation.

Through the park partnership that is central to the Proposal, federal expenditures will generate comparable private participation including:

- funding of preservation maintenance and conservation activities through the proceeds of a $7.5 million endowment
- capital funding of the development of the park's unified orientation center located at Billings Farm & Museum (about $2.1 million)
- operating partnership with Billings Farm & Museum (operating budget about $1.75 million)

MANAGEMENT ALTERNATIVE

CONCEPT: INDEPENDENT COORDINATED PARK MANAGEMENT

The Proposal and the Alternative differ in the conceptual approach that guides management. The Proposal calls for a strong park partnership between the Woodstock Foundation and the National Park Service. The Alternative calls for independent operation of the two entities. It does not rely on collaboration to jointly manage and operate the park.

The visitor would experience the park as two distinct units. The National Park Service would manage park resources, services, and operations on federal lands within the park boundary, presented to visitors as Marsh-Billings National Historical Park. Similarly, Billings Farm & Museum would continue to be managed and operated on private property within the park boundary independently of the National Park Service, as a project of the Woodstock Foundation.

There would be coordination of management activities with the Woodstock Foundation, such as funding of preservation maintenance and conservation through the proceeds of the dedicated endowment fund, and coordination would occur with Billings Farm & Museum for day-to-day operations (parking, for example). However, the National Park Service would develop a more typical stand-alone park operation in the Alternative, duplicating some basic functions and facilities, thus necessitating greater federal expenditures to manage site resources, maintain facilities, and provide visitor services.

VISITOR PROGRAMS AND SERVICES

Guided tours of the residential complex and the forest would be major focuses of the park's interpretive programs—see the Proposal. Unlike the Proposal, park visitor interpretation would be conducted largely by National Park Service staff, and the Billings Farm & Museum programs may not be integrated with National Park Service interpretation.

SEPARATE ORIENTATION CENTERS: The National Park Service would rehabilitate the carriage barn in order to orient visitors to the park and National Park Service program offerings, to provide basic visitor services such as restrooms, a small sales area, and guided tour ticket sales, and to serve other park-related uses. Staffed by the National Park Service, the orientation center would feature audiovisual presentations, exhibits, and other media designed to introduce and relate the stewardship theme with the stories of Marsh, Billings, and Rockefeller as they are reflected at the park. Billings Farm & Museum would continue to operate its visitor orientation facility in the farm's upper barn complex. Visitors to the National Park Service-administered areas would be encouraged to visit Billings Farm & Museum, and museum visitors would be directed to the National Park Service carriage barn.

PARKING: The National Park Service would utilize visitor parking at Billings Farm & Museum. Signs in the parking lot would direct park visitors to the orientation center, located in the carriage barn across Vermont Route 12. All other aspects of parking management would be the same as the Proposal.

FEES: Fees would be collected for the same activities as in the Proposal: general admission to Billings Farm & Museum and interpretive tours of the residential complex. The National Park Service would collect visitor fees only for interpretive services at the national historical park. Therefore, visitors would need to purchase tickets in two locations if they go to the museum and the park during one visit.

COMMUNITY OUTREACH

The National Park Service would cooperate with others to develop and implement community, educational, and special park programs. A Stewardship Initiative would be developed in the Alternative, though not in partnership with the Woodstock Foundation as envisioned in the proposal.

PARK OPERATIONS

STAFF: In the Alternative, National Park Service staff would manage and operate the residential complex and forest land. The list of National Park Service staff in Appendix E gives an example of the approximate level of staffing envisioned for the Alternative. A year-round staff would be supplemented by seasonal employees.

MAINTENANCE FACILITY: The National Park Service would construct a new maintenance facility near the woodshed. The new facility would provide space for maintenance activities and offices for maintenance workers. Parking for maintenance vehicles would also be provided near the woodshed. A new facility is needed under the Alternative because there would be less collaboration on operational and resource management tasks than under the Proposal.

OFFICES AND MUSEUM COLLECTIONS STORAGE: The park's administrative offices would be located within existing structures and in the new maintenance facility. The National Park Service would provide curatorial work space, museum collections storage, and offices at the rehabilitated carriage barn and upgraded mansion attic, as necessary.

Costs: Implementing the Alternative would require a federal annual operating base budget of approximately $1.4 million. Renovation of the carriage barn and construction of the new maintenance facility would require $4 million in line-item construction funds (see Appendix E for cost estimates). These amounts of federal expenditure are significantly greater than the federal costs for the Proposal because of the limitation of private participation by the Woodstock Foundation.

Elements Common to Both the Proposal and the Alternative

Cultural Resources Preservation

Rehabilitation is the general treatment approach to be followed for park resources. Rehabilitation as a treatment emphasizes the preservation of resources while allowing for alterations and additions necessary to make a property operational. In the case of Marsh-Billings National Historical Park, it will allow for establishing visitor and administrative facilities and programs, while placing a priority on cultural resource preservation.

Cultural Landscape Report: Park managers will continue to document the history and significance of the park's landscape through an integrated program of historical research, inventory, and analysis. Building on the site's land use history and the historic-resource study currently underway, the managers will prepare a cultural landscape report. The report will complete the analysis of integrity, significance, and character-defining features, and will include a treatment plan that prescribes landscape management and protection. If appropriate, park managers may undertake a historic plant inventory to document existing plants important to the history of the property and initiate propagation of historically significant, rare, or horticulturally unique plants. This may include expanding the property's natural history collection through the preparation of herbarium specimens.

Forest Management: Park managers will continue to actively manage the forest as part of the park's cultural landscape. The Marsh-Billings National Historical Park cultural landscape report described above will deal specifically with the Mount Tom forest, prescribing appropriate forest management strategies. The forest treatment section will establish objectives for forest stands involving thinning, harvesting of firewood and sawlogs, replanting, and other appropriate silvicultural practices to achieve the established objectives. Baseline monitoring programs will be developed. Forest areas of historical and ecological significance will be identified.

Areas that contain features, materials, vistas, and spaces that contribute to the forest's historical significance will be managed with an emphasis on preservation, with significant features replaced as necessary "in-kind." Historical practices that may appear to conflict with normally accepted management practices will be evaluated to determine whether or not they are consistent with good stewardship and whether they should be continued. Areas that contain significant natural features, such as federal- or state-listed rare or endangered species, will be managed for preservation.

Areas that do not contain primary historic or significant natural features may be used for special forestry activities that promote educational values in support of the park purpose and that relate to the overall interpretive program. Park managers may conduct special forestry activities in cooperation with other land conservation agencies and organizations. Possible cooperators include county and state forestry programs, land trusts, universities and colleges, and the U.S. Forest Service.

This management approach necessarily includes active management, including appropriate harvesting, to preserve character-defining features of the forest

while perpetuating its historic use as a model forest. Consistent with this approach, the forest will continue to be enrolled in the Tree Farm program, in which it has the distinction of having been the first participating tree farm in Vermont. Opportunities for quiet recreation will also continue to be available. Public participation throughout the process will ensure that the public understands the practices of good forest stewardship.

RESIDENTIAL COMPLEX: Because the buildings and cultural features of Marsh-Billings National Historical Park were developed and altered during nearly two centuries of historically significant occupancy, the complex will be managed to convey a sense of the site's evolution through the occupancy of the Marsh, Billings, and Rockefeller families, rather than depicting any particular period in their history. Historical changes to the buildings and features will be retained, and visitors will experience the residential complex largely as it appears today.

The historic buildings will be preserved, and in some cases rehabilitated for park use. The mansion will be preserved substantially as it appears today with any required replacement work done in-kind. If the size of the museum collections increases, and more storage space is needed beyond what is outlined in the Proposal or the Alternative, park managers will upgrade the mansion attic to accommodate the additional storage requirements.

The carriage barn will be sensitively rehabilitated for multiple park puposes, retaining its historic exterior appearance as well as much of its significant interior fabric, particularly on its main floor.

The bungalow and belvedere will also be preserved with minimal alteration. The bungalow will be made available to groups and organizations for modestly sized, stewardship-related meetings and retreats. Preservation of the building and its contents will be enhanced by upgrading climate control. The belvedere will remain furnished and open for guided tours. The horse shed may be adapted for use as a maintenance facility. The generator garage will be adapted and used for administrative purposes.

Continuing the practice of the Rockefellers, staff residences will be maintained on the property to provide essential site security. The double cottage units and the mansion apartment will be used as National Park Service staff residences to aid in the protection of the important and extensive park museum collections. On-site residences will allow National Park Service staff to respond immediately in emergency situations and provide critical front-line communication with local fire and police departments.

Through a preservation maintenance program, park managers will retain and care for the extensive gardens, putting green, hedgerows, pool, and other landscape features of the residential complex. Woody plant material will be pruned as needed to ensure health and vigor. Over time, when plant materials become severely deteriorated or die, they will be replaced in-kind. Historic plant materials may also be propagated for future replacement. No attempts will be made to re-create historic landscape features no longer extant.

MUSEUM COLLECTIONS: Park managers will undertake complete review of the collection's conservation, storage, security, and records management needs and prepare a complete museum collections management plan. Detailed historic structures and historic furnishings reports will be prepared for the residential complex. The National Park Service will also develop a complete inventory of all items, transfer the card catalog to

the Automated National Catalog System, and create site-specific standard operating procedures for each entry.

None of the relative humidity (RH) measurements taken inside the mansion indicate that the collection is in danger. However, an assessment of the museum collections identified five areas of concern: splits and warping in the decorative wood paneling indicate either past or ongoing damage; bulging and stretching wallpaper in several rooms indicate possible water infiltration; diagonal cracks near wall corners are evidence of structural settling; cluster flies and other insects may be affecting textiles; and, the mansion attic is not insulated. Measures will be taken to ensure the preservation and security of the museum collections. Windows will be fitted with ultraviolet light filtration, the attic fully insulated, and cracks and crevices dusted regularly to control insects. A monitoring program will be established to identify interior conditions and make further modifications as needed to help stabilize environmental fluctuations within the structures.

Two fallout shelters are located on the property; one is in the mansion and one is in the belvedere. The belvedere fallout shelter, unlike the mansion's shelter, may be regularly accessible to visitors. Representative materials found in good condition from both shelters will be placed in collection storage for preservation and documentation. Remaining materials may be used for interpretive purposes, recognizing that they will deteriorate over time.

National Register: The mansion was designated a National Historic Landmark in 1967, and much of Marsh-Billings National Historical Park is currently listed in the National Register of Historic Places as part of the Woodstock Village Historic District. The entire national historical park is administratively listed on the National Register. Park managers will prepare National Register nomination forms and boundary maps to document and describe the contributing resources.

Habitat Preservation

Park managers, in cooperation with others, will inventory and monitor plant and animal populations, specifically any threatened, rare, and endangered species and those populations of plants and animals that have been traditionally found on the site. Existing habitats and threats to them will be identified and monitored. In consultation with the other organizations, park managers will identify and set priorities for necessary actions to manage primary habitat areas within the forest and residential complex.

Endowment

Mary F. and Laurance S. Rockefeller established a $7.5-million endowment, as a dedicated fund in the Woodstock Foundation, to provide for the anticipated preservation maintenance and conservation requirements of the residential complex, and the forest land including the Pogue and its dam. The fund is intended to support preservation maintenance and forestry management of the property in perpetuity, so that Marsh-Billings National Historical Park never suffers the effects of deferred maintenance. Based upon a yearly line-item budget request approved by the Woodstock Foundation, payments may be made from the Foundation either to the National Park Service or directly to service providers. The endowment fund was established at the same time that title to real estate was transferred to the federal government, and payments from the fund became available upon the conclusion of Laurance S. Rockefeller's life tenancy (at the beginning of 1998).

Visitor Use

The lives of Marsh, Billings, and Rockefeller all demonstrate a concern for community. In the spirit of this

tradition, the park managers will manage visitation to minimize impacts on the Woodstock community, as well as to protect park resources.

Recreational activities, such as hiking, birdwatching, nature study, and picnicking will continue to be permitted and encouraged. A moderate level of horseback riding and carriage driving will be permitted, representing historical activities central to the development of Billings's forest park. To reduce trail use conflicts, preserve park resources, and maintain the park's tranquil character, the deed restrictions prohibiting mountain biking, hunting, fishing, swimming in the Pogue, camping, campfires, and use of motorized vehicles will be enforced.

The use of historic structures will change as they are converted from private residential to public use. To mitigate potential impacts associated with increased volume of use, the park managers will control access to historic structures through a reservation and ticketing system. Typically, residential complex tours will be limited to 12 visitors each for mansion tours and 25 visitors each for garden tours, with 12–25 tours scheduled daily. Daily visitation will range from about 100 to about 450, with an average day's visitation projected at about 350.

It is not anticipated that use levels generated by individuals and family groups will threaten natural and cultural resources during the life of this plan. However, the park will be monitored for any impacts associated with use, and appropriate actions will be taken to mitigate impacts. Bus groups will be scheduled on a reservation basis, based on the park's carrying capacity. At times of high visitation, buses that arrive without reservations may be asked to return to the park at a later, prearranged time.

Traffic Mitigation and Visitor Safety: Park managers will work with local and state officials to establish a safe pedestrian crosswalk at Vermont Route 12. Devices such as signs, flashing "pedestrian warning" lights, and lighting designed to reduce traffic speed may be proposed. In addition, a crossing guard—ideally a uniformed guard employed by the Woodstock Village police—will be posted at the crossing when visitation warrants, and the safety of the crossing will be monitored in close cooperation with the Village police chief. In addition, vegetation along the western edge of Route 12 will be selectively pruned to maximize sight lines for motorists and pedestrians.

Park managers will work with local officials to install modest directional signs at key points within the village, minimizing unnecessary traffic circulation related to visitors looking for the park entrance. The Woodstock Foundation and the National Park Service will also work with local and state officials to enhance pedestrian travel between the park and the village. The Foundation is considering further improvement of the seasonal gravel path between the village and Billings Farm & Museum, ideally widening the path to up to 4 feet as the topography allows and extending the path to the River Road intersection to allow pedestrians and others to bypass Route 12. Along the path, overhanging tree branches will be pruned and small-scale, pedestrian-oriented signs could be installed. In addition, parking facilities for bicycles will be provided at the park.

Universal Access: In accordance with federal laws and National Park Service guidelines, every reasonable effort will be made to ensure that facilities and services at Marsh-Billings National Historical Park are accessible to and usable by all people, including those whose mobility is impaired. Special, separate, or alternative facilities, programs, or services may be provided

only when existing ones cannot reasonably be made accessible. Parking for persons with disabilities will be provided at an appropriate location on the mansion grounds. Measures to improve access to historic structures will be pursued only when they will not require the removal of historic fabric and will not adversely affect the significant qualities of the landscape.

Regional Tourism

Vermont Heritage Tourism: The State of Vermont has established the development of heritage tourism as an important initiative. Recently listed by the National Trust for Historic Preservation as one of the nation's most endangered places, the rural countryside of Vermont needs to be understood, interpreted, and used appropriately, with sustainability a prime value. Marsh-Billings National Historical Park has an important role to play both in Vermont's Heritage Tourism and in cultivating the understanding, interpretation, and sensitive use necessary to sustain the Vermont countryside and its inherent values.

Woodstock Orientation Center: Should the Town, Village, or others develop an orientation center for the Woodstock area, park managers will actively encourage those efforts by providing informational and interpretive materials related to the park and by sharing tourism and visitation data with the appropriate entities.

Land Protection

Park managers will encourage local and regional farmland and open space conservation initiatives as well as efforts to establish pedestrian and bicycle links in the region outside the park. Park managers will pursue active collaboration with the managers of town parks, the Woodstock Resort Corporation, and other interested groups to develop, install, and maintain a year-round hiking trail marking system. The Woodstock Resort Corporation holds easements over the cross-country ski trails and has the right (but not the obligation) to continue to maintain and operate them commercially for cross-country skiing. The National Park Service will continue to assist community-based conservation efforts in Vermont and the Ottauquechee Valley through its Rivers, Trails and Conservation Assistance program.

Boundary changes are not needed to implement the Proposal or the Alternative. Private land within the park boundary, managed as Billings Farm & Museum, will remain in private ownership as long as its character and use support the overall purposes of the park.

Park Operations

Security: The National Park Service will maintain an on-site presence at the park which will be augmented through cooperative arrangements with local, county, and state police authorities. The National Park Service may seek concurrent jurisdiction with the State of Vermont.

Adaptive Reuse and Green Business: To accommodate park functions without adversely affecting important historical resources, park managers will seek to adaptively reuse existing structures to the greatest extent possible. The National Park Service will also work within standards and guidelines to support the procurement of environmentally sound products and services and whenever possible will support "green" businesses. For example, any new construction will be designed according to environmentally sound practices.

Options Considered But Rejected

No-Action Alternative

Typically in general management plans, the National Park Service includes a "no-action" alternative that

reflects a continuation of current management practices in an attempt to assess what would happen if the other alternatives could not be implemented. This plan does not consider a "no-action" alternative for Marsh-Billings National Historical Park because the status quo—primary resources closed to the public—would not fulfill the intent of the enabling legislation and thus is not a feasible National Park Service management option.

OFF-SITE VISITOR ORIENTATION CENTER WITH SHUTTLE SERVICE

The National Park Service considered and rejected an option to develop a Marsh-Billings National Historical Park visitor orientation center east of the village's central business district. The facility would have been housed in a rehabilitated or newly constructed building on U.S. Route 4 and Vermont Route 12, in the area of the former Central Vermont Public Service (CVPS) property. The area held potential for development of a visitor center because of its location, proximity to the park, and commercial character.

Visitor parking would have been provided both at the orientation center and at Billings Farm & Museum. During the visitor season, a shuttle would have transported visitors from the National Park Service orientation center to the park property (approximately 1.5 miles), with a stop in the village. The park boundary would have been modified through congressional action to allow National Park Service acquisition of the property or properties necessary to support the center and associated parking.

This alternative was rejected for the following reasons. First, it would have entailed unnecessary duplication of large parking facilities. A parking area of approximately two acres would have been required near the off-site visitor orientation center to support visitor and staff parking, plus shuttle operations. The existing Billings Farm & Museum parking areas would have remained in use and been the sole parking area during low-visitation periods when the shuttle system would not have been in operation. It is likely that there would have been confusion regarding which lot was in operation.

Second, a two-acre parking lot located in the CVPS property area would have occupied prime agricultural land and open space. It would have been difficult to obscure from view from U.S. Route 4 and Vermont Route 12. Since the U.S. Route 4 corridor serves as a "gateway" to the village of Woodstock, a development of this scale would have detracted from, rather than enhanced, this area.

Third, locating a National Park Service facility at the eastern entrance to the village of Woodstock would have increased the park's profile in the village, which is in contrast with the "low-key" approach to establishing the park that community residents called for in the community survey.

OFF-SITE VISITOR ORIENTATION CENTER NEAR THE VILLAGE GREEN

An option to locate the Marsh-Billings National Historical Park visitor orientation center within the village's central business district was also considered and rejected. The facility would have been housed in a rehabilitated building within the village limits, preferably near the Village Green. This option was rejected because most parcels within the village's central business district are too small to accommodate parking requirements, and national historical park visitors entering and exiting a parking area in the village center would have contributed to current traffic volume and congestion.

Pedestrian Underpass or Overpass

The National Park Service considered and rejected options to develop a pedestrian underpass or overpass to provide safe crossing for pedestrians traversing Vermont Route 12.

The underpass was rejected because, due to topography, it would have required extensive blasting of bedrock and grading, as well as significant modification to the residential complex and to Billings Farm & Museum property. To accommodate persons with disabilities, either an elevator or ramped walkways (up to 300 feet long) would have been required on the east and west sides of Vermont Route 12. This construction would have required removing vegetation from the area, including the removal of Billings-era stands of Norway spruce. The underpass would have resulted in a major impact on the existing wooded character of the view to the residential complex from Vermont Route 12, as well as the scenic quality of the Route 12 approach to the Village. Furthermore, any tunnel would create "lurking places" that could generate security concerns, particularly after hours.

The National Park Service rejected the overpass alternative because, similar to the underpass, the overpass would result in significant negative impact on the park's cultural landscape and the scenic quality of Vermont Route 12. The overpass would have had to be designed so that the bottom of the walkway over the road was 20 feet above the road's surface. In addition, it would have required either an elevator or long ramps extending for approximately 90 feet into the park residential area and a possibly greater distance into Billings Farm & Museum property to meet accessibility standards.

The apparent high cost and major impacts of either a pedestrian underpass or overpass greatly reduce the feasibility of these options. Additionally, pedestrians may be reluctant to use an underpass or an overpass if they could perceive the at-grade crossing to be shorter, more direct, and less intimidating. The feasibility of a well-designed and well-managed crosswalk make construction of a tunnel or bridge unnecessary.

Return to an Historic Appearance

The National Park Service considered an option to return certain park structures and landscape features to a more historic appearance. This option was rejected for two reasons. First, returning resources to a prior appearance would not have fulfilled the intent of the legislation, which specifically identifies the importance of a continuum of ownership by George Perkins Marsh, Frederick and Julia Billings, Mary Billings French, and Mary F. and Laurance S. Rockefeller. Second, returning resources to a prior appearance would have substantially limited the presentation of the property's continuous use, thereby providing a more limited experience for visitors.

The history of conservation in this country is one of continuing strife. It is a story that's still going on. The tale to be told here is dynamic, for environmental beliefs alter over time.

Such changes are crucial in the conservation story. They help us to see pioneer reformers such as Marsh and Billings and Rockefeller as part of history not of steady progress and triumph, but of perpetual revision in response to changing circumstances and changing perspectives.

David Lowenthal, Marsh Biographer
Conservation Stewardship Workshop,
November 1993

Part Three:
Existing Conditions

Cultural Environment

Natural Environment

Socioeconomic Environment

THE RESIDENTIAL COMPLEX.

WRITER, STATESMAN, AND CONSERVATIONIST, GEORGE PERKINS MARSH, WHO SPENT HIS FORMATIVE YEARS ON THE PROPERTY, PUBLISHED HIS SEMINAL WORK, *MAN AND NATURE*, IN 1864. THE BOOK IS CONSIDERED TO BE THE FOUNTAINHEAD OF AMERICAN ECOLOGICAL THOUGHT.

FREDERICK BILLINGS, WHO MADE HIS FORTUNE IN THE WEST, PURCHASED THE MARSH FAMILY PROPERTY IN 1869. HE PUT MARSH'S CONCEPTS OF STEWARDSHIP INTO PRACTICE BY TRANSFORMING THE ESTATE INTO A MODEL OF PROGRESSIVE FARMING AND FORESTRY.

This section provides historical background about the park. It also describes the resources that may be affected by implementing the Proposal or the Alternative.

CULTURAL ENVIRONMENT

MARSH, BILLINGS, AND ROCKEFELLER— THEIR LIVES AND WORKS

In the second half of the 19th century, the conservation movement in the United States took shape largely in reaction to the apparent consequences of widespread deforestation. As the new nation rapidly expanded in the decades following the Revolution, removal of the forest cover was usually the first phase in settling the frontier areas. American settlers viewed the natural world as an inexhaustible source of commodities that invited speculation and exploitation.

This was the case in Vermont. Through the early decades of the 1800s, most of the state's forest cover was stripped for lumber, for fuel, to be burned for potash, and simply to make way for farmland. In a single generation, Vermont's largely unbroken forests, that for centuries had sustained Native American populations, were reduced to one-fourth of their former acreage.

The Vermont in which George Perkins Marsh and Frederick Billings were born and grew up was a scarred landscape that bore little resemblance to the verdant place that it once had been. Stripped of their forest cover, the hills around Woodstock revealed thin soils, glacial till, and rocky outcroppings. The crops that the hills yielded often were disappointing. Once cleared of forest cover, they lost their capacity to absorb and hold rainfall, speeding erosion and exposing valley settlements and industries to frequent freshets and floods. By the mid-1800s, observers like Marsh were pointing out the relationship between the destruction of the forests and the degradation of watersheds, fisheries, and the total environment, and they began to call for more responsible land-use practices.

Marsh's book, *Man and Nature*, placed his observations of Vermont's deforestation in the broad context of human impact on the natural world throughout

history. Comparing the degradation of Vermont's environment to millennia-old changes to the classical landscapes of the Mediterranean, Marsh could see that the human impact on nature could be profound and long-lasting. As he synthesized these observations, Marsh articulated a revolutionary ecological view of the interaction of human and natural forces that could at once be both optimistic and pessimistic. Whether for good or ill, human action shaped nature and had consequences, upon both nature and society. Hope lay in humans accepting their roles as stewards of nature, directing their activities in ways that were environmentally wise and constructive.

As the American conservation movement developed through the closing decades of the 19th century, two branches emerged, in part reflecting the optimistic and pessimistic sides of Marsh's *Man and Nature*. "Conservationists" like Theodore Roosevelt and Gifford Pinchot crystallized a progressive concept of stewardship, espousing the view that nature should be managed and improved for human benefit. Frederick Billings's work, and especially the development of his Woodstock estate, farm, and forest, reflects this conservationist concept. In contrast, "preservationists" like John Muir called for protection of important natural landscapes in a wild state for their intrinsic, aesthetic, and spiritual values.

A modern perspective may tend to overemphasize this historical collision of values. In the context of the 19th century, the melding of conservation and commerce was part of mainstream progressive thought. The attitudes of Marsh and Billings, as well as those of Roosevelt and Pinchot, are suffused both with conservationism and with the entrepreneurial language of progress. In fact, Muir and others supported commerce as well preservation as part of their overall view. Through the 20th century, the "conservationist" and "preservationist" threads matured and evolved, leading to modern environmentalism. In many ways the career and philosophy of Laurance S. Rockefeller links these threads and offers a conceptual bridge between traditional conservationism and modern environmentalism.

GEORGE PERKINS MARSH: George Perkins Marsh was a lawyer, diplomat, and most of all an important 19th-century American scholar. His scholarship on the English language and comparative philology was well respected, but his most enduring work was *Man and Nature* (1864), the first major ecological study published by an American. While others had written about American forests, Marsh was the first to connect the results of deforestation and other human action with natural and social consequences in an ecological sense. *Man and Nature* was immensely influential in its time, and it remains a foundation of conservationist, environmental, and ecological thinking.

George Perkins Marsh was born in Woodstock in 1801, the grandson of a founder of Vermont and the son of a prominent Woodstock farmer-lawyer. A bookish child, he was forcibly sent out-of-doors, where he became an astute observer of nature. "I spent my early life almost literally in the woods," he later wrote; "a large portion of the territory of Vermont was, within my recollection, covered with the natural forest." His father and others taught him the names of the local flora and fauna, and physical geography soon became his "favorite pursuit." "As man and boy," he said, "I knew more of trees than of anything else."

Marsh attended Dartmouth College with his cousin James Marsh. Later, James Marsh's translations of the works of Johann Herder (1833) and his edition of Samuel Taylor Coleridge's *Aids to Reflection* (1829) influenced New England transcendentalism and helped

spread European romanticism in this country. Still later, these ideas would influence Frederick Billings, and James Marsh would become one of Billings's mentors.

After teaching for a short time, George Perkins Marsh was admitted to the Vermont Bar in 1825, and he began to practice law in Burlington, which would remain his principal residence. He also went into business as the owner of a sheep farm and an investor in railroads and a woolen mill. In the early 1840s he served in the U.S. Congress, where he played an important role in the establishment of the Smithsonian Institution. For his assistance helping Zachary Taylor carry Vermont in 1848, Marsh was appointed U.S. Minister to Turkey, serving in Constantinople from 1849 until 1853. This posting provided his first great opportunity to explore the Mediterranean with its ruins and landscapes of classical civilization.

Back in Vermont in the mid-1850s, Marsh struggled to save his business fortunes from financial ruin. He served the State of Vermont as Railroad Commissioner and as Fisheries Commissioner. Both assignments gave him cause to think about the larger landscape, how the railroad's insatiable need of timber for ties and fuel depleted forests for miles along its tracks, and about how the depletion of the forests damaged fish populations. In 1861, Marsh made his last visit to Woodstock. With his brother Charles, he climbed the peaks surrounding the village, calculating their elevations using an innovative barometric technique.

In 1861 Marsh was again posted to the Mediterranean, this time as ambassador to the Kingdom of Italy. He would remain there until his death in 1882, never again setting foot in the United States. He continued his investigations of the geography of Europe and the Near East, consistently applying the lessons that he had learned in Vermont as he conducted his diplomatic travels and collected specimens for the Smithsonian. He poured out his observations in a new book that he had begun writing about the time he had left the United States.

In 1863 Marsh wrote Charles Eliot Norton, then editor of the *North American Review*, about his book, suggesting that it "may interest some people who are willing to look upon nature with unlearned eyes." The book, *Man and Nature*, proved to be anything but unlearned. Marsh had gathered and condensed the research of French, Swiss, Austrian, and Italian engineers and hydrographers. He had reviewed the deforestation of many regions of Europe and related it to their cultural decline. He had described reforestation experiments all over the continent, efforts that were a generation ahead of comparable forestry work in the United States. In the end, he had written a treatise on the interrelationships of human activities and the natural world in which humans lived, worked, and drew sustenance—a treatise about how humans affected nature and in turn about how natural consequences affected human culture and society.

The influence that the book *Man and Nature* had on the development of the forestry movement in the United States has not yet been fully documented, but many of those who would shape federal and state policy and practice in the ensuing decades—John Aston Warder, George B. Emerson, Bernhard Fernow, Charles Sprague Sargent, Franklin B. Hough, I. A. Lapham, and J. G. Knapp—acknowledged the book's influence on them, as did many European geographers and foresters. Within the next decade, much was done to manage and protect the nation's forests. Yosemite was established as a state preserve in 1864. The American Association for the Advancement of Science submitted a memorial on forests to Congress in 1873, which passed the Timber Culture Act in that

same year requiring western land grantees to plant 40 of their 160 acres in trees. The creation of the American Forestry Association followed in 1875, the first National Division of Forestry in 1886, and the first forest reserve on public land, the 1.25-million-acre Yellowstone Timberland Reserve, in 1891.

Back in Woodstock, Frederick Billings read the new book by his fellow townsman. It resonated deeply with his own experiences both in Vermont and in the West. In subsequent years, he would acquire the old Marsh property, revive the farm and the forest, and put into practice many of Marsh's ideas.

Frederick Billings: Frederick Billings was born in Royalton, Vermont, in 1823 and moved with his family to Woodstock in 1835. By then George Perkins Marsh had grown up and moved away, but the Marsh family remained prominent. The Marsh farm was among the largest and best in the town; the Marsh house stood at the end of Elm Street with a commanding view of the village. Billings attended the University of Vermont where he studied with Zadock Thompson, the state's early natural historian, and the Vermont transcendentalist James Marsh, the cousin of George Perkins Marsh.

Like Marsh, Billings practiced law. In 1849 he traveled with his sister Laura and her husband to San Francisco where Billings established himself as the first American lawyer in the gold-rush city. Billings became one of the wealthiest men in California by specializing in the resolution of contested land claims descending from Spanish ownership and by investing heavily in real estate.

Billings's activities in land law and real estate brought him into contact with California's natural wonders. Serving as agent for John C. Frémont's Las Mariposas estate, he visited the nearby groves of giant Sequoias, and in 1852 traveled to Yosemite Valley a year after Anglo-American explorers first saw it. Frémont's associates hired the photographer Carleton Watkins to document Las Mariposas and other sites. Billings acquired a set of Watkins's now famous images of Yosemite and showed the pictures to Harvard zoologist Louis Agassiz. An enthusiastic supporter of the preservation of Yosemite as a federally created state park, Agassiz in turn used them to promote the idea. Billings also advocated preservation of the Mariposa Big Trees, the Marin coastline, the upper valley of the Yellowstone, and the vast areas that became Glacier and Mount Rainier national parks.

During 1861 Billings returned East. The following year he married Julia Parmly of New York, and two years later the couple made Woodstock their permanent home. The years Billings had been away had not been kind to the hills of his youth; Billings was struck by the further degradation of land around Woodstock and Royalton. He had seen the impact of the gold rush on parts of California in stark contrast to the wonders of the Sierra wilderness. When he read *Man and Nature* in 1864, Marsh's warnings must have resonated with what Billings had seen in California and was seeing in Vermont.

Not only were they scarred by erosion, but the hill farms that dominated the region were in financial trouble. Vermont's sheep-based agriculture was unable to compete with western sheep ranching, as transcontinental railroads offered western ranchers easy access to eastern mills. Vermont's rural population was decreasing as farmers and their children sought opportunities in the West or in industrial cities. If rural Vermont was again to prosper, fundamental changes were necessary. Vermont farms needed new crops, new markets, new techniques, and new approaches to land use and husbandry.

JULIA PARMLY BILLINGS AND HER DAUGHTERS CONTINUED TO PURSUE BILLINGS'S FAR-SIGHTED APPROACH TO FARMING AND FORESTRY WELL INTO THE TWENTIETH CENTURY. SHOWN FROM LEFT TO RIGHT ARE: ELIZABETH BILLINGS, MARY MONTAGU BILLINGS FRENCH, JULIA PARMLY BILLINGS, AND LAURA BILLINGS LEE.

It was in the context of these rural troubles that Frederick Billings bought the Marsh property in 1869. Even the prominent Marsh family had its difficulties and had been selling off parts of the farm for several years. Billings's wealth far surpassed that of the Marshes as well as his other Woodstock neighbors, and he set about to transform the property into a gentleman's estate and a model for the kind of prosperous future he could envision for rural Vermont. Billings immediately renovated the house into a stylish mansion befitting his status. He established a scientifically managed herd of Jersey cows that would help to show the way for Vermont's transformation into a dairy state. Likewise, he began buying up failing hill farms and, using scientific methods and European varieties, transforming Mount Tom into a managed forest and woodland park. Finally, he helped build a spur-line railroad that connected Woodstock's farms to urban markets and made it easy for urban dwellers to escape the city for the pleasures of the country town; he also invested in various projects that helped to refurbish the community.

Billings's activities in Woodstock reflect his career as a builder with vision, drive, and the ability to motivate and draw upon the expertise of others. At the same time that he was developing his Woodstock estate, he took the lead in building the Northern Pacific Railroad first as director of its land department and then as president. Billings's leadership rescued the Northern Pacific from its financial doldrums and reorganized the line for its successful transcontinental completion. Billings, Montana, is named in his honor, as are a number of other places along the line. Among the notable events of Billings's years with the railroad were the establishment of the "Bonanza Farms" in the Dakotas which were developed to demonstrate the agricultural viability of the Plains, the extensive planting of trees along the line, and promotion of Yellowstone park both as a scenic wonder and as a destination for railroad tourism.

In 1881 Billings was outmaneuvered in a hostile takeover of the railroad, and he devoted his full attention to Woodstock. He was appointed to Vermont's first forestry commission in 1883, writing much of its report and sponsoring the report's second printing. Although unconfirmed in the written record, his leadership of the commission is plausible because by the 1880s his reforestation projects in Woodstock were well underway and had gained considerable recognition. After the commission's report was released, he assured its dissemination by sponsoring a second printing. About the same time, he purchased George Perkins Marsh's 11,000-volume library for the University of Vermont and hired Henry Hobson Richardson to build a library building on the campus to house it. In the mid-1880s he remodeled the mansion a second time and oversaw the completion of miles of carefully designed carriage roads on Mount Tom which he called his "monument." By 1890, the year of his death, Billings's dairy farm had gained renown as among the finest in the country, and he was busy building a state-of-the-art creamery, office, and residence for his expert farm manager.

LAURANCE SPELMAN AND MARY FRENCH ROCKEFELLER, SHOWN HERE AT THE BILLINGS FARM & MUSEUM IN 1982, DONATED THE NATIONAL HISTORICAL PARK TO THE PEOPLE OF THE UNITED STATES.

Following the death of Frederick Billings, his estate and farm continued to prosper under the direction of his widow and later his daughters. In 1893, the Billings Farm took top dairy honors at the World's Columbian Exposition in Chicago. Billings's legacy continued through the 20th century and was reinvigorated in recent decades by the contributions of his granddaughter Mary French Rockefeller and her husband Laurance S. Rockefeller.

LAURANCE SPELMAN ROCKEFELLER: While George Perkins Marsh is best remembered as an early philosopher of conservation, and Frederick Billings as an early practitioner, Laurance S. Rockefeller's contributions are both in conservation philosophy and in practice. Rockefeller created and expanded parks and open spaces by means of both private philanthropy and stimulating public action, and he helped to define a new focus for land conservation by emphasizing the importance of access for people.

Born in 1910, Laurance S. Rockefeller was the fourth child and middle son of John Davison Rockefeller, Jr., and Abby Aldrich Rockefeller. His paternal grandfather was one of America's most important industrialists, and his maternal grandfather was a prominent U.S. senator. Laurance S. Rockefeller harmonized characteristics of his grandfathers and his parents in a creative and successful career as a venture capitalist, philanthropist, pioneer in the development of environmentally sensitive resorts, and as a leading exponent of modern land conservation policy.

Rockefeller's passion for the land emerged early in his life, strongly influenced by the park-building and historic preservation examples set forth by his father. As a teenager, his father admonished him to "see America first," taking Laurance and his brothers on a number of tours of the West. He explored Yellowstone, Grand Canyon, Mesa Verde, and other parks under the guidance of Horace Albright, Yellowstone National Park's visionary superintendent. The trips also introduced him to the Grand Teton country just south of the park, land to which Rockefeller would remain attached throughout his life.

In the decades following World War I, John D. Rockefeller, Jr., became a prodigious supporter of scenic lands, and many of the "crown jewels" of the national park system are testimony to his generosity: Great Smoky Mountains, Shenandoah, Grand Teton, Acadia, and Redwood national parks. Laurance Rockefeller built upon his father's tradition of creating and expanding parks, working closely with two of his mentors, National Park Service directors Horace Albright and Conrad Wirth.

Laurance Rockefeller's view of the parks could be pragmatic, but it was also visionary. Through Jackson Hole Preserve, Inc., the foundation he chaired from 1940, he took the lead in providing accommodations and recreational facilities at Grand Teton National Park, responding to the rise of automobile-based tourism and the related popularization of the national parks. But Rockefeller's vision was not constrained by existing park boundaries or plans. The creation of Virgin Islands National Park in 1956 was a direct result of his personal efforts and generosity, unlike other parks that came into being through the efforts of many people. Creation of the park reflected his

recognition of the potential of a tropical island park for the national park system. Like his other park-building activities, it reflected his belief that "concern for the environment and access to parks is not frivolous or peripheral; rather it is central to the welfare of people—body, mind, and spirit" (Harr & Johnson 1991).

In 1958, President Dwight Eisenhower named Rockefeller chairman of the Outdoor Recreation Resources Review Commission (ORRRC). The commission of seven citizens and eight members of Congress wrestled with difficult resource issues as it worked to devise a 40-year plan for meeting the outdoor recreation needs of the American people. The commission was bipartisan, bicameral, and composed of individuals with divergent views about wilderness, development, and the role of government with respect to resources and recreation. Still, under Rockefeller's leadership, the commission was able to submit a unanimous report to President Kennedy and the Congress urging a wilderness system, a national system of rivers and trails, a system of federal aid to states and localities, and a new Bureau of Outdoor Recreation to coordinate related but formerly scattered federal activities.

With the filing of the ORRRC report, Rockefeller launched into an aggressive campaign to ensure that the recommendations would receive serious consideration and implementation. Largely due to his activism, the ORRRC recommendations became the law of the land and the foundation of the nation's outdoor recreation policy over the following decades. The experience also signaled Rockefeller's emergence into the realm of national conservation and environmental policy. He became Chairman of the President's Advisory Committee on Recreation and Natural Beauty and its successor, the Advisory Committee on Environmental Quality. He chaired the White House Conference on Natural Beauty and became a close advisor and confidant of President and Mrs. Lyndon Johnson, and his influence continued through subsequent administrations.

Through these activities Rockefeller articulated a comprehensive approach to land stewardship that called for exploration of a full range of opportunities, balancing wilderness protection with public access to open spaces close to where people actually lived and worked. The ORRRC report stated that "the problem is not acres, but effective acres," and this became the cornerstone of Rockefeller's land stewardship philosophy.

Convinced that landscape and townscape must be considered together, Rockefeller worked to preserve both in Woodstock, Vermont. He acquired open space surrounding the village to protect it from unwise development; he preserved historic buildings, transferring several of them to the Woodstock Historical Society; and he funded the underground installation of electric and telephone utility wires. He established the Woodstock Foundation both for philanthropic purposes and to oversee the development of Billings Farm & Museum as an educational center preserving agricultural open space. He bought and replaced the aging Woodstock Inn, bought and improved the Suicide Six ski area, improved the Country Club, and added ski touring and sports centers—combining all of these assets into an anchoring economic force in the community: the Woodstock Resort Corporation. In addition to providing needed employment in an area suffering agriculture decline, the Resort put in place the balanced approach that Rockefeller had practiced at Grand Teton, Virgin Islands, and in several other environmentally sensitive resort developments.

At the national, state, and local levels, Laurance Rockefeller built upon and expanded a concept of land stewardship aimed at meeting the needs of an increasingly urban, affluent, and populous United States, providing a bridge between conservation and commerce. Although Marsh-Billings National Historical Park focuses on Rockefeller's role as a conservationist, his contributions to American business and to philanthropy in other fields such as cancer research, education, and human spirituality are also noteworthy. Over the years, he has been lauded with nearly every major American conservation award, and in 1991 he became the first conservationist to be awarded the Congressional Gold Medal "in recognition of his leadership on behalf of natural resource conservation and historic preservation."

Changes in the Landscape

When the Abenaki inhabited the eastern slopes of the Green Mountains, the region was almost entirely forested. Groups of Abenaki are believed to have camped in a clearing near or amid a grove of white pine in the lowlands along the Ottauquechee River, an area that later became part of Charles Marsh's property, although scholars think it unlikely that Native Americans used this valley as a principal source of fish or as a thoroughfare. The main routes through the Green Mountains followed the White and Black rivers, to the north and the south of Woodstock, linking the Connecticut and Champlain valleys. Future archeological investigations may reveal that Native Americans influenced changes in the landscape prior to European settlement. For instance, perhaps the Abenaki burned forest lands or practiced agriculture in the area that is now Woodstock.

The Forest: Geographer Harold A. Meeks (1986) estimates that when settlers from southern New England and New York first encountered Woodstock and other parts of Vermont in the 1760s, it was probably 95% forested with conifers and such mixed hardwoods as beech, maple, oak, and American chestnut. Though white pine is not thought to have been abundant in this valley, hemlock was plentiful. David Lowenthal points out that by the time George Perkins Marsh was born in 1801, forest cover on Mount Tom "was thin and discontinuous." Since their arrival shortly before the Revolution, white settlers had systematically been clearing the forest. In 1800 a wildfire had burned over the summit of the mountain, and stone fence lines and cellar holes testify that much of the mountain was cleared for small farms. In 1845 another wildfire burned Mount Tom. Still, trees in protected pockets escaped destruction: in 1869 Sewall Fullam recalled "very large hemlocks" growing near the Pogue earlier in the century, and forester John Wiggin estimates that some hemlocks and large oaks on Mount Tom today are 300 to 400 years old.

In Vermont, as elsewhere in the United States, the early rural economy was largely based on the use of natural resources that seemed limitless. Farmers felled trees for cropland, meadow, and pasture; they burned hardwoods for potash and pearlash, which by 1790 were Vermont's leading export items. Until about 1850, when potash began to be produced from salt, these ashes of potassium carbonate were used in the manufacture of glass and soap and to clean and process raw wool in fulling mills; they were one of very few farm products that could consistently be traded for cash. Henry Swan Dana's history of Woodstock (1889) documents the early existence of numerous potash and pearlash manufactories, and Meeks (1986) notes that the first U.S. patent for an improved method of potash manufacture was issued to a Vermonter.

Other local enterprises also relied upon the resources of the forest. Woodstock's many tanneries consumed large quantities of hemlock bark and American chestnut wood to make leather. Sawmills cut lumber into boards for dwellings, farm and commercial buildings, wheels, carriages, and other wooden goods in the new settlement. Farmers cut trees for fuel to heat homes and maple sap boilers. Livestock dealers, wool speculators, hatters, and factories that made carding and shearing machines and spinners all relied upon the town's many flocks of sheep, which required extensive grazing acreage. Vermont pulpwood logs helped supply southern New England paper industries, better grades of wood fed furniture factories that dotted the state, and Vermont logs provided ties and fuel for New England railroads. In the 1880s officials reported that all of the accessible white pine in the state had been cut. Frederick Billings's 1883 forestry commission estimated that Vermont forests had been 70–90% cleared at elevations below 2,000 feet. Following the removal of the forests, heavy upland grazing of merino sheep and other livestock had compacted the soil, making it less able to absorb rainfall and promoting erosion. These were the ecological consequences about which George Perkins Marsh had written and lectured since 1847.

By the time Billings bought the Marsh farm in 1869, Vermont was 75% cleared of forest, and though it is known that Charles Marsh had maintained an extensive sugar bush, the extent and type of other trees on the property is not known, nor is much yet known about the Marsh family's farming operations, which probably included pasture land on Mount Tom.

In the 1870s, on the heels of the ambitious program he initiated to plant trees in the Dakotas along the Northern Pacific Railroad, Frederick Billings began to establish forest plantations on his Woodstock estate. In the absence of an established profession of forestry in the United States he relied on European methods and species. Billings also began a systematic program of forest harvesting consistent with the recommendations of Marsh's work. Through the 1880s, by then under the direction of farm manager, George Aitken, Frederick Billings planted tens of thousands of trees on the slopes of Mount Tom and established his forest as a model operation. Aitken's job included both farm and forest management, consistent with George Perkins Marsh's assertion that agriculture "embraces the care of the forest and the propagation of timber-trees" as well as the growing of crops. Aitken continued to manage Billings's farm and forest until his death in 1910, two decades after the death of Frederick Billings.

As his 1890 directions to his secretary suggest, Billings viewed the Mount Tom forest as his crowning achievement in Woodstock, and he was especially pleased with the network of picturesque carriage roads he had created through the woodlands, beginning in the 1870s. Some of these roads used the routes of old roads on the Marsh property and other Mount Tom farms he purchased in the 1880s; others were newly laid-out. Woodstock residents who once worked on the Billings farm recall that stone was cut on the property for roads in the late fall and pulled off the mountain with oxen and horses; in about 1870, Billings built a stone shed or "stonedresser's workshop" where blocks could be cut for bridges, retaining walls, drinking troughs, and other uses. The road network included loops and spurs that showcased his work in forest management and framed views of the surrounding countryside. *The Vermont Standard* described the network in the summer of 1886:

> The new road together with the old give Mr. Billings about five miles in length on his own grounds. They are broad, smooth, graveled, and winding about as they do in the old forest are

romantic in the extreme. Still further extensions are in contemplation for next year, including a drive to the summit of Mount Tom. When these are completed the place will be to Woodstock what Central Park is to New York, or Mount Royal to Montreal; for Mr. Billings has always kept the gates wide open for the public to enjoy with him these beautiful drives.

Billings also enlarged the Pogue, once a natural wetland and pond whose dense boggy bottom of peat-like muck was regularly dredged to fertilize farm fields. Billings planned to raise the water level of the pond several feet by damming its outlet, and this work was underway at the time of his death in 1890. Billings also left instructions that the tree plantations be "looked after year by year and new ones made" and advised setting out "a great many trees" north and west of Pogue Hole (Winks 1991).

From 1905 forward, stands of white and red pine, hemlock, Norway spruce, Scotch pine, and sugar maple were planted. In 1908, Billings's daughter Elizabeth bought 20 acres of land on Mount Peg and set out 3,200 pine, cedar, and spruce trees; in 1909 she bought 20,000 white pine seedlings from Germany and had them planted on and around Mount Tom. After Aitken's death subsequent farm managers continued the forestry work. Since 1972 the historic plantations have been maintained by thinning, with modest harvests of firewood and occasional saw logs. Mature or hollow trees, which are important to wildlife, have not been cut as they would have been in a commercial forest.

From Billings's time forward, the Mount Tom woodland has been open to the people of Woodstock, and oral histories document that hunters have taken deer, raccoon, rabbit, woodchuck, and squirrel on the property, sometimes with the aid of dogs; less often, partridge, duck, goose, and bobcat have been taken in these woods. Woodstock people gather such wildflowers as sympatica, trailing arbutus, bloodroot, violets, forget-me-nots; trillium, jack-in-the-pulpit, trout lilies, and adder's tongue; they also gather raspberries, morel mushrooms, leeks, fiddlehead ferns, and ginseng in the vicinity of Mount Tom.

Farmland: Dana's Woodstock history reports that during the Revolution, two of the town's early settlers began to clear and drain what would become Woodstock's richest farmland—now the primary fields of Billings Farm & Museum within Marsh-Billings National Historical Park. Within eight years of buying the property in 1789, Charles Marsh, Sr., had cleared the eastern slope of Mount Tom for pasture. In 1800 and 1803 he added vastly more acreage to his farm. Although little is yet known about Charles Marsh's farming operation, his son recalled that the farm grew corn and grasses, which are forage crops. Stone walls through the Mount Tom woods are evidence that much of the land was cleared for pasture. In the years before and immediately after the Civil War, merino sheep probably grazed the land.

In 1869, Billings purchased 247 acres from the Marsh family, and by 1900 the estate's holdings had expanded to 2,000 acres. Billings became a leader in the state's transition from sheep farming to dairy farming, establishing the first herd of registered Jerseys in Vermont in 1871. Billings also hired professional farm manager George Aitken, a native of Scotland who developed both the Billings Farm and the Mount Tom forest, helping to bring the estate national recognition.

In addition to the dairy herd imported directly from the Isle of Jersey, the model farm included a flock of Southdown sheep, Berkshire hogs, and Morgan

horses. Billings's herd of Jersey cows won top honors at the World's Columbian Exposition in Chicago in 1893; it is said that the farm's bulls were often made available at no cost to local farmers interested in improving the bloodlines of their own cattle.

In 1890, the year of his death, Billings advised that the farm and forestry operation "be brought down to bed-rock" to keep costs down and increase profits. Despite Billings's call for frugality, the operation reached its zenith around the turn of the century and did not begin to decline until after the deaths of manager Aitken in 1910 and Billings's wife Julia in 1914. During the Depression most of the Jersey herd was sold. During World War II, Woodstock residents planted Victory gardens on some of the best farmland.

Toward the end of the War, Billings's daughters Mary Montagu Billings French and Elizabeth Billings decided to revive the farm as a modern dairy operation. They reestablished the herd, expanded the barns, installed milk processing and bottling facilities, bought a small fleet of local delivery trucks, and in 1954 Billings Farm was incorporated as a commercial dairy. In the early 1960s the processing and bottling works was relocated to Wilder, Vermont, and incorporated as Billings Dairy. The farm continued to operate, shipping its milk to the Wilder plant, although by the early 1970s the long-term profitability of small dairy farm operations had become increasingly uncertain.

In 1974 Laurance S. Rockefeller purchased the Billings Farm. He sought to reestablish the pre-eminence of the Billings herd, preserve the character of the historic Billings Farm in perpetuity, and promote public education. Today, the 200-acre farm, including 88 acres within the park boundary, is operated as Billings Farm & Museum by the Woodstock Foundation. The farm operation includes a working dairy that manages a herd of registered Jersey cows, sells milk, and grows its own feed.

THE RESIDENTIAL GROUNDS: Charles Marsh is known to have built a large stone wall around his pasture facing Elm Street in 1814 and to have set out elms on two sections of the grounds in 1808 and 1820 (he also planted elms in the village). In 1806, he planted Lombardy poplars in front of the house, and he is said to have laid the region's first aqueduct. Made of hollow logs, it brought water from an unidentified pond to the house. Little else is known about the design and use of the grounds immediately surrounding his home in the early 1800s.

After purchasing the Marsh property in 1869, Billings hired landscape architect Robert Morris Copeland (1830–74) of Boston to design the mansion grounds. Copeland had been the partner of Horace Cleveland between 1853 and 1860 and had designed the grounds of numerous estates as well as public parks, cemeteries, and New England towns; the partners are also thought to have helped architect Arthur Gilman design Boston's Back Bay in 1856 and to have proposed the creation of the boulevard that is now Commonwealth Avenue. Copeland had written the much-reprinted advice book *Country Life: A Handbook of Agriculture, Horticulture, and Landscape Gardening* (1859), a copy of which Billings owned.

Copeland designed a plan for formal gardens around the house and reconfigured the approach of driveways to the estate. The white picket fence that had enclosed the house's front yard in Marsh's time was taken down, and a much larger front lawn embracing former pasture land was created with a croquet court on its northeast edge. Copeland also called for "picturesque" groupings of evergreens and deciduous trees to frame various vistas on the grounds from points outside and

inside the mansion. Overall, the design replaced the linearity of the Federal style, which Marsh's house and grounds had articulated, with more naturalistic lines that bespoke Americans' growing interest in romanticism and the picturesque. At this time, too, the rustic lower and upper summer houses and the belvedere complex with its greenhouses, palm house, and grapery were constructed on the grounds.

The grounds were redesigned and replanted in some measure during Billings's 1885–86 renovation of the house (see page 45); 1886–88 survey maps show where water hydrants had been placed on the grounds and thus probably indicate the sites of flower beds. The next major redesign appears to have occurred after Frederick Billings's death. In 1899, his widow and his daughters Laura and Elizabeth hired Charles A. Platt, by then an esteemed architect and landscape architect who summered in the nearby artists' colony at Cornish, New Hampshire. Author of *Italian Gardens* (1894), Platt may have designed the four-square fountain terrace garden and its long terraces in 1895, and he is known to have designed the garden seats and fountain in this garden four years later. In 1906–07, he designed a home for Laura Billings Lee and her husband on River Road and another home for the couple in New York City.

In 1902, Julia Billings hired Martha Brooks Hutcheson (1870–1950), one of the first female professional landscape architects in the United States, to redesign the entry drive into a formal circle. Hutcheson also staked out a drive through the Mount Tom woods for Elizabeth Billings, though its location and date of construction are not known. Ten years later Ellen Shipman, another landscape architect affiliated with the Cornish artists' colony, redesigned the formal plantings near the mansion according to the principles of color espoused by English garden designer Gertrude Jekyll.

The grounds remained as designed for the next 40 years except for the belvedere complex, whose palm house was razed to create a swimming pool in about 1935. Beginning in 1955, Mary F. and Laurance S. Rockefeller hired landscape architect Zenon Schreiber to redesign the area around the pool by installing stone retaining walls and designing surrounding plantings. Schreiber also designed rock gardens at the corners of the fountain terrace garden and planted them with alpine flora, designed a waterfall garden (which appears to have existed in some form since the 1890s) above the mansion, and set out mature paper birches around the grounds. In the late 1970s and 1980s, the Rockefellers commissioned landscape architect Brian Lynch to install plantings along Vermont Route 12 that would keep the mansion from being seen from the road but still permit views from the mansion across to the farmland along the Ottauquechee. Lynch also added a third driveway. Golf course architect Robert Trent Jones, who had redesigned the course at the Woodstock Country Club, designed an irrigation and lighting system for the grounds and installed a putting green adjacent to the swimming pool in the 1970s, when an automobile garage was built on the site of the old laundry building.

The grounds feature an azalea/rhododendron garden; the fountain terrace garden with a border of yew trees dating from Copeland's work on the estate, its rock gardens of Schreiber's design, and the cast stone benches provided by Platt; a hemlock hedgerow dating from Billings's occupancy adjacent to the putting green; a regularly mowed pasture near the horse shed; cutting gardens along the south wall of the greenhouse; several small wooded areas near the bungalow and double cottage; and a dense stand of Norway spruce, probably also dating to the Frederick Billings years, that screens views to and from Vermont Route 12.

STRUCTURES

Some 16 structures at Marsh-Billings National Historical Park are federal property: the mansion, its garage, the carriage barn, the double cottage, the generator garage, the belvedere (with its bowling alley, greenhouse, garden workshop, and swimming pool), the bungalow, the upper and lower summer houses, the woodshed, the horse shed, the spring house, and the dam at the Pogue. Most are in excellent condition. Another group of structures within the park boundary are private property, operated as Billings Farm & Museum: the upper and lower barn complexes, the 1890 Farm House, the hog barn, machine sheds and feed complex, the herdsman's house, and two staff cottages.

MANSION: Sited on a hill at the head of Elm and River streets in Woodstock Village, the present-day mansion probably preserves only the foundation and the main load-bearing walls of the house that local builder Nathaniel Smith constructed for Charles Marsh, Sr., in 1805–06. The house retains the five-bay south elevation of the Marsh home, but its style has been completely revised from the straight Federal lines of its predecessor.

In 1869–70, Billings commissioned Boston architect William Ralph Emerson, who had designed numerous Stick Style summer homes for wealthy Americans along the East Coast, to remodel Marsh's brick home in the fashionable style. The house's gable roof was replaced with one in mansard style; pointed gables, dormers, tall projecting chimneys, a wide veranda with detailed columns and porch railings around three sides of the ground floor, and a porte-cochere were all added to the structure, which was painted in two or more colors. Billings might have relied on John Masury's 1868 *Popular Treatise on the Art of House-Painting*, which he owned, for his color choices. A three-story wing was added at the southeast corner of the house, and a two-story carriage house in the style of the house was sited farther east. William J. MacPherson of Boston stenciled the plaster walls and handled other details of the interior decoration.

In 1885–86, Billings hired the renowned architect and author Henry Hudson Holly (1834–92) to redesign the home in Queen Anne style. Holly removed the mansard roof and added projecting gables, much ornamental brickwork, tall projecting chimneys, bay windows, a broad wrap-around porch decorated with lattice and spindle ornaments, and larger window sashes. The house was repainted in multiple colors; again, Billings's choices may have been guided by the book *Modern House Painting* (1883), coauthored by his wife's nephew, Ehrick Kensett Rossiter. The Tiffany Glass Company of New York designed or supplied the wallpapers, fabrics, and stained glass windows for the house.

In 1954, the mansion became the property of Billings's granddaughter, Mary F. Rockefeller, and her husband, Laurance S. Rockefeller. Both the exterior and interior were little changed through the 1940s, and even after a 1956–65 renovation by New York architect Theodor H. Muller the house remains an excellent example of the Queen Anne style. While the Rockefellers replaced some wallpapers, paints, and upholstery, they retained the Tiffany wallpapers in the parlor, library, and music room. They stripped the paint off exterior brick and painted the dark trim white; they removed a section of porch and railing; and they installed new wiring, plumbing, and heating systems. Finally, they modernized service areas and installed an elevator.

The mansion basement includes a utility room, a boiler room, two freshwater cisterns, and, in the

sub-basement, a fallout shelter Muller designed in the 1960s. The mansion is in excellent exterior and interior condition. Today, the mansion retains a high degree of integrity to the Billings period.

Belvedere: Sited west of the mansion, the belvedere was built in 1869–70. It was designed by the architects Faulkner, Clarke and Dorr of Boston in "Swiss-Cottage" design with sawn-wood gingerbread trim. The wood frame building is two-and-a-half stories high and topped with a standing-seam copper roof. At the same time, Faulkner, Clarke and Dorr also built the greenhouses and the garden shed; only the belvedere and a section of the greenhouse survive from this complex (see *Greenhouse*).

Muller (1956–65) modified the interior and exterior by installing new dressing rooms, a kitchen, and a basement fallout shelter. The building is heated. The first floor features a living room and game room for family and guests; the second floor houses Laurance S. Rockefeller's office. The structure is in excellent condition.

Bungalow: Located on the wooded hillside above the carriage barn, the bungalow was built in 1916–17 by the architect H. Van Buren Magonigle of New York City and Greenwich, Connecticut. Julia and Frederick Billings's daughter, Mary Billings-French, commissioned the structure and used it as a summer retreat and guest cottage. Magonigle designed the building in the then-popular Craftsman style; it has a two-tiered roof covered in wood shingles and capped by a monitor, a deep veranda, and flared eaves. It is built of wood and stone. The design is said to echo the lines of a Shinto temple. The bungalow is accessible by a footpath or by the road that climbs the rise past the belvedere, and it overlooks Mount Tom. It is well maintained, but the exterior has moisture problems because of the building's siting beneath a thick pine canopy.

Carriage Barn: A carriage barn was built in 1885–87, possibly to Holly's design. This was torn down and a new barn was built on the same site in 1895, designed by the New York City firm of Rossiter and Wright (in which Julia Billings's nephew was a partner). The shingled structure is two-and-a-half stories in Queen Anne style with a brick and granite foundation, a stamped metal roof, and a cupola. The building's lower level has excessive moisture and some deteriorating brick. The attic shows some signs of animal infestation.

Double Cottage: This long, narrow, frame dwelling of one story was built before 1885 to serve as a cottage for Billings's coachman. By the 1920s, it was renamed the chauffeur's cottage; after 1950 it became known as the double cottage. It still serves as a staff residence. The building is in good interior and exterior condition.

Greenhouse: Beginning in the 1870s the residential grounds featured a palm house, a grapery, and two long, glass greenhouse galleries, designed by Faulkner, Clarke and Dorr. This complex was enlarged to the designs of Lord and Burnham in 1882 and then largely razed for the swimming pool in 1931. A rebuilt section is against the east wall of the bowling alley. It is used to store potted plants during the winter. Well maintained, the structure nonetheless shows some deterioration from excessive moisture and humidity.

Garden Shed: The two-story board-and-batten structure in "barnlike" style, was built about 1956 to Muller's 1955 plans. It is used and well maintained.

Bowling Alley: This one-story brick structure was built about 1882 northwest of the belvedere. It is connected to the belvedere and contains two lanes and automatic pin-setting equipment, a small kitchenette on the east end, and a fallout shelter in the basement,

all dating to the 1960s. The building is well maintained, but the basement suffers from high humidity.

Swimming Pool: Built in 1931 on the site of the old greenhouses, the swimming pool and its surrounding landscape were remodeled by Muller between 1956 and 1965. It is in excellent condition.

Mansion Garage: Built about 1976 on the site of the former laundry building (razed in about 1940), the garage is brick, one story, and has a wood shingle roof and a poured concrete foundation. It is in excellent condition.

Generator Garage: Adjacent to the double cottage is a one-and-a-half story stucco structure that houses the estate's emergency backup generator. Built about 1900, its exterior walls have been scored to simulate stone blocks, and it has a steep, slate shingle roof with a cupola. The garage is in excellent condition inside and out.

Upper and Lower Summer Houses: The lower summer house, a rustic one-story structure standing at the end of Elm Street, serves as an entrance to the mansion grounds. The upper summer house is similar in design and located south of the mansion. Both appear in Robert Morris Copeland's landscape drawing of 1869, as well as in photographs from the 1870s. Designed in Adirondack style, both wooden structures are roofed in copper. They are in fair condition due to their continuous exposure and the dense vegetation surrounding them.

Woodshed: Located on the access road to Mount Tom beyond the double cottage, this shed was built about 1890 and may also, like the former carriage barn, have been built to Holly's design. It is two stories high with a gabled, copper roof, shingle and lattice cladding, and timber posts on granite piers. The shed is in fair exterior condition.

Horse Shed: Built in the upper meadow around 1955–57, the horse shed is a one-story wooden structure with gables that stands on the site of the former "stonedresser's workshop" (demolished in about 1950). The exterior is well maintained. Its interior has not been inspected.

Spring House: The one-story spring house is near the bungalow above the cascades and was built about 1900. It is a frame structure with "novelty" siding and an asphalt roof. It stores water from an artesian well near the bungalow, the only structure that continues to use this water supply regularly; the rest of the estate uses it only on an emergency basis. The spring house, affected by exposure and dense surrounding vegetation, is in fair condition.

The following museum and farm structures are located on 88 privately owned acres within the national historical park boundary.

Upper (Museum) Barns: The upper barns consist of five connected frame structures, the oldest of which may pre-date Frederick Billings's acquisition of the property in 1869. Part of this complex housed the dairy herd in the Billings-Aitken period. In 1980, the architectural firm Sasaki and Associates adapted the complex as exhibition space and added an entry building. The barns are in excellent condition.

Lower (Farm) Barns: The lower barns consist of at least three connected frame structures with a pair of wooden stave silos. The oldest of these was originally known as the sheep barn and was built about 1890. In the late 1940s and early 1950s the complex was remodeled and expanded to house the dairy barn, bottling works, and office of the Billings Farm, Inc. In the early 1980s the bottling works was remodeled as exhibit space and a stable was attached. The lower barns are in very good condition.

1890 Farm House: This building was designed by Boston architect Frederick Stickney in Queen Anne style and built in 1889–90 by Frederick Billings for farm manager George Aitken. The building originally housed the farm's business office, creamery, and ice house, in addition to a large residential apartment for the farm manager's family. At the time of its construction, it was promoted as a progressive model of an ideal farm dwelling for the 20th century. The house is a two-story balloon frame over a brick lower level, which houses the creamery and laundry. It was originally fitted with hot-and-cold running water, gas lighting, and central heating. The slate shingle roof was an early modification. Part of the structure's heavily altered rear ell was razed in 1985 but restored in 1987–89 to house the museum's modern dairy bar. Through a documentary restoration (1986–1989) the house has been returned to its 1890s appearance, with its main and lower (creamery) level interiors also restored as a living-history exhibit and the second floor adapted as a visiting scholar's apartment. It is in excellent condition.

Hog (Wagon) Barn: The hog barn, probably built between 1870 and 1900, is a single-story wooden barn with gable ends and a slate roof. Built into a bank to expose the east side, the full basement originally housed the farm's Berkshire hogs. The main floor of the structure was rehabilitated to house museum programs and exhibits in 1989–90. It is in excellent interior and exterior condition.

Machine Sheds and Feed Complex: Two pole-barn service structures were built in the 1970s to the east of the lower barns. These provide shelter for farm machinery and house the farm workshop. In 1995 the farm erected a complex of three grain drying and storage structures connected by a small frame building which houses equipment for blending the various feed rations required by farm livestock. These structures are in excellent condition.

Herdsman's House: The herdsman's house was built after 1869 and in 1890 was referred to as the "old farm house." Used as a guest house in the 1930s and 1940s, it is currently a residence for the farm manager. The two-story wooden building has a wide gable roof, a wrap-around porch, and a slate and copper roof. The exterior color scheme is appropriate for the 1890s but is undocumented. The house is in excellent condition.

East Staff Cottage: The easternmost staff cottage is a dwelling in Cape style built about 1959. One-and-a-half stories with shed dormers and an asphalt shingle roof, the cottage has clapboard siding and a detached garage. It is used as a residence for farm and museum staff and is in excellent condition. The interior has not been inspected.

West Staff Cottage: The west staff cottage, also used for farm and museum staff, is a gable-ended frame residence, built about 1880. It is one-and-a-half stories, sided with wood shingles, and has an asphalt roof and attached rear garage. It was rehabilitated in 1994 and is in excellent condition, though the interior was not inspected. The exterior color scheme is appropriate to the 1890s but is undocumented.

Archeological Resources

Historical sources suggest that groups of Abenaki may have camped in a grove of pines on the property, in the lowlands along the Ottauquechee River. Although no archeological investigation has been conducted to date, this area, particularly at the confluence with Barnard Brook, is a zone of potentially high archeological sensitivity when considered under the State Archeologist's environmental predictive model.

MUSEUM AND RESEARCH COLLECTIONS

A number of collections are associated with Marsh-Billings National Historical Park. The Woodstock Foundation owns museum and research collections managed as part of Billings Farm & Museum. It also holds the Billings-Kittredge Herbarium Collection with the intention of transferring it to the United States. The herbarium is described along with other Woodstock Foundation collections beginning on page 50.

NATIONAL PARK SERVICE COLLECTIONS: A large collection of household furnishings, fine and decorative arts, family mementos, and utilitarian goods such as kitchen equipment and antique vehicles is located in the mansion and associated buildings.

In general, the collection is in remarkably good condition given that many pieces have been regularly used for more than a century and have been kept in buildings where lighting, temperature, and humidity conditions while common to most residences fail to meet museum standards. The collection is significant both for the objects' historical association with the site and its occupants, and for their inherent value in American art and cultural history.

Nearly all of the objects associated with the mansion have been cataloged by a professionally trained curator using standard museum nomenclature and a manual card file system. The National Park Service is conducting a comprehensive inventory and analysis of the collection. The existing catalog contains 102 entries for carpets and textiles, 358 for ceramic and glass wares, 321 for furniture, 186 for lighting devices, 409 for metalware, and 541 for paintings and prints.

The collection is not directly associated with the Marsh family, most of the objects having been acquired by the Billings, French, and Rockefeller families. However, Frederick Billings acquired a silver-headed cane from Marsh's widow, and Billings's diary entry of June 30, 1886, mentions setting up "the old Marsh clock" in the second-floor hall, "where it was before" (Winks 1991). Although George Perkins Marsh was an avid collector of prints and engravings, his collection is not represented on site. Those that he had acquired before going to Europe, he sold to the Smithsonian where they were subsequently destroyed in a fire. Those that Marsh acquired while in Europe appear to have been dispersed after his death.

The collection includes an extensive array of prints, photographs, and paintings acquired by Frederick Billings. Records document the purchase and original placement in the mansion of many of these works. Billings began to collect prints as early as 1851 (when he was among the subscribers for an engraving of Samuel Taylor Coleridge, whose works James Marsh had helped to popularize in the United States). His marriage to Julia Parmly in 1862 probably contributed to his interest in art; Parmly's older sister had married the American historical painter Thomas Prichard Rossiter (1818–70), and the Hudson River School artist John Frederick Kensett (1818–72) was a close friend of her family. Two Kensett paintings, one inscribed to Julia Parmly in 1856, as well as several family portraits by Rossiter are in the collection. Frederic Church acted as intermediary for Billings's purchase of three landscapes by Thomas Cole from the artist's estate. Billings also acquired landscapes by Asher B. Durand, John Casilear, and Sanford Gifford, all Hudson River School artists.

Some of the finest paintings in the collection and a set of Carleton Watkins landscape photographs have intimate connections to Billings's life in the West. In addition, the prints include many steel engravings of Scottish highland scenes by Sir Edwin

Landseer; and many romantic landscapes, animal studies, and reproductions of important European and American works. The National Park Service is currently conducting an analysis of Billings's artwork collection to explore its significance in the context of American conservation history.

The art collection has been supplemented since 1951 by the Rockefellers with work by Vermont artists and 19th-century art. On the residential grounds are a bronze sculpture titled "The Seine" by the French artist Aristide Maillol, Charles Platt's marble fountain on the terrace, and a bronze and granite sundial.

Most of the mansion furnishings are in Eastlake or Queen Anne style and date from the Henry Hudson Holly remodeling of 1885–86 (case pieces tend to be made of oak and ash), though some are in Neo-Grec or Renaissance Revival style (made of walnut) and date from the original remodeling of 1869–70. In addition, the frames of prints and paintings from this period are made of gilt-incised walnut to match the mansion's other furnishings. Among the carpet and textile collection are more than 20 oriental carpets Billings purchased in 1886. There is also plainer furniture with stenciled or grained ornament, rather than incised or applied, that was used in the service wing of the mansion. The mansion furnishings continued to be used after Billings's death by his wife and daughters, and they were retained, albeit in different arrangements, in the 1955–65 remodeling undertaken by the Rockefellers.

Rockefeller family pieces include modern art pottery, several large tableware sets, and Asian porcelains from the collection originally assembled by Laurance S. Rockefeller's father. Some furnishings from John D. Rockefeller, Jr.'s, summer home in Seal Harbor, Maine, are also included. Laurance S. Rockefeller's office contains books and mementos of his career, items he brought from his offices and homes in New York, and paintings and photographs that recall the Rockefeller family's interest in the Far West, particularly the Grand Tetons. Elsewhere there are maps and mementos of the Rockefellers' travels, including artifacts from their Asian and South Pacific travels, and historic and modern folk art they collected.

The collection contains some 3,000 books and pamphlets that the Billings family collected over 150 years. The library includes Frederick Billings's books on the exploration and settlement of the West and the scientific treatises on plants and wildlife that his daughters Mary and Elizabeth assembled.

There are also toys and sporting equipment, luggage, musical instruments, photographic equipment, and natural specimens. Part of the basement of the mansion is a fully stocked fallout shelter that Muller designed in the early 1960s. A specimen-drying cabinet thought to have been used by Elizabeth Billings in the creation of her herbarium is stored on the property.

All but one of 16 restored horse-drawn carriages and sleighs in the collection were used by the Billings family on the grounds and in the community. There are also unrestored harness and tack, and several unrestored vehicles and accessories. Finally there is an assortment of architectural fragments, garden benches, fencing, packing cases, and field and road equipment. Notable in the last group is a stone derrick used in masonry construction and to lift the large canvas tents at the Windsor County Fair.

Woodstock Foundation Collections: The Foundation maintains the collections of Billings Farm & Museum which include objects, photographs, and oral histories that document the history of farming

and rural life in east-central Vermont in the late 1800s. Portions of these museum collections are on permanent display in the Farm Life Exhibits in the upper barns and in the period furnishings of the restored 1890 Farm House. All objects in the museum collections are cataloged and managed consistent with professional standards of the American Association of Museums and the American Association for State and Local History. They are under the direct control of the museum curator and the collections manager, as well as the oversight of a staff curatorial committee.

The museum library contains a significant research collection relating to agricultural and rural life in Vermont, along with a growing collection of materials on American environmental history. It, too, is fully cataloged and under the control of a professional librarian.

The Foundation has custody of the Billings Family Archives, owned by Laurance S. Rockefeller. These materials include papers of Frederick and Julia Billings and some of their children, and the virtually complete business records of the Billings Farm from the 1870s to the present. Archival processing of the collection is ongoing. It is fully accessible to the National Park Service for research purposes.

In addition, the Foundation holds the Billings-Kittredge Herbarium Collection of 1,200 specimens of plants and notes compiled by Elizabeth Billings and Elsie Kittredge on the Billings estate and elsewhere, about 1917–25. (Their goal was to gather all plants growing without cultivation within a six-mile radius of the center of Woodstock Village.) The collection was formerly held by the Vermont Institute of Natural Science, which had conserved, organized, and photographed it before transferring it to the Woodstock Foundation. The Foundation accepted the collection with the express intention of transferring it to the United States at an appropriate time.

ETHNOGRAPHIC RESOURCES

Marsh-Billings National Historical Park as a whole constitutes an ethnographic resource due to its continuing relationship with members of the Rockefeller, Billings, and French families. Local residents strongly associate the property with Woodstock's long-established way of life as a retreat and tourist community. Access to the property for traditional recreational and economic uses are important aspects of its ethnographic character. Family-based dairy farming depicted in the "Vermont Farm Year" exhibits of Billings Farm & Museum is a character-defining, but threatened, traditional occupation in rural Vermont. A study of traditional associations between the Abenaki and resources within or adjacent to the park has not been undertaken.

NATURAL ENVIRONMENT

AIR QUALITY

The relatively pristine air quality of Vermont and this region is of great value to its inhabitants and visitors and plays a significant role in the quality of life and health in the area. Although air-polluting industries are not a major component of the region's economy at this time, automobile traffic, transregional pollution, and woodburning activities all pose threats to air quality.

The region has and will continue to have a traditional dependence upon woodburning stoves for the heating of homes and businesses. The narrow topography and tendency for thermal inversions in the cooler months in these areas can potentially cause unhealthy and undesired pollution concentrations.

CLIMATE

Woodstock receives approximately 40 inches of precipitation annually, evenly distributed throughout the year. The frost-free period generally lasts from late May to mid-September; snow is usually on the

ground from mid-December to April. Summer temperatures average 70° Fahrenheit, with highs reaching into the 90s; in winter subzero temperatures are common, and lows can reach -20°.

Floodplain and Prime Agricultural Lands

The park's farmland (Billings Farm & Museum) is bordered along the northern edge by Barnard Brook and includes a 100-foot swath of land running within the brook's 100-year floodplain. Similarly, a swath of land running along the eastern and southern sections of the protection zone—varying in width from 200 to 1,000 feet—lies within the Ottauquechee River's 100-year floodplain. No structures are located within the floodplain.

The farmland contains federally designated prime agricultural lands located within the Ottauquechee River floodplain.

Threatened or Endangered Species/ Critical Habitats

Of the 50 forest stands described in the park (Woodstock Resort Corp. 1993), several include state-listed endangered species. No federally listed endangered species are known to exist in the park. Field observation over the past 10 years has revealed the presence of moonwort (*Botrychium lunaria*) and male fern (*Dryopteris filix-mas*) both state-listed endangered plant species, and Goldie's fern (*Dryopteris goldiana*). Two other species have been found on site that are considered to be uncommon in the Woodstock area narrow-leaved glade fern (*Asplenium angustifolia midix*) and autumn coral-root (*Corallorhiza odontorhiza*).

Topography, Geography, and Soils

The elevation of Marsh-Billings National Historical Park ranges from about 700 to 1,450 feet above sea level. There are intervales along the Ottauquechee River and other open areas around the Pogue and in the pastures and fields of Billings Farm & Museum. Elsewhere, the land rises to the twin summits of Mount Tom, and the soil is the rough, rocky, glacial till that covers much of Vermont. These upland soils are generally acid, infertile, low in organic content, and often poorly or excessively drained, in contrast with the lowlands that were historically considered among the best farmland in the state. According to available data, roughly two-thirds of the forest land is composed of state-designated prime forest soils, including areas to the east and south of the Pogue and to the west, along Prosper Road. The forest land also contains state-designated prime agricultural soils, which are found to the south of the Pogue and to the west of the residential complex. Practically all the low-lying farmland, situated at the confluence of the Barnard Brook and the Ottauquechee, is composed of state-designated prime agricultural soils. The primary soils are described below.

Dummerston: deep, well-drained soils formed on loamy glacial till. This is one of the major types found in the forest, particularly in the vicinity of Mount Tom and elsewhere as part of a complex with Vershire soils.

Pomfret: very deep, excessively drained soils formed in coarse-textured glacial till in upland areas. This soil type generally predominates north of the Pogue and near the western boundary of the forest.

Glover: shallow, excessively drained, stony soils formed on glacial uplands occurring as part of a complex with Vershire soils. This soil type is concentrated in the vicinity immediately west of the Pogue.

Vershire: moderately deep, well-drained soils formed in loamy glacial till. This soil type is found throughout the forest in a complex with Glover and Dummerston soils.

Vegetation/Habitats

The natural cover on Mount Tom is northern hardwood forest composed mainly of birch, beech, and maple, common to all areas of Vermont below 2,000 feet except the northeastern section. Mount Tom has some old growth in hemlock and oak, but most of the woodlands are in various successional stages from earlier agricultural uses of the land. On many former pasture lands, Frederick Billings and his farm managers set out tree plantations, some of which are the oldest in Vermont. Of these experimental plots, European mountain ash and European birch did not thrive, while Norway spruce stands have survived in good condition to this day. Of 50 stands described in detail by John Wiggin (Woodstock Resort Corp. 1993), 11 include Billings-era plantations and plantings, and 23 are largely made up of a single evergreen species. Plantations continued to be developed until the 1950s.

The forests of Mount Tom are part of the National Tree Farm system and are managed, unlike most other national park forests, as a "cultural forest." Forest management has been geared toward private and public education, recreation, wildlife and watershed values, and the harvest of certain forest products. Forest trees are thinned, pruned alongside trails and vistas, and girdled in back areas; slash is removed from roadside areas by chipping and then carting it away or blowing it back into the woods. Mature trees in stands of historical significance and in good health are not cut, nor are old pasture trees and certain hollowed trees that serve as wildlife habitat. Some stands within the Mount Tom forests have been harvested repeatedly, but earnings through harvest have never been maximized at the expense of other benefits.

The forests are in relatively good health, though there has been dieback in several places, probably due to the frequent summer drought and snowless winters of recent years. The State of Vermont maintains a plot on the property to monitor white ash dieback, which has affected trees on southern slopes. There has also been some dieback in butternut. Shoestring root rot has hurt various softwood and hardwood trees; white pine blister rust has affected scattered trees; and some cankers have appeared on sugar maples, birches, aspens, and other trees. None of these problems is characterized as serious. Most of the elms on Mount Tom died of Dutch elm disease beginning in the 1960s; chestnut blight nearly extirpated the American chestnut around the turn of the century. However, several individual chestnuts survived the blight as shrubs by root suckering.

Water Resources

The Pogue is surrounded by oak and beech woods. From it one major creek runs through a culvert in the pond's earthen dam into Gulf Stream and drains much of the park. This stream runs for 240 feet through one of the two pastures.

Two sets of irrigation pipes also draw water from the Pogue. One supplies two watering troughs on the main carriage road through the woods; the other provides irrigation for flower beds on the mansion grounds, as well as lawns and gardens at Billings Farm & Museum. Historically, it also provided water for fire hydrants on the mansion grounds and at the farm, and to the ornamental water pump on the Village Green.

Testing at four points—the Pogue shoreline, in the creek as it enters the pasture, in the creek as it leaves the pasture, and at one of the watering troughs—showed that nitrate, phosphate, and ammonia levels are below Environmental Protection Agency (EPA) water quality criteria for Class B recreational waters; thus runoff from agricultural or industrial activity, decomposed animal wastes, or other organic matter does not appear to exist at significant levels. Ammonia

concentrations were somewhat higher, though still at or just below EPA standards, at the Pogue and the watering trough, probably because neither were samples of aerated water; the low pH of New England waters also suggests little possibility of ammonia contamination. Fecal coliform levels are well below state standards, though nutrient loading in the creek running through the pasture will have to be monitored closely. No serious sources of water pollution exist in the park.

Wetlands

According to data compiled by the Vermont Agency of Natural Resources from the National Wetland Inventory maps, the Pogue comprises the only identified wetland within the park. A field investigation has not yet been conducted to determine the locations of other wetlands.

Wildlife

No systematic inventory of the wildlife within the park has been undertaken. Local residents have observed that the Mount Tom woodlands are home to squirrel, mole, shrew, white-tailed deer, red fox, fisher, skunk, mink, long-tailed weasel, raccoon, snowshoe hare, and porcupine. Occasionally, black bear, moose, coyote, gray fox, bobcat, beaver, and muskrat are sighted. According to available data, deer yards (e.g., habitat well-suited to support deer populations) exist in the western area of the park, along Prosper Road, and in areas of the park that border Billings Park. Beaver have been discouraged from spreading in the park. In the upland areas, wild turkeys, ruffed grouse, and woodcock have been sighted, and some waterfowl use the Pogue. Among the larger birds, hawks, owls, ravens, and pileated woodpeckers have been observed. In the Pogue are horned pout, yellow perch, and large-mouthed bass, the last introduced in 1974; since then, shiners have been introduced as a food source for the bass.

Socioeconomic Environment

Existing Visitor Use

Woodstock has been a tourist destination for more than a century and has been increasingly so over the past three decades. Estimates of visitation figures vary widely. According to the Woodstock Chamber of Commerce, an estimated 400,000—500,000 people visit the town each year, and state estimates suggest even greater numbers. Attendance at Billings Farm & Museum grew steadily in its first decade of operation and has been level at about 57,000 visitors per year since 1991. In the winter of 1994 about 10,000 skiers visited Mount Tom. During the 16 weeks from June to October about 25,000 persons annually register at the village information booth on the Village Green, according to town historian Peter Jennison, while an estimated 65,000 persons stay each year at the Woodstock Inn.

East-central Vermont has numerous other historical and recreational attractions. The Calvin Coolidge birthplace and home is in Plymouth Notch, just 15 miles southwest of Woodstock; to the north are the Joseph Smith Memorial (west of Sharon) and the Justin Smith Morrill Homestead (in Strafford), the latter 20 miles away. Saint-Gaudens National Historic Site is in Cornish, New Hampshire, less than 20 miles east. Nordic skiing is available at the Woodstock Ski Touring Center, which operates trails at Mount Tom, Mount Peg, and the Woodstock Country Club. Alpine skiers use Woodstock's Suicide Six downhill area, and the major ski areas of Okemo, Killington, Pico Peak, and Mount Ascutney are all within a 30-mile radius. Campers use Calvin Coolidge State Forest, seven other nearby public campgrounds, and many private ones. Passive recreational opportunities and natural history education are available at the Vermont Institute of Natural Science, with its Raptor Center, in Woodstock; Quechee Gorge State Park; and the Montshire Museum of Science in Norwich, Vermont.

The Appalachian National Scenic Trail is less than 5 miles north of the village; Green Mountain National Forest is 20 miles west.

Current visitors to Woodstock tend to be middle-aged, have high levels of education and income, travel in small groups of family and friends, and come from Vermont or other parts of the Northeast. Like a majority of visitors to Vermont, they typically are quite interested in places of historical or cultural value. Visitor studies show that they are very interested in conservation education and demonstration programs, as well as in opportunities for outdoor recreation.

Land Ownership and Use

The federal government owns the 555-acre historic zone of Marsh-Billings National Historical Park, as well as scenic easements on more than 300 acres on Mount Peg and Blake Hill. The 88-acre protection zone that embraces Billings Farm & Museum is privately owned.

With the exception of the densely developed village, most of Woodstock combines wooded and open space and is rural in character. A mix of low-density residential and agricultural uses surround the park, though a cluster of higher-density residential development exists on North Street near the mansion. Located to the south of the park are the Town-owned Billings Park which includes the summits of Mount Tom (136 acres), the adjacent Faulkner Park that is managed by the town (4.66 acres), and the Vermont Land Trust's King Farm (154 acres). The Woodstock Resort Corporation owns a large parcel north of the national historical park along Vermont Route 12. To date, no immediate adverse impacts of adjacent land uses have been observed.

The majority of the national historical park lands, along with the King Farm and Billings Park, are zoned by the town as forest preserve. The majority of land adjacent to the national historical park is zoned for 5-acre residential development. A portion of the Woodstock Resort Corporation property adjacent to the national historical park is zoned for business service and light industry, while the entire village area is zoned for medium-density residential development. Areas located near the national historical park's scenic zone, particularly along U.S. Route 4, are zoned for higher-density residential and some commercial and light industrial development. Commercial activities are concentrated primarily in the village, though strip commercial and residential development exists along U.S. Route 4, used by many travelers approaching Woodstock from interstate routes 89 and 91.

Population and Economy

Located in Windsor County, the town of Woodstock, including the village, had a population of 3,212 residents as of the 1990 federal census. Of this number, more than 30%, or 1,037 persons, live in Woodstock Village. Vermont's largest city had fewer than 40,000 people in 1990, and there are only nine cities, ranging in population from 2,717 to 37,725, in the state. Thus Woodstock is among Vermont's larger communities. Although the town's population declined more or less steadily after 1840, it began to climb again slowly after 1930. It jumped considerably between 1970 and 1980 and held virtually steady for the next decade. The Upper Valley region of Vermont and New Hampshire, of which Woodstock is a part, is steadily growing, and recent growth in this region has been largely concentrated in communities smaller than Woodstock.

The majority of the region's population is Caucasian with a very small representation of other racial and ethnic groups. In Woodstock, nearly 75% of the labor force works in services or in retail, most in businesses related to tourism; only 2% of its total employment is

in agriculture. The number of workers in agriculture declined steadily from 1900, when 185 men were farmers in the town, to 1980, when only 69 were (including those working in fisheries and forestry). Woodstock had 28 commercial dairy farms in 1960, nine in 1982, and only three in 1994.

However, some growth in the agricultural economy has occurred since the late 1970s. The number of farms in Windsor County rose 11% between 1978 and 1985, the market value of farm products increased 35%, and sheep raising increased 63% in only four years. In 1989 Woodstock supported only one manufacturing enterprise. The economy of the town is based squarely on retail trade and services geared largely to the tourist and recreation industries. "Because of this," the *Woodstock Plan* noted in 1989, "the economy of Woodstock is now closely related to its scenic and historic qualities."

In 1990, Woodstock was the second most expensive housing market in the state. The median housing value was $157,000 and the average sale price $232,312; median gross rent in the town is $534 a month. In the village, median housing value and gross rent are slightly higher. In the 1980s, Woodstock was 14th in the state in per capita income and 43rd in median family income. While per capita income and median household income in Windsor County as a whole are $14,262 and $29,258, respectively, they are $16,420 and $31,893 in the town of Woodstock and $15,029 and $26,477 in the village.

Including the village, Woodstock has a total land area of 43.49 square miles. Based on 1990 census data, the total population density for the town is 74 persons per square mile, slightly higher than the total population density of the state (about 61 people per square mile). In the village, only 1.2 square miles, population density is much higher 864 people per square mile. If village acreage and population are subtracted from the town totals, population density drops to 52 people per square mile.

Transportation Routes

The town and village of Woodstock is located approximately 10 miles east of Interstate Route 89. U.S. Route 4 connects Woodstock to the interstate system and is the primary east west corridor in central Vermont. As such, it is a major route that carries approximately 18,000 vehicles on an average annual daily basis. Additionally, because of its prominent role in east west travel, the proportion of trucks on this roadway is unusually high. For instance, during the afternoon peak hour, trucks on U.S. Route 4 represent approximately 67% of total traffic. In many sections of New England an average peak-hour truck percentage is in the range of 12%. This level of traffic (and trucks), much of which is composed of non-Woodstock trips, contributes to congestion as there are no reasonable alternate routes.

Stewardship has always meant extreme sensitivity to site and the impact of one's own actions...and I think here we have to be extremely sensitive to the site and to the concerns of the community of Woodstock. We would violate Marsh's and Billings's concerns and certainly of those of Mary and Laurance Rockefeller, if we did not recognize that this unit of the national park system sits within a fragile, worried, distinct, indeed unique, community which represents a particular aspect of Vermont, but by no means all aspects of Vermont.

ROBIN WINKS, YALE UNIVERSITY
CONSERVATION STEWARDSHIP WORKSHOP,
NOVEMBER 1993

PART FOUR:
ENVIRONMENTAL IMPACTS

IMPACTS ON VISITOR EXPERIENCE

IMPACTS ON CULTURAL RESOURCES

IMPACTS ON NATURAL RESOURCES

IMPACTS ON PARK OPERATIONS

IMPACTS ON THE SOCIOECONOMIC ENVIRONMENT

CUMULATIVE/UNAVOIDABLE IMPACTS

COMPLIANCE

HAYING ON THE BILLINGS FARM, C. 1890.

Billings family friend driving on the carriage roads, c. 1887-96.

Following is an assessment of the impacts on the human environment that might result from implementing the Proposal or the Alternative. With few exceptions, the actions that potentially would affect resources are the same in the Proposal and the Alternative. Therefore, the potential impacts of both are addressed in a single section.

Impacts on Visitor Experience

Circulation and Access

Visitation will be managed to protect resources and minimize impacts on the Woodstock community. Access to the residential complex will be by reserved ticket accompanied by an interpretive fee. A reservation system will regulate the volume and flow of visitation. Typically, tours of the mansion building will be limited to 12 people, with garden tours accommodating up to 25, with 12–25 tours scheduled daily.

In both the Proposal and the Alternative, access for visitors with disabilities will be improved wherever possible. Both the Proposal and the Alternative will also provide appropriate parking for visitors with disabilities. However, in cases where barrier-free access is not feasible due to geophysical or historic resource related constraints, alternative media will be offered to visitors with disabilities.

A crosswalk will mitigate safety problems associated with crossing Vermont Route 12 in both the Proposal and the Alternative. A crossing guard will be stationed at the crosswalk during active visitation periods. Flashing "pedestrian ahead" signs and other mechanisms designed to reduce traffic speed, may also be employed to maximize pedestrian safety. Directional signs will be proposed to make it easier for motorists to find their way to the park.

The arrival sequence envisioned for the Proposal will be more easily understood by the visitor than the one envisioned for the Alternative. In the Proposal, visitors will walk a short distance from their cars to a readily evident orientation building. In the Alternative, signs would direct visitors away from a readily evident structure to an orientation building that would be largely obscured from view and located across a state highway.

The Alternative calls for construction of a new maintenance facility near the woodshed. Regular use by maintenance staff and vehicular traffic would create the potential for conflict with visitors' quiet enjoyment of the carriage roads. The Proposal does not call for new construction.

Educational Opportunities

When Marsh-Billings National Historical Park is fully operational, visitors will be offered a wider range of educational and interpretive opportunities, such as brochures, exhibits, and interpreter-led or self-guided tours in addition to those currently available at Billings Farm & Museum. Also, a wider range of programs will be available to visitors and community residents than currently available.

The Proposal presents the park's three landscape components—farmland, forest land, and the residential complex—to the visitor as a cohesive unit. This presentation will allow visitors to come away with a greater understanding of how the Marsh-Billings-Rockefeller property functioned historically as a unified estate that employed state-of-the-art techniques in silviculture and agriculture. The Alternative would present the farmland, forest land, and residential complex to the visitor as separate entities. In both the Proposal and the Alternative, forest treatment will emphasize experimental, educational, and scientific forestry activities.

Orientation

Providing orientation to visitors at the first point of contact will encourage people to approach and use the park with understanding and sensitivity to the nature and fragility of its resources. As outlined in both the Proposal and the Alternative, the visitor orientation center will be the first point of contact, allowing visitors to easily understand the site layout and configuration. The shared visitor orientation facility included in the Proposal will provide visitors with a more integrated presentation of park themes than the Alternative, which calls for a separate orientation for the park. Visitors may be confused by the two centers developed under the Alternative.

Recreational Opportunities

Recreation will be limited to relatively passive pursuits in both the Proposal and the Alternative, but these will be ample: the opportunities to walk, hike, watch birds, cross-country ski, tour historic structures, and simply appreciate the pastoral and woodland landscapes are enhanced by the property's public ownership and management.

Visitation Projections

As Marsh-Billings National Historical Park evolves, regardless of which management scenario is implemented, visitation is expected to increase over the current Billings Farm & Museum level. By the year 2004, annual visitation levels could reach 80,000 during May–October season, with additional visitation during the November–April season, depending on the development of "off-season" programming.

Consistent with current Billings Farm & Museum visitor statistics, most visitors are likely to come from northeastern states. Residents of Vermont, New York, and Massachusetts will probably comprise the majority of visitors to the site.

Impacts on Cultural Resources

Archeological Sites

In-depth archeological investigations have not been conducted at the park, and the potential for archeological resources remains unknown. Future archeological investigations will be conducted in consultation with the Abenaki, the contemporary tribe associated with

this area. It is possible that construction of a new maintenance facility near the woodshed called for in the Alternative may impact archeological sites. Construction will not take place, however, until archeological investigations are conducted. A preliminary survey in the vicinity of the carriage barn, which is being rehabilitated in both the Proposal and the Alternative, did not identify any significant archeological resources. Should resources be uncovered during construction, work will be stopped in the discovery area and the National Park Service will consult according to 36 CFR 800.11 and comply as appropriate with other laws and regulations related to cultural resources.

Museum Collections

In both the Proposal and the Alternative, historic artifacts in the National Park Service collections will be preserved and protected for the enjoyment and education of future generations. Museum collections preservation will be improved over the current situation by the development of museum-quality storage and conservation space. Environmental controls will protect stored artifacts and works of art on exhibit. Non-intrusive controls within historic structures (such as ultraviolet filters on windows) will have minimal impact on historic fabric. Security systems and live-in staff will continue to provide protection of park objects.

Cultural Landscape

Cultural landscape features will be preserved and protected for the enjoyment and education of future generations in both the Proposal and the Alternative. Character-defining landscape features will be identified and protected.

The Alternative calls for construction of a new maintenance facility near the woodshed, which would alter the cultural landscape both during and after construction. Sensitive architectural design, siting, and vegetative screening, in concert with the minimal possible levels of vegetative clearing and grading, would partially mitigate the intrusion of the new facility on the historic scene. However, regular use by maintenance staff and traffic will have negative impacts. The Proposal does not call for new construction.

Ethnographic Resources

In both the Proposal and the Alternative, park managers will encourage the preservation of traditional associations and uses and will consult with park-associated groups concerning protection of ethnographic resources, including those adjacent to the park which could be affected by National Park Service actions. Deed restrictions prohibiting hunting, fishing, camping, campfires, motor vehicles, mountain biking, and swimming will discontinue some long-standing uses of the property by local residents.

Impacts on resources of potential concern to the Abenaki within or adjacent to the park will be evaluated as future information becomes available.

Historic Structures

In both the Proposal and the Alternative, historic structures will be protected for the enjoyment and education of future generations. When the park is open to the public, the number of people moving through the mansion and other historic structures will increase. To mitigate potential impacts associated with increased wear and tear on historic fabric, access to the historic structures will be controlled through a reservation and ticketing system. Rehabilitation of the carriage barn as specified in both the Proposal and the Alternative will address major structural problems and provide fire detection and suppression systems.

Impacts on Natural Resources

Air Quality

Park managers do not have the capability to monitor air quality, nor has the site's air quality been assessed. The park will most likely be affected by pollutants which are regional, affecting all of New England and Atlantic Canada. Because acid rain has been identified in New England (mainly caused by distant large sources of pollution) and the use of automobiles has generally increased, some degradation of the site's air quality is probable; however, the increase of vehicular traffic from future Marsh-Billings National Historical Park visitors, expected to be 2% in both the Proposal and the Alternative, will have a minimal negative effect on air quality.

In both the Proposal and the Alternative, there will be a temporary increase in noise, dust, and vehicle exhaust at the site during construction activities. This temporary increase would be greater for the Alternative because it proposes more development than the Proposal.

Scenic Quality

The very existence of the national historical park will contribute to the preservation of the scenic quality and open space of the Ottauquechee River Valley, regardless of which management scenario is implemented. Scenic vistas of Mount Peg and Blake Hill will continue to be protected by conservation easement.

As outlined in the Proposal, the expansion of Billings Farm & Museum visitor orientation center to improve visitor services, and the rehabilitation of the carriage barn for administrative offices and visitor contact, will have a minimal impact on scenic quality. This is because both sites are already developed, and the scale and character of any new development will be sympathetic and will not intrude upon the aesthetic quality of the area.

As called for in the Alternative, construction of a new maintenance facility near the woodshed would have an impact on scenic quality within the immediate vicinity of the woodshed. Because the site and its forest setting have been relatively undisturbed since construction of the woodshed in the 1880s, mitigation of impacts on the aesthetic scene would be challenging.

Utilizing the existing Billings Farm & Museum parking lot for visitor parking, as called for in both the Proposal and the Alternative, will have little negative effect on scenic quality. The negative effects of building new parking are avoided.

Soils

No substantial land use changes are being proposed. Floodplain, federally designated prime agricultural land, state-designated prime agricultural soils, and state-designated prime forest soils found within the park will not be affected by the actions put forth in either the Proposal or the Alternative. Additionally, visitors will be directed to stay on designated roads and paths, which will mitigate the potential for soil compaction.

Trenching to install an underground sewer line associated with carriage barn rehabilitation in the Proposal and the Alternative will temporarily disrupt local soil horizons, alter natural soil compaction, decrease permeability, alter soil moisture, and diminish water storage capacity in the area affected by construction. All trenching operations will follow guidelines approved by the National Park Service to minimize negative effects. Trenches will be backfilled with the removed soil as soon as possible and the trench surfaces returned to preconstruction contours. Construction vehicles and equipment will be confined to the construction corridor or site and existing roads to reduce

soil compaction. Similar temporary effects would occur during trenching associated with construction of the maintenance facility under the Alternative, and National Park Service guidelines would be followed.

More long-lasting negative effects would impact local soil horizons, soil compaction, permeability, soil moisture, and water storage capacity in the area affected by construction of a new maintenance facility under the Alternative. The best practices would be used to mitigate effects.

Vegetation

No systematic inventory of vegetation has been undertaken at the park. Field observation over the past 10 years has revealed the presence of two state-listed endangered plant species and two plant species that are considered to be uncommon in the Woodstock area (see page 52). Field surveys and increased monitoring of such species and habitats, as called for in both the Proposal and the Alternative, will contribute to their protection. Should degradation to any such species or habitats be identified, management actions will be taken to ensure the species protection and survival.

Specifically, work related to connection of the carriage barn facility to local sewer lines will be conducted to minimize damage to vegetation. Construction activity will be confined to a linear construction corridor and existing roads. Affected areas will be returned to their original form wherever possible. Vegetation will be salvaged from the site as much as practical to be used for revegetation. Careful machine work will be emphasized.

Water Quality

Regardless of whether the Proposal or the Alternative is implemented, groundwater will be protected from potential effects of increased septic waste resulting from the site's public access. Periodic monitoring of the pond, streams, and wetlands will be instituted to help preserve water quality. Grazing animals will be kept away from surface waters to protect water quality. Any remedial work on the Pogue's dam will be conducted in such a way as to minimize impact due to downstream flow interruption.

Because no development is proposed in or near any wetland area of the site in either the Proposal or the Alternative, no negative impacts on wetlands are anticipated.

Because no development is proposed within floodplain in either the Proposal or the Alternative, no negative impacts on floodplain are anticipated.

Wildlife

No systematic inventory of wildlife has been undertaken at the park. No threatened or endangered wildlife species, or critical wildlife habitats are known to exist within the park. Field surveys and increased monitoring of such species and habitats, as called for in both the Proposal and the Alternative, will contribute to their protection. Should any threatened or endangered species or critical habitats be identified, management actions will be taken to ensure their protection and survival.

Because the deed restrictions will be enforced when the park is open to the public regardless of which alternative is implemented, it is anticipated that hunting and fishing will decrease in frequency in the future. It is possible that this could increase populations of species now being hunted and fished.

Park-related development on previously disturbed areas, as proposed for the woodshed area in the Alternative, would result in minimal impacts on wildlife.

IMPACTS ON PARK OPERATIONS

In both the Proposal and the Alternative, adequate staff will exist to support desired programs and adequate work space will be provided for efficient operation of the site, if the provisions of the general management plan are funded and fully implemented. The provision of maintenance services/facilities will support a high level of resource maintenance.

The Proposal calls for a small core of National Park Service staff to operate the site in conjunction with Billings Farm & Museum staff, and others engaged through agreements with the Woodstock Foundation. Augmenting National Park Service staff with local experts will allow the high quality of care currently afforded park resources to continue uninterrupted. Under the Alternative there would be a significant loss of institutional memory and knowledge about the care of the property.

The Proposal calls for a strong, dynamic partnership between the Woodstock Foundation and the National Park Service to manage and operate the park. This partnership achieves valuable economies of scale and enables the park to benefit from private funding, which results in lower capital and operations costs to the National Park Service than the costs associated with the Alternative.

IMPACTS ON THE SOCIOECONOMIC ENVIRONMENT

ADJACENT PROPERTIES

Neighbors raised concerns regarding park visitors trespassing on their property and parking on local roads. Directional signs, trail-side and trail-head markers, and provision of adequate parking for visitors will minimize frequency of such occurrences.

Cooperative trail management may improve the quality of some trails on adjacent lands.

AREA ECONOMY

In 1993, Billings Farm & Museum visitors and Mount Tom skiers generated an estimated $4.5 million in direct local spending. As visitation increases, due to the opening of the park, direct spending in the local economy is anticipated to grow as well. The estimated annual spending would support jobs at local shops, restaurants, accommodations, and others in the hospitality industry, with limited potential for new business development. In sum, regardless of which management scenario is implemented, economic impacts to Woodstock should be positive, though modest.

In addition, there would be some limited direct employment at Marsh-Billings National Historical Park. Both the Proposal and the Alternative would increase employment opportunities at the site. The total number of persons employed, either by the Woodstock Foundation or the National Park Service, may be comparable under both the Proposal and the Alternative. It is likely that some of the new park jobs will be filled by people already within the National Park Service and some will be recruited.

Staff are likely to purchase goods and services locally. Thus, a limited increase in retail sales is anticipated, but would probably not result in a meaningful increase in the number of jobs for the local economy.

Varying amounts of construction are outlined in both the Proposal and the Alternative, more for the Alternative. Construction would require the short-term services of design, engineering, and construction professionals.

The property tax impact of removing the federal land in the historic zone from local tax rolls has been mitigated through a one-time contribution from Mary F. and Laurance S. Rockefeller to the Town. The donation

was for creating a fund whose annual proceeds are expected to be comparable to the property taxes that would have been assessed.

Land Ownership and Use

The opening of the park will have limited, if any, effect on surrounding land use and ownership. In both the Proposal and the Alternative, no additional properties will be acquired and put into public use. Within the context of overall visitor spending in Woodstock, national historical park visitor spending would most likely accrue to existing merchants, with limited potential for new business development. Therefore, it is unlikely that the existence of the park, itself, will spur further commercialization of Woodstock.

Town/Village Services

Currently, potable water to Billings Farm & Museum and the historic zone is supplied by a private water company. Based on discussions with local officials, this source of water is sufficient to supply the increase in water demand associated with the visitation projections, regardless of which management scenario is implemented. To minimize the impact of the park's future water demands, low-flow or 1.6-gallon toilets will be utilized in visitor facilities.

Billings Farm & Museum is serviced by the municipal sewerage system. This system is at approximately 50% of capacity and 75% of biochemical oxygen demand. The increase in sewage associated with the visitation projections will not present a problem in either the Proposal or the Alternative.

Village Traffic and Parking

Regardless of whether the Proposal or the Alternative is implemented, traffic attributable to Marsh-Billings National Historical Park visitors (including future Billings Farm & Museum visitors) is expected to represent a barely perceptible 2% increase over background village traffic at the busiest intersection in the year 2004. Park-related traffic is not expected to significantly affect traffic flow at main intersections. Providing directional signs at key locations within the village will help minimize visitor confusion regarding park location and mitigate associated impacts on village traffic.

The availability of parking within the village is not anticipated to be significantly affected, because adequate parking will be provided for national park visitors at Billings Farm & Museum in both the Proposal and the Alternative. Improving access to the village from the park (by working with state and local officials to enhance pedestrian travel between the park and the village) will encourage national park visitors to walk into the village and leave their cars at Billings Farm & Museum, and may further mitigate existing parking problems within the village.

Woodstock Visitation

Woodstock visitation estimates vary considerably, ranging from 400,000–500,000 (the Chamber of Commerce estimate) to 1,000,000. Depending on which estimate is used, projected park visitation could represent an increase in visitation to Woodstock of between 1¼ % and 1½ %. The total increase, including the increases attributable to Billings Farm & Museum, could represent and increase of between 3% and 6% over 1995 figures. This estimate assumes that all of the new visitors to Marsh-Billings National Historical Park would also be new visitors to Woodstock, and that Woodstock's visitation remains constant. Accordingly, any overall increases in visitation to Woodstock would then statistically decrease the impact of park visitation on Woodstock.

Cumulative/Unavoidable Impacts

Traffic within the village could increase 2% at the busiest intersection at the highest projected level of visitation regardless of whether the Proposal or the Alternative is implemented.

The greatest impacts associated with the establishment of Marsh-Billings National Historical Park on village traffic are anticipated to be those associated with a crosswalk linking the park's farmland and residential complex. As described previously in this document, an underpass under Vermont Route 12 and an overpass over Vermont Route 12 were also evaluated as options for safe pedestrian crossing. Both were rejected due to their significant impacts on cultural landscape and scenic quality values, and due to their high costs. Based on the assumption that most visitors will visit both the park's farmland and residential complex, there is potential for a steady stream of visitors crossing Vermont Route 12 throughout the day during peak visitor season. These visitors will probably arrive at random times, concentrated from mid-morning through mid-afternoon, and represent a range of ages and physical conditions (limited parking for visitors with disabilities will be located near the carriage barn). To minimize the potential interruption to traffic on Vermont Route 12 and to maximize safety, a crossing guard will be stationed at the crosswalk when visitation warrants. Based on experience, and if feasible, park managers will contract with the Village police for provision of a uniformed guard at the crossing.

Irreversible or Irretrievable Commitments of Resources

Rehabilitation of the carriage barn for park-related purposes in both the Proposal and the Alternative, and adaptive use of the bungalow and double cottage for park-related purposes will result in some loss of historic building fabric.

Compliance

The National Park Service will comply with applicable laws, regulations, and executive orders, including those listed here, upon implementing the general management plan for Marsh-Billings National Historical Park.

Laws and Regulations Related to Cultural Resources

One of the National Park Service's mandates is to preserve and protect its cultural resources through the Organic Act of August 25, 1916, that established the National Park Service and through specific legislation including the Antiquities Act of 1906, the National Environmental Policy Act of 1969, as amended, the National Historic Preservation Act of 1966 (described below), the Archeological Resources Protection Act of 1979, and the Native American Graves Protection and Repatriation Act of 1990. Cultural resources at Marsh-Billings National Historical Park will be managed in accordance with these acts and in accordance with chapter 5 of National Park Service *Management Policies*, the *Cultural Resource Management Guideline* (NPS-28), *The Secretary of the Interior's Standards for the Treatment of Historic Properties*, and other relevant policy directives.

As part of its cultural resources management responsibilities, the National Park Service surveys and evaluates all cultural resources on lands under its jurisdiction. Cultural resources are evaluated by applying the criteria for the National Register of Historic Places. In addition, the National Park Service maintains an inventory, called the List of Classified Structures, of all above-grade and prehistoric structures within the national park system. All cultural resources eligible for the National Register will be recorded and/or measured according to the highest professional standards.

Table 1: Cultural Resource Section 106 Consultation Requirements for Plan Undertakings

	SHPO/ACHP Review Required	SHPO/ACHP Review Not Required
The Proposal	◗ Rehabilitate carriage barn for visitor contact station, administrative offices, museum collections storage	◗ Stabilize woodshed for storage of large objects in park museum collections that do not require environmentally controlled conditions (IV. B. 1)
The Alternative	◗ Construct new maintenance facility near woodshed ◗ Rehabilitate double cottage for offices ◗ Rehabilitate woodshed for museum collections storage and management ◗ Rehabilitate carriage barn for visitor center and park headquarters	
Elements Common to the Proposal and the Alternative	◗ Manage forest for cultural landscape preservation	◗ Rehabilitate/preserve mansion, belvedere, double cottage, outbuildings (IV. B. 1) ◗ Rehabilitate/preserve mansion grounds (IV. B. 2) ◗ Preserve bungalow, improve climatic conditions (IV. B. 1) ◗ Upgrade security systems (IV. B. 11) ◗ Perform routine grounds maintenance (IV. B. 2)

Section 106 of the National Historic Preservation Act of 1966, as amended (16 USC 470, et seq.), Executive Order 11593, and the Archeological Resources Protection Act of 1979 establish the obligations of the federal government regarding activities proposed in or affecting properties on or eligible for listing on the National Register of Historic Places. Federal agencies are required to take into account the potential effects of their activities on protected resources and to allow the Advisory Council on Historic Preservation (ACHP) and appropriate state authorities an opportunity to comment. Toward that end, the National Park Service is working with the Vermont State Historic Preservation Officer (SHPO) and the ACHP to meet the requirements of the October 1995 programmatic agreement among the National Conference of State Historic Preservation Officers, the ACHP, and the National Park Service. The programmatic agreement requires the National Park Service to work closely with the SHPO and the ACHP in planning new and existing areas. (See "Consultation and Public Involvement," page 72.)

This agreement also provides for a number of programmatic exclusions or actions that are not likely to have an adverse effect on cultural resources. These actions may be implemented without further review by the SHPO or the ACHP. Actions not specifically excluded in the programmatic agreement will be reviewed by the SHPO and the ACHP during the design stage and prior to implementation.

All ground-disturbing actions will be preceded by an archeological evaluation to determine the level of archeological investigation required before construction can begin. Should any such resources be identified, the SHPO and park managers will evaluate their potential for inclusion on the National Register of Historic Places; if eligible, appropriate measures will be undertaken to preserve them. Archeological survey and testing will be carried out prior to construction, and actions will be taken to mitigate any potentially adverse effects.

Laws and Regulations Related to Natural Resources

The National Environmental Policy Act (NEPA) of 1969, as amended, requires that the draft general management plan and environmental impact statement will be on public review for 60 days. A final general management plan and environmental impact statement (or an abbreviated document if comments are not substantive) will be prepared that responds to or incorporates public comments on the draft document. After a 30-day no-action period, the National Park Service will prepare a record of decision and circulate it to interested parties to complete the NEPA process.

The National Park Service must comply with Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act, which apply to activities that affect wetlands, streams, brooks, ponds, and intermittent drainage channels.

Marsh-Billings National Historical Park is in a mandatory Class II clean air area. Under the Clean Air Act, as amended (42 USC 7401 et. seq.), maximum allowable increases of sulfur dioxide, particulate matter, and nitrogen oxide beyond baseline concentrations established for Class II areas cannot be exceeded. Although none are proposed, these class increments allow modest industrial activities within the vicinity of the site. During any construction activities, the National Park Service will take all practical measures to limit fugitive dust and noise. Section 118 of the Clean Air Act requires all federal facilities to comply with existing federal, state, and local air pollution control laws and regulations. The National Park Service will work with the State of Vermont to ensure that all site activities meet the requirements of the state air quality implementation plan.

Executive Order 11988 ("Floodplain Management") requires that all federal agencies avoid construction within the hundred-year floodplain unless no other practicable alternative exists.

Executive Order 11990 ("Protection of Wetlands") requires that all federal agencies avoid, wherever possible, impacts on wetlands.

Federal agencies are required to analyze the impacts of federal actions on agricultural lands, in accordance with NEPA (45 FR 59189). This policy was developed to minimize the effect of federal programs in converting prime, unique, or locally important farmland to non-agricultural uses.

Section 7 of the Endangered Species Act of 1973, as amended (16 USC 1531 et seq.), requires all federal agencies to consult with the U.S. Fish and Wildlife Service to ensure that any action authorized, funded, or carried out by the agency does not jeopardize the continued existence of listed species or critical habitat.

Local Regulations

Park managers will work with the Town and Village of Woodstock to determine how conservation zoning rules would apply to any proposed activities.

State Permitting Requirements

During the design phase of project implementation, park managers will contact the appropriate offices to determine application procedures for state water pollution control, underground storage tanks, and utility siting.

Federal agencies are not subject to state or local regulations unless specified by Congress. Although construction activities on federally owned properties do not fall under the jurisdiction of Vermont's comprehensive land use regulation (Act 250), the NEPA requirements (impact analysis and public involvement) being conducted through this planning process accomplish similar purposes.

Construction activities within the protection zone do fall under the jurisdiction of Act 250, as the properties within the protection zone are privately owned. Construction activities within the protection zone, as outlined in the Proposal, will be undertaken by the Woodstock Foundation and would be subject to Act 250.

Universal Access

In accordance with the Architectural Barriers Act of 1968 (42 USC 4151 et seq.), the Rehabilitation Act of 1973 (29 USC 701 et seq.), and *Uniform Federal Accessibility Standards*, all facilities and programs developed at Marsh-Billings National Historical Park will be made as accessible as possible given the site's historic preservation constraints.

The message and vision of conservation stewardship and its importance for the future will, once again, go out across the nation from the hills of Vermont.

Laurance S. Rockefeller
Conservation Stewardship Workshop,
November 1993

Part Five:
Preparers and Consultation

Preparers

Agencies and Organizations to Which Copies of the Document Will Be Distributed

Description of Consultation and Public Involvement

Frederick Billings's employees, 1893.

Preparers

Planning Team

The team responsible for developing this draft general management plan/draft environmental impact statement for Marsh-Billings National Historical Park was established in March 1993.

Ellen Levin Carlson, the team's Cultural Resources Lead; Community Planner, Planning and Legislation Group, Boston Support Office, National Park Service.

Rolf Diamant, Park Manager on the planning team; Superintendent, Marsh-Billings National Historical Park, National Park Service.

David A. Donath, Site Liaison on the planning team, represents Laurance S. Rockefeller and the Woodstock Foundation, Inc. Donath is President, Woodstock Foundation, and Director, Billings Farm & Museum.

Bruce Jacobson, Interim Team Captain (January–July 1997); Chief of Planning and Land Resources, Acadia National Park, National Park Service (former).

Marjorie Smith, Team Captain; Landscape Architect, Planning and Legislation Group, Boston Support Office, National Park Service.

Charles Tracy, the team's Natural Resources Lead; Landscape Architect, Rivers & Trails Program, Boston Support Office, National Park Service.

Advisors

National Park Service

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Judy Hart, Project Director, Conservation Study Institute (former)

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Carolyn Keinath, Chief of Interpretation

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Olmsted National Historic Site:
Tim Maguire, Chief of Interpretation (former)

Town/Village of Woodstock, Vermont

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Randall Mayhew, Community Liaison, Village of Woodstock
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Woodstock Resort Corporation

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John Wiggin, Director of Land Use
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Anthony Pollina, Office of Representative Sanders (former)
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James and Linda Smiddy, Host, Mountain Avenue Informational Meeting
Eric Wegner, Coverts Project
Woodstock Chamber of Commerce
Woodstock Historical Society

Agencies and Organizations to Which Copies of the Document Will Be Distributed

Local

Office of the Town and Village Manager, Woodstock, Vermont
Office of the Town and Village Planner, Woodstock, Vermont
Two Rivers-Ottauquechee Regional Commission
Woodstock Conservation Commission
Woodstock Planning Commission
Woodstock Town Board of Selectmen
Woodstock Town Zoning Board of Adjustment
Woodstock Village Board of Trustees
Woodstock Village Zoning Board of Adjustment

State

Office of the Governor, State of Vermont
Vermont Agency of Natural Resources
Department of Environmental Conservation
Department of Fish and Wildlife
Department of Forests, Parks and Recreation
Secretary, Agency of Natural Resources
Vermont Agency of Transportation
Vermont Division for Historic Preservation
State Historic Preservation Office

Federal

Advisory Council on Historic Preservation
Natural Resources Conservation Service
U.S. Forest Service
National Biological Survey
U.S. Fish and Wildlife Service
Environmental Protection Agency
Office of Senator Jeffords
Office of Senator Leahy
Office of Representative Sanders

Others

American Association for State and Local History
American Association of Museums
American Chestnut Foundation
American Memory Project, The Library of Congress
American Society for Environmental History
Association for Living Historical Farms and Agricultural Museums
Billings Farm & Museum
Colonial Williamsburg
Conservation Fund

The Countryside Commission, England
Forest History Society
Green Mountain Horse Association
Harvard Forest
Justin Smith Morrill Homestead
Kykuit, Historic Hudson Valley, Inc.
National Parks and Conservation Association
National Trust for Historic Preservation
The Nature Conservancy
New England Forestry Association
Norman Williams Public Library
Pentangle Council on the Arts
Pinchot Institute for Conservation, Grey Towers National Historic Landmark
President Calvin Coolidge State Historic Site
Society of American Foresters
University of Vermont
Vermont Council on Humanities
Vermont Coverts, Inc.
Vermont Folklife Center
Vermont Historical Society
Vermont Institute of Natural Science and Raptor Center
Vermont Land Trust
Vermont Law School
Vermont Natural Resources Council
Vermont State Chamber of Commerce
Vermont Woodlands Association
Woodstock Area Council on Aging (Edwin J. Thompson Senior Center)
Woodstock Area Chamber of Commerce
Woodstock Elementary School
Woodstock Foundation
Woodstock Historical Society
Woodstock Resort Corporation
Woodstock Union High School
World Wildlife Fund
Yale University School of Forestry and Environmental Studies

Description of Consultation and Public Involvement

The National Park Service has taken a comprehensive approach to public involvement. To date, the National Park Service has prepared two newsletters for the general public, and conducted small group meetings with park neighbors, local merchants, schoolchildren, and senior citizens. The National Park Service, in collaboration with the Town and Village Planner, the University of Vermont, the Vermont Folklife Center, and the community liaisons, administered a "community survey" to solicit the thoughts and opinions of Woodstock residents. A more in-depth community survey was conducted by the Vermont Folklife Center and involved interviews with longtime residents of Woodstock.

Issue-oriented focus groups have been held with historic preservation professionals, natural resource managers, foresters, and land conservation groups, among others. The National Park Service has consulted with state and local government officials, the regional planning commission, the State Historic Preservation Office, the Vermont Land Trust, and the Vermont Institute of Natural Science during the course of the planning process.

In January 1993, National Park Service staff corresponded with various local officials and boards to announce the planning process. In July 1993, the National Park Service contacted the Vermont Agency of Natural Resources, the Vermont Natural Resources Council, the Office of Senator Jeffords, the Office of Senator Leahy, and the Office of Representative Sanders to provide background information on the park and the planning process. In August 1993, the National Park Service contacted the Director, Vermont Division of Historic Preservation and the Advisory Council for

Historic Preservation (ACHP) to begin the consultation process required by the programmatic agreement (revised in October 1995) among the National Conference of State Historic Preservation Officers, the ACHP, and the National Park Service. In addition, representatives of the Vermont Division of Historic Preservation participated in the Conservation Stewardship Workshop and hosted one of the focus groups described below. A description of specific public involvement activities follows.

COMMUNITY LIAISONS

Town selectmen and Village trustees designated two community people to represent the community on park planning issues. The community liaisons have provided insight into community issues, acted as liaison between the National Park Service and Town and Village officials, helped schedule local meetings, and identified local people for oral history interviews. In addition, they occasionally published articles in the local newspaper to keep the public informed about the park and the progress of planning.

COMMUNITY SURVEY

In July 1994, a community survey was administered in collaboration with the Town and Village Planner, the University of Vermont, the Vermont Folklife Center, and the community liaisons. The survey included both multiple-choice and open-ended questions.

FOCUS GROUP MEETINGS

At all of the following meetings, National Park Service staff described the park and the planning process, and then invited attendees to ask questions and/or comment.

North Street Neighbors (March 25, 1994): This meeting was hosted by local residents and was attended by about 10 residents.

Land Conservation Community (April 27, 1994): The Vermont Land Trust hosted this meeting at the King Farm in Woodstock; about nine conservation professionals attended.

Regional Planning Community (April 27, 1994): This meeting was hosted by Two Rivers-Ottauquechee Regional Commission at the King Farm in Woodstock with about five people from the greater Woodstock area in attendance.

Historic Preservation Community (May 18, 1994): This meeting was held at Billings Farm & Museum and was attended by about 19 historic preservation professionals from across the state.

Local Merchants (May 18, 1994): This meeting was hosted by the Woodstock Historical Society and was attended by 20 representatives of the local business community.

Woodstock Elementary School Children (May 19, 1994): The National Park Service met with a group of about 15 students at the Woodstock Elementary School.

Mountain Avenue Neighbors (May 23, 1994): This meeting was held at a local residence and was attended by about 15 residents.

Edwin J. Thompson Senior Center (June 2, 1994): This meeting was held at the Edwin J. Thompson Senior Center. National Park Service staff met with about 10 senior citizens for a lunchtime informational presentation.

IN-DEPTH INTERVIEWS

In the summer of 1994, the Vermont Folklife Center conducted 29 in-depth interviews involving a total of 46 people, most of them natives or longtime residents of Woodstock.

NEWSLETTERS

Newsletter No. 1 (Winter, 1993) was mailed to about 1,500 households and several hundred copies were delivered to Woodstock for informal distribution at town offices. The newsletter described basic information about the establishment of the park and introduced the public to the planning process.

Newsletter No.2 (Spring, 1994) contained the "community survey," and was therefore broadly distributed. It was mailed to approximately 4,000 individuals and several hundred copies were delivered to Woodstock for informal distribution at town offices. The newsletter also reported on the progress of data collection for the plan.

SUMMARY OF COMMENTS

Following is a summary of concerns raised and suggestions for the National Park Service made by members of the public.

PARK ACTIVITIES:

Concerns: deed restrictions prohibiting hunting, mountain biking, and fishing; and, a lack of public input into National Park Service decision making.

Suggestions: support the formation of a citizen advisory group; provide carriage drives for special occasions; and, provide winter hiking opportunities.

VILLAGE TRAFFIC, PARKING, AND ACCESS:

Concerns: increasing traffic congestion in the village; parking shortages in the village; non-resident parking in neighborhoods; park visitors trespassing on adjacent properties; restriction of community access to park property; and, pedestrians crossing Vermont Route 12.

Suggestions: manage a village-wide shuttle system; support Town efforts to regulate parking on adjacent streets; provide a well-defined park entrance; maintain informal, discreet trail heads; not charge general admission fees; build a tunnel, pedestrian overpass, or shuttle people across Vermont Route 12; mark trails in summer; provide trails for mobility-impaired people; support pedestrian and bike trail connections beyond the park boundary; and, cooperate with town parks on trail management.

VISITOR MANAGEMENT:

Concerns: tourism increases and the further commercialization of Woodstock; and, a diminished ability to have a quiet walk in the woods.

Suggestions: manage visitors via targeted fees or reservations system; and, limit park promotion.

PARK PROGRAMS:

Concerns: a diminished "lived-in" quality of the mansion; and, a focus on wealthy family lives, not the land.

Suggestions: ensure that the mansion feels "lived-in" (like Billings Farm & Museum manager's house); interpret the servants' quarters in the mansion; develop multi-level education programs for schools; offer programs, exhibits, materials, and demonstrations on natural resources and responsible land management practices; research experimental approaches to land management; use site features as examples of changing attitudes toward land conservation; offer short courses on conservation; develop tours for children, given by children; offer community-oriented programs; and, conduct partnership programs and research.

The message developed here must be exported. It is not enough to give the message just to those people who will visit here each year. We have to devise different ways to do that.

JOHN BYRNE
CONSERVATION STEWARDSHIP WORKSHOP,
NOVEMBER 1993

PART SIX: APPENDICES

APPENDIX A: ENABLING LEGISLATION

APPENDIX B: TRANSPORTATION ANALYSIS

APPENDIX C: RESEARCH RECOMMENDATIONS

APPENDIX D: SUMMARY OF THE PROPOSAL AND THE ALTERNATIVE

APPENDIX E: COST ESTIMATES

APPENDIX F: RESOURCES CONSULTED

THE MANSION AS IT APPEARED IN 1886.

Park Expansion:

Concerns: potential acquisition of additional land for a park buffer zone (like the Appalachian National Scenic Trail).

Suggestions: hire local staff; offer meaningful volunteer opportunities; and, consider utilizing an off-site location, a Billings Farm & Museum building, or outbuildings within historic zone for a visitor center.

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Divider 4.	Billings Family Archives.
Page 33.	(Left) Copy photo of an oil portrait by G.P.A. Healy, c. 1820. Billings Family Archives.
Page 33.	(Right) Photo by Sarony, 1885. Billings Family Archives.
Page 37.	Photo by Rockwood, c. 1896. Billings Family Archives.
Page 38.	Billings Family Archives.
Divider 5.	Billings Family Archives.
Page 57.	Billings Family Archives.
Divider 6.	Photo by E. R. Gates. Billings Family Archives.

Appendix A: Enabling Legislation

Public Law 102-350

August 26, 1992 102nd Congress
S.2079

One Hundred Second Congress of the
United States of America

At the Second Session

Begun and held at the City of Washington on Friday, the third day of January, one thousand nine hundred and ninety-two

An Act

To establish the Marsh-Billings National Historical Park in the State of Vermont, and for other purposes. Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

Section 1. Short Title.

This Act may be cited as the 'Marsh-Billings National Historical Park Establishment Act'.

Section 2. Purposes.

The purposes of this Act are—
(1) to interpret the history and evolution of conservation stewardship in America;
(2) to recognize and interpret the contributions and birthplace of George Perkins Marsh, pioneering environmentalist, author of *Man and Nature*, statesman, lawyer, and linguist;
(3) to recognize and interpret the contributions of Frederick Billings, conservationist, pioneer in reforestation and scientific farm management, lawyer, philanthropist, and railroad builder, who extended the principles of land management introduced by Marsh;
(4) to preserve the Marsh-Billings Mansion and its surrounding lands; and
(5) to recognize the significant contributions of Julia Billings, Mary Billings French, Mary French Rockefeller, and Laurance Spelman Rockefeller in perpetuating the Marsh-Billings heritage.

Section 3. Establishment of Marsh-Billings National Historical Park.

(a) IN GENERAL- There is established as a unit of the National Park System the Marsh-Billings National Historical Park in Windsor County, Vermont (hereinafter in this Act referred to as the 'park').
(b) BOUNDARIES AND MAP- (1) The park shall consist of a historic zone, including the Marsh-Billings Mansion, surrounding buildings and a portion of the area known as 'Mt. Tom', comprising approximately 555 acres, and a protection zone, including the areas presently occupied by the Billings Farm and Museum, comprising approximately 88 acres, all as generally depicted on the map entitled 'Marsh-Billings National Historical Park Boundary Map' and dated November 19, 1991.
(2) The map referred to in paragraph (1) shall be on file and available for public inspection in the appropriate offices of the National Park Service, Department of the Interior.

Section 4. Administration of Park.

(a) IN GENERAL- The Secretary of the Interior (hereinafter in this Act referred to as the 'Secretary') shall administer the park in accordance with this Act, and laws generally applicable to units of the National Park System, including, but not limited to the Act entitled 'An Act to establish a National Park Service, and for other purposes', approved August 25, 1916 (16 U.S.C. 1, 2-4).

(b) ACQUISITION OF LANDS- (1) Except as provided in paragraph (2), the Secretary is authorized to acquire lands or interests therein within the park only by donation.

(2) If the Secretary determines that lands within the protection zone are being used, or there is an imminent threat that such lands will be used, for a purpose that is incompatible with the purposes of this Act, the Secretary may acquire such lands or interests therein by means other than donation.

(3) The Secretary may acquire lands within the historic zone subject to terms and easements providing for the management and commercial operation of existing hiking and cross-country ski trails by the grantor, and the grantor's successors and assigns, such terms and easements shall be in a manner consistent with the purposes of the historic zone. Any changes in the operation and management of existing trails shall be subject to approval by the Secretary.

(c) HISTORIC ZONE- The primary purposes of the historic zone shall be preservation, education, and interpretation.

(d) PROTECTION ZONE- (1) The primary purpose of the protection zone shall be to preserve the general character of the setting across from the Marsh-Billings Mansion in such a manner and by such means as will continue to permit current and future compatible uses.

(2) The Secretary shall pursue protection and preservation alternatives for the protection zone by working with affected State and local governments and affected landowners to develop and implement land use practices consistent with this Act.

Section 5. Marsh-Billings National Historical Park Scenic Zone.

(a) IN GENERAL- There is established the Marsh-Billings National Historical Park Scenic Zone (hereinafter in this Act referred to as the 'scenic zone'), which shall include those lands as generally depicted on the map entitled 'Marsh-Billings National Historical Park Scenic Zone Map' and dated November 19, 1991.

(b) PURPOSE- The purpose of the scenic zone shall be to protect portions of the natural setting beyond the park boundaries that are visible from the Marsh-Billings Mansion, by such means and in such a manner as will permit current and future compatible uses.

(c) ACQUISITION OF SCENIC EASEMENTS- Within the boundaries of the scenic zone, the Secretary is authorized only to acquire scenic easements by donation.

Section 6. Cooperative agreements.

(a) IN GENERAL- The Secretary may enter into cooperative agreements with such persons or entities as the Secretary determines to be appropriate for the preservation, interpretation, management, and providing of educational and recreational uses for the properties in the park and the scenic zone.

(b) FACILITIES- The Secretary, through cooperative agreements with owners or operators of land and facilities in the protection zone, may provide for facilities in the protection zone to support activities within the historic zone.

Section 7. Endowment.

(a) IN GENERAL- In accordance with the provisions of subsection (b), the Secretary is authorized to receive and expend funds from an endowment to be established with the Woodstock Foundation, or its successors and assigns.

(b) CONDITIONS- (1) Funds from the endowment referred to in subsection (a) shall be expended exclusively as the Woodstock Foundation, or its successors and assigns, in consultation with the Secretary, may designate

for the preservation and maintenance of the Marsh-Billings Mansion and its immediate surrounding property. (2) No expenditure shall be made pursuant to this section unless the Secretary determines that such expenditure is consistent with the purposes of this Act.

Section 8. Reservation of Use and Occupancy.

In acquiring land within the historic zone, the Secretary may permit an owner of improved residential property within the boundaries of the historic zone to retain a right of use and occupancy of such property for noncommercial residential purposes for a term not to exceed 25 years or a term ending at the death of the owner, or the owner's spouse, whichever occurs last. The owner shall elect the term to be reserved.

Section 9. General Management Plan.

Not later than 3 complete fiscal years after the date of enactment of this Act, the Secretary shall develop and transmit a general management plan for the park to the Committee on Interior and Insular Affairs of the United States House of Representatives and to the Committee on Energy and Natural Resources of the United States Senate.

Section 10. Authorization of Appropriations.

There are authorized to be appropriated such sums as may be necessary to carry out this Act.

Speaker of the House of Representatives.
Vice President of the United States and President of the Senate.

End

Appendix B: Transportation Analysis

The National Park Service commissioned the engineering firm Fay, Spofford & Thorndike, Inc. (a subcontractor to David Dixon/Goody, Clancy and Associates) to analyze park-related transportation issues in 1995. Specifically, the consultants performed an analysis of: (1) the potential effects of national park visitors on village traffic; (2) the feasibility of operating a shuttle from the park to an off-site visitor orientation center; (3) the safest way for visitors to cross Vermont Route 12 from Billings Farm & Museum property to the residential complex; and, (4) visitor parking requirements.

The impacts of national park visitation on village traffic were examined by analyzing 1995 village traffic conditions, projecting traffic conditions to the year 2004 without national park visitors, and, projecting traffic conditions to the year 2004 with national park visitors. The consultants analyzed existing village traffic conditions by: (1) recording traffic counts and turning movements at four key intersections within the village; (2) adjusting summer traffic volumes to reflect October conditions (the period of highest traffic) by applying a factor based on Vermont Agency of Transportation data; and, (3) examining the level of service, or ability to handle traffic flow, at the four village intersections.

The study determined that existing village traffic volume is quite substantial. Based on park visitation projections, Marsh-Billings National Historical Park traffic would represent a 2% increase over background village traffic in the year 2004 at the busiest intersection within the village (Pleasant Street and U.S. Route 4); however, this 2% increase would barely be perceptible to the average driver. The study also determined that the level of service for the four intersections analyzed would not be substantially altered by park traffic. The intersection at Pleasant Street and U.S. Route 4 is already failing to

provide an acceptable level of service. In the future, the three intersections that are currently functioning well would continue to function well. The intersection that has already failed would continue to fail, and the additional number of cars at the intersection attributable to future national park visitors will not be perceptible to the average driver.

The consultants also examined the feasibility of a National Park Service operated shuttle system between the park and an off-site visitor orientation facility. Based on the visitation projections, it is estimated that four to six vehicles would be needed at a capital cost of $400,000 and an operating cost of at least $6,000 per week.

The consultants examined ways to provide safe crossing of Vermont Route 12. Constructing a pedestrian underpass or overpass across Vermont Route 12 would incur high costs and have substantial negative impacts on cultural resources and scenic quality (see page 32). It was determined that a crosswalk, between Billings Farm & Museum and the northern access to the historic zone, with a crossing guard at times of substantial visitation, would be the most efficient and least intrusive way to provide safe pedestrian access across Vermont Route 12.

The consultants estimated the park's future parking requirements, based on the year 2004 visitation projections. It was determined that existing parking facilities at Billings Farm & Museum would be adequate to serve the total number of visitors for most of the year. During the month of October, an especially high visitation period, approximately 40 more overflow parking spaces would be needed.

The consultants noted that, currently, there is a lack of directional signs to Billings Farm & Museum. They suggested that an unknown number of drivers needlessly enter the village center and contribute to current traffic volume and congestion. Once in the village center, most of the lost motorists probably stop and park (exacerbating existing area parking problems) to ask directions. Potentially, up to 90% of future site traffic could approach Woodstock on U.S. Route 4 westbound; without assistance from signs, these visitors may have difficulty finding their way to the park. Directional signs located at key points, such as along U.S. Route 4, Pleasant Street, and Elm Street/Vermont Route 12, would help visitors find the park more easily and minimize the number of unnecessary vehicles in the village center. Although the Town/Village currently restricts off-premises signs (consistent with State restrictions), the consultants determined that the placement of directional signs, in this case, would be beneficial to the village.

Because of the perceived public sensitivity regarding the potential safety of the proposed crosswalk across Vermont Route 12, the National Park Service also engaged the Woodstock engineering firm of Bruno Associates, Inc., to review the proposal in the context of local conditions and state highway safety requirements. The Bruno report substantially concurred with Fay, Spofford & Thorndike's favorable assessment of the feasibility of designating a safe crosswalk in the proposed location.

Appendix C: Research Recommendations

The following studies will be conducted to support implementation of the general management plan.

Archeological Assessment and Analysis: This study provides an overview and assessment of the known and potential archeological resources in an area.

Museum Collections Cataloging: Museum collections cataloging builds on the considerable body of work

already completed by the current Curator of Decorative Arts. On completion, the collection catalog will be entered into the Automated National Catalog System.

MUSEUM COLLECTIONS CONDITION SURVEY: This is a report on the condition of the museum collections. It records object conditions, creates a baseline reference for future assessment of object deterioration, and identifies objects in need of treatment according to the degree of urgency.

MUSEUM COLLECTIONS MANAGEMENT PLAN: The plan provides overall guidance for the management of the park museum collections.

MUSEUM COLLECTIONS STORAGE PLAN: A storage plan is included in a collection management plan; however, it may be prepared independently to inform the design of a new museum collections storage facility.

COOPERATIVE TRAILS MANAGEMENT STUDY: In cooperation with the Vermont Land Trust, representatives of the Billings and Faulkner Parks, Woodstock Resort Corporation, and the region's trail community, park managers will assist in a study of the regional trail system and will encourage the development of a cooperative system for trail management. The need for additional hiking trails within the park for example, to create trails that are fully accessible or to create shorter, one- to two-mile loops through the forest will also be evaluated.

CULTURAL LANDSCAPE REPORT: This report provides a site history, an assessment of existing conditions, an analysis of integrity and significance, and a treatment plan which prescribes management and protection.

DETAILED MAPPING: A detailed base map is necessary for the effective management of the site and to inform any further improvements to the property.

ETHNOGRAPHIC OVERVIEW AND ASSESSMENT: This is a background study of types, uses, and users of ethnographic resources. Information is derived primarily from existing archival and published materials and is supplemented with ethnographic interviewing of knowledgeable community consultants. The study provides baseline information for stewardship of ethnographic resources.

HISTORIC FURNISHINGS REPORT: This report documents the historic furnishings associated with a structure. It determines what furnishings to display and how to arrange them. It also guides the maintenance and replacement or other changes in the furnishings to protect the quality and integrity of the historic furnishings. Reports will be completed for the mansion, the belvedere (including the fallout shelter), and the bungalow.

HISTORIC STRUCTURES REPORT: This report consists of the collection, presentation, and evaluation of archeological, historical, and architectural research findings on historic structures and their setting and makes recommendations for treatment consistent with their significance, integrity, condition, and programmed use.

ORAL HISTORY: The oral history records the recollections of members of the Rockefeller, Billings, and French families who have a close association to the property, plus gardeners, housekeepers, foresters, and others employed on the property. The purpose of the oral history is to enhance the park's interpretative program and to provide information about the park's historic resources.

SIGN PLAN: A sign plan will be developed to enhance visitor circulation within the park and link the park with trails on adjacent open space. In cooperation with the Town and Village of Woodstock, the plan will also develop recommendations for directional signs designed to minimize visitor confusion and any resulting traffic congestion.

Appendix D: Summary of the Proposal and the Alternative

The Proposal	The Alternative
Concept Partnership between NPS and Woodstock Foundation manages and operates park, utilizing existing facilities, infrastructure, and staff, as much as possible	**Concept** NPS manages and operates federal portion of park, investing in sufficient facilities, infrastructure, and NPS staff, with a minimal level of partnership
Partnership Roles NPS and Woodstock Foundation collaborate in all areas of park management; NPS ensures activities consistent with federal policy and guidelines	**Partnership Roles** NPS manages park services and operations, cooperating with others on an ad hoc basis
Woodstock Foundation continues to operate Billings Farm & Museum; may conduct residential complex tours; expands and operates visitor orientation center; manages parking, museum shop, dairy-related food service	Woodstock Foundation continues to operate Billings Farm & Museum independently of NPS
Visitor Services Visitors greeted at orientation center in modestly expanded Billings Farm & Museum entry building; Woodstock Foundation modifies structure, provides staff and exhibits	**Visitor Services** Visitors greeted at separate orientation center located in carriage barn; NPS rehabilitates existing structure, provides staff and exhibits
Unified orientation center provides orientation to park; contains information desk, museum shop, restrooms, ticket sales, dairy-related food service; introduces stewardship theme	Separate orientation center provides orientation to park; contains information desk, exhibits, small sales area, restrooms, ticket sales; introduces stewardship theme
Parking provided at Billings Farm & Museum	Parking provided at Billings Farm & Museum via agreement; signs direct national historical park visitors to carriage barn
Admission to Billings Farm & Museum and special interpretive fee for residential complex tours administered jointly by park partnership	Admission to Billings Farm & Museum and special interpretive fee for residential complex tours administered separately by NPS and Woodstock Foundation

THE PROPOSAL	THE ALTERNATIVE
INTERPRETATION	**INTERPRETATION**
Billings Farm & Museum enhances current programs and exhibits embracing site-specific themes of land stewardship in the agricultural setting of the Billings Farm	Same as proposal
Guided tours of residential complex and forest will be major focuses of park interpretive program	Same as proposal
Tours may be conducted by NPS, or Woodstock Foundation staff operating under a cooperative agreement, or volunteer interpreters	Tours conducted by NPS staff or volunteer interpreters
NPS works in partnership with others to develop community, educational, and special park programs	Same as proposal
RESOURCE MANAGEMENT	**RESOURCE MANAGEMENT**
Key historic buildings of residential complex (mansion and belvedere) preserved and other buildings rehabilitated, with an emphasis on preservation, to convey site's evolution	Same as proposal
Carriage barn rehabilitated to function as organizing point for residential complex tours and administrative offices; adapted to include restrooms, interpretive exhibits, educational program space, offices, and museum collections storage	Carriage barn rehabilitated to function as park orientation center and park headquarters; adapted to include restrooms, interpretive exhibits, and educational program space
Bungalow functions as location for meetings and retreats; environmental condition upgraded; museum collections remain in-situ	Same as proposal
Double cottage used for administrative purposes	Same as proposal
Forest continued to be actively managed as part of the park's cultural landscape; areas that contain primary historic or significant features managed with an emphasis on preservation; areas that do not contain primary historic or significant features used for special forestry activities that promote educational values and that relate to the overall interpretive program	Same as proposal

THE PROPOSAL	THE ALTERNATIVE
PARK OPERATIONS	**PARK OPERATIONS**
Small core of NPS staff interpret and operate site in conjunction with Woodstock Foundation	NPS staff interpret, operate, and maintain site
NPS offices located in carriage barn and mansion	NPS offices located in carriage barn, double cottage, mansion, and new maintenance facility
Woodshed functions as storage for objects in park museum collections that do not require environmentally controlled conditions and, possibly, as organizing point for forest tours	Museum collections storage and management space provided in carriage barn and upgraded mansion attic
No new NPS maintenance facilities constructed	New maintenance facility and associated offices built near woodshed
Assistance for preservation maintenance and conservation of national park property provided by Woodstock Foundation	NPS staff maintains residential complex and forest land
VISITOR USE	**VISITOR USE**
Visitation managed to minimize impacts on the Woodstock community, as well as to protect park resources	Same as proposal
Recreational activities will continue to be permitted and encouraged; deed restrictions prohibiting mountain biking, hunting, fishing, swimming in the Pogue, camping, campfires, and use of motorized vehicles will be enforced	Same as proposal

THE PROPOSAL	THE ALTERNATIVE
VISITOR USE	**VISITOR USE**
Park managers will control access to historic structures through a reservation and ticketing system	Same as proposal
The park will be monitored for any impacts associated with use, and appropriate actions will be taken to mitigate impacts	Same as proposal
Park managers will work with local and state officials to establish a safe pedestrian crosswalk at Vermont Route 12	Same as proposal
Park managers will work with local officials to install modest directional signs at key points within the village, minimizing unnecessary traffic circulation related to visitors looking for the park entrance	Same as proposal
Every reasonable effort will be made to ensure that facilities and services at Marsh-Billings National Historical Park are accessible to and usable by all people, including those whose mobility is impaired	Same as proposal
LAND PROTECTION	**LAND PROTECTION**
No NPS property acquisition or change in boundary	Same as proposal

Appendix E: Cost Estimates

The Proposal

Estimated Annual Operating Base Budget

Staff	Salary w/ Benefits
Superintendent (GS-14)	88,000
Management Assistant (GS 12/13)	64,000
Secretary (GS-05)	29,000
Administrative Officer (GS-09/11)	53,400
Administrative Technician (GS-07)	36,000
Education Specialist 50% (GS-11/12)	27,000
Chief of Interpretation (GS-11)	57,000
Museum Curator (GS-11)	53,400
Museum Aide (Housekeeper) (GS-04)	26,000
Facility Manager (GS-11)	49,000
Maintenance Mechanic (WG-09)	37,200
Resource Management Specialist (GS-11)	53,000
Horticulturist (GS-09)	44,000
Park Ranger (GS-09)	44,000
Seasonal Interpreters, 6 (GS-07)	72,000
subtotal personal services	733,000
subtotal non-personal services	414,500
Total Estimated Annual Operating Base Budget	**1,147,500**

Estimated Construction Cost*

Project	Gross Construction	Advance Planning	LSR/WF Share	NPS Share	Total Cost
Visitor Orientation Center Expansion			2,100,0000	0	2,100,000
Carriage Barn Rehabilitation	1,953,000	447,000	0	2,400,000	2,400,000
Total Private Contribution			**2,100,0000**		
Total NPS Cost				**2,400,000**	
Total Estimated Construction Cost					**4,500,000**

*Class "C" construction cost estimates are based on like facilities, prepared in 1998 dollars.

Gross Construction includes costs for construction supervision and contingencies.

Advance Planning includes costs for surveys, design, technical drawings, and specifications.

THE ALTERNATIVE

ESTIMATED ANNUAL OPERATING BAST BUDGET

STAFF	SALARY W/ BENEFITS
Superintendent (GS-14)	88,000
Management Assistant (GS 12/13)	64,000
Secretary (GS-05)	29,000
Secretary (GS-05)	29,000
Administrative Officer (GS-09/11)	53,400
Administrative Technician (GS-07)	36,000
Education Specialist (GS-11/12)	53,400
Chief of Interpretation (GS-11)	57,000
Interpreter (GS-09)	44,000
Interpreter (GS-09)	44,000
Museum Curator (GS-11)	53,400
Museum Aide (Housekeeper) (GS-04)	26,000
Museum Technician (GS-05)	29,000
Facility Manager (GS-11)	49,000
Maintenance Mechanic (WG-09)	37,200
Maintenance Worker (WG-05)	28,000
Seasonal Maintenance Workers, 4 (WG-05)	48,000
Resource Management Specialist (GS-11)	53,000
Forest Ecologist (GS-11)	53,000
Horticulturist (GS-09)	44,000
Gardener (WG-08)	34,000
Park Ranger (GS-09)	44,000
Seasonal Interpreters, 6 (GS-07)	72,000
subtotal personal services	1,068,400
subtotal non-personal services	350,500
TOTAL ESTIMATED ANNUAL OPERATING BASE BUDGET	**1,418,900**

ESTIMATED CONSTRUCTION COST*

PROJECT	GROSS CONSTRUCTION	ADVANCE PLANNING	LSR/WF SHARE	NPS SHARE	TOTAL COST
Carriage Barn Rehabilitation	1,953,000	447,000	0	2,400,000	2,400,000
Maintenance Facility	1,270,000	291,000	0	1,561,000	1,561,000
TOTAL PRIVATE CONTRIBUTION			**0**		
TOTAL NPS COST				**3,961,000**	
TOTAL ESTIMATED CONSTRUCTION COST					**3,961,000**

*Class "C" construction cost estimates are based on like facilities, prepared in 1998 dollars.

Gross Construction includes costs for construction supervision and contingencies.

Advance Planning includes costs for surveys, design, technical drawings, and specifications.

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1994a "Comparable Sites Survey." Prepared by Ellen Levin Carlson, North Atlantic Region, Boston, MA.

1994b "Conservation Stewardship Workshop: Findings and Recommendations." Prepared by Charles Tracy, North Atlantic Region, Boston, MA.

1994c "Historic Structures Assessment." Prepared by Richard Crisson, North Atlantic Region, Boston, MA.

1994d "Land Use History for Marsh-Billings National Historical Park." Prepared by H. Eliot Foulds, Katherine Lacy, and Lauren G. Meier of the Olmsted Center for Landscape Preservation, Brookline, MA.

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