National Park Service
U.S. Department of the Interior





Great Falls Historic District
Paterson, New Jersey

November, 2006

Special Resource Study



This report has been prepared to provide Congress and the public with information about the resources in the study area and how they relate to criteria for inclusion within the national park system. Publication and transmittal of this report should not be considered an endorsement or a commitment by the National Park Service to seek or support either specific legislative authorization for the project or appropriation for its implementation. Authorization and funding for any new commitments by the National Park Service will have to be considered in light of competing priorities for existing units of the national park system and other programs.

This report was prepared by the United States Department of the Interior, National Park Service, Northeast Region. For additional copies or more information contact:

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To Comment on This Study

Public comments on the Special Resource Study of the Great Falls Historic District in Paterson, NJ will be welcomed by the NPS for the period of 60 days after the date of the release of this report. Comments may be made electronically through the NPS Planning, Environment and Public Comment (PEPC) website at http://www.parkplanning.nps.gov or through the Great Falls Historic District Special Resource Study Website at http://www.nps.gov/nero/greatfalls/. Written comments may be addressed to the individual listed below:

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Please note that it is our practice to make comments, including names, home addresses, home phone numbers, and email addresses of respondents, available for public review. Individual respondents may request that we withhold their names and/or home addresses, etc., but if you wish us to consider withholding this information you must state this prominently at the beginning of your comments. In addition, you must present a rationale for withholding this information. This rationale must demonstrate that disclosure would constitute a clearly unwarranted invasion of privacy. Unsupported assertions will not meet this burden. In the absence of exceptional, documentable circumstances, this information will be released. We will always make submissions from organizations or businesses, and from individuals identifying themselves as representatives of or officials of organizations or businesses, available for public inspection in their entirety.

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Great Falls of the Passaic. NPS photo.
S.U.M. Building and the Great Falls. NPS photo.

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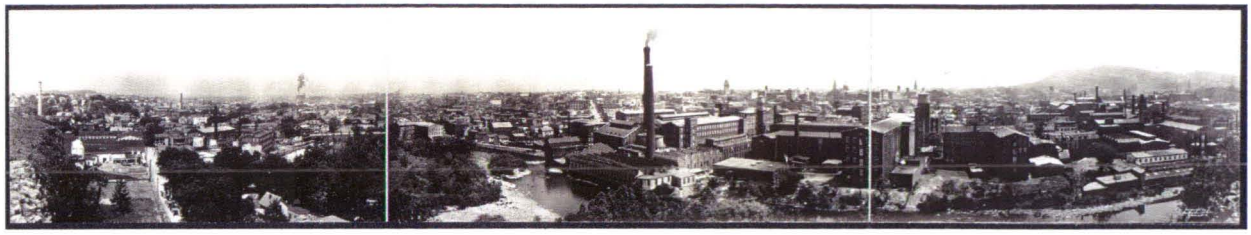


| Executive Summary

Special Resource Study | Great Falls Historic District | Paterson, New Jersey

Executive Summary

Executive Summary



Birdseye view of Paterson [sic], N.J. Library of Congress, Prints and Photographs Division [reproduction number, e.g., LC-USZ62-110212].

Executive Summary

In November 2001, the Secretary of the Interior was authorized by Congress, through the "Great Falls Historic District Study Act of 2001" (P.L. 107-59), to conduct a Special Resource Study of the Great Falls Historic District in Paterson, New Jersey to determine if its resources meet applicable criteria for designation as a unit of the national park system. This report constitutes the results of the study undertaken by the Northeast Regional Office of the National Park Service (NPS).

The study, in accordance with previous legislation regarding the criteria to be used in such analyses and reflecting current NPS management policies, examines the national significance of the Great Falls Historic District, its suitability and feasibility for designation as a unit of the national park system, and the need for NPS management of the resource versus management by other agencies of government, or through other means. The importance and methods of applying these criteria to result in a recommendation by the Department of the Interior to Congress for potential designation of a resource as a unit of the national park system are explained in the following chapters of this report.

Paterson enjoys a distinguished history as one of this nation's earliest industrial centers. It was, most simply stated, chosen to be such a place. It owes its existence to the far-reaching vision of one of America's most important founders, and a true shaper of our modern governmental and financial institutions, Alexander Hamilton.

Hamilton envisioned Paterson, with its water power provided by the Great Falls of the Passaic River, as America's counterpart and response to the industrial revolution occurring in England during the same period. Indeed, Hamilton was not beyond attracting, through inducements and active recruitment, the talents of those who knew of the English technological advancements despite English laws prohibiting exportation of such proprietary knowledge and skilled labor.

The history of the City of Paterson includes its beginnings as the ambitious project of Hamilton and the Society for Establishing Useful Manufactures (S.U.M.) in 1792 at the Great Falls, the early development of water power systems for industrial use, and the various types of manufacturing that occurred



Great Falls of the Passaic. NPS photo.

in the District's mills into the 20th Century. These included cotton fabrics; railroad locomotives; textile machinery; jute; and silk spinning, weaving and dyeing, among many others. The Great Falls also represents compelling stories of the lives of immigrants who labored in the mills, those who owned and operated manufacturing concerns and became wealthy, and the quest of laborers and the labor movement for better working conditions and pay. These are stories that resonate in and are characteristic of many early industrialized cities of America.

Chapter I of the report describes the purpose and background of the study including the criteria used by the NPS to determine if resources are eligible for designation as a unit of the national park system, the various other designations that have occurred, authorizing legislation for the study and other legislative actions that have affected the District, and a description of the study area. It also reviews the NPS presence in New Jersey and related studies.

Chapter 2 discusses the history and resources of the Great Falls Historic District from the advent of the S.U.M. through the growth of various industries that made Paterson a major industrial city. The Chapter also reviews the role of immigrants in the City's industrial past, and its major labor strikes. The chapter is not meant to be an exhaustive historical account. Rather, it provides the basis for public understanding of the resource and information helpful in the determination of whether the district meets criteria for potential designation as a unit of the national park system.

Chapter 3 provides the analyses of the various criteria for designation of a potential unit of the national park system including national significance, suitability, feasibility, and need for NPS management. It is important to note that the suitability analysis, by definition, requires that the resources and thematic framework of the Great Falls Historic District be compared not only to those of existing units of the national park system, but also to resources that are protected by other agencies of government and the private sector.

The study concludes that the Great Falls Historic District meets the criterion for national significance, but does not meet criteria for suitability, feasibility, or need for NPS management. With the introduction of New Jersey's new state park at the Great Falls, the study suggests that it may qualify for designation as an Affiliated Area of the national park system, subject to conclusion of the State's current design competition, and a demonstration that the resources will be managed in a manner consistent with NPS Management Policies. Should that determination be made at a later date,

amendments to existing legislation (P.L. 104-333) that created the Great Falls Historic District would likely be necessary. Affiliated areas normally qualify for technical and financial assistance from the Secretary of the Interior if designated by the United States Congress.

Chapter 4 outlines the consultation and coordination that occurred before and during the study, including a summary of scoping meetings and written communications.



Plaque: *"Great Falls of Paterson on the Passaic has been designated a Registered Natural Landmark... 1967".* NPS photo.

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Chapter One | Study Purpose and Background

Study Purpose and Background

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Stereoscopic views of Passaic Falls and Paterson, New Jersey. Robert Dennis Collection of Stereoscopic Views, Photography Collection, Miriam & Ira D. Wallach Division of Art, Prints & Photographs, The New York Public Library.

Study Purpose and Background

Introduction

In November 2001, the Secretary of the Interior was authorized by Congress through the "Great Falls Historic District Study Act of 2001" (P.L. 107-59) to conduct a Special Resource Study of the Great Falls Historic District in Paterson, New Jersey. This report constitutes the results of the study undertaken by the Northeast Regional Office of the National Park Service (NPS).

Areas comprising the present 390 unit national park system are cumulative expressions of a single national heritage. Potential additions to the System should, therefore, contribute in their own special way to a system that fully represents the broad spectrum of natural and cultural resources that characterize our nation. The NPS is responsible for conducting professional studies of potential additions to the national park system when specifically authorized by an Act of Congress, and for making recommendations regarding new areas to the Secretary of the Interior, the President, and Congress. Several laws outline criteria for potential units of the national park system. To receive a favorable recommendation from the NPS, a proposed addition to the national park system must:

(1) possess nationally significant natural or cultural resources;
(2) be a suitable addition to the system;
(3) be a feasible addition to the system; and
(4) require direct NPS management, instead of alternative protection by other public agencies or the private sector.

These criteria are designed to ensure that the national park system includes only the most outstanding examples of the nation's natural and cultural resources. They also recognize that there are other alternatives, short of designation as a unit of the national park system, for preserving the nation's outstanding resources.

An area or resource may be considered nationally significant if it is an outstanding example of a particular type of resource; possesses exceptional value or quality in illustrating or interpreting the natural or cultural themes of our nation's heritage; offers superlative opportunities for public enjoyment or for scientific study; and retains a high degree of integrity as a true, accurate, and relatively unspoiled example of a resource. National significance for cultural resources, such as those comprising the Great Falls Historic District, is evaluated by applying the National Historic Landmarks' process contained in 36 Code of Federal Regulations (CFR) Part 65.

An area may be considered suitable for potential addition to the national park system if it represents a natural or cultural resource type that is not already adequately represented in the system, or is not comparably represented and protected for public enjoyment by other federal agencies; tribal, state, or local governments; or the private sector. The suitability evaluation, therefore, is not limited solely to units of the national park system, but includes evaluation of all comparable resource types protected by others.

Suitability is determined on a case-by-case basis by comparing the resources being studied to other comparably managed areas representing the same resource type, while considering differences or similarities in the character, quality, quantity, or combination of resource values. In this case, the resources are a collection of 19th century mills and an early water power system. The suitability analysis also addresses rarity of the resources, interpretive and educational potential, and similar resources already protected in the national park system or in other public or private ownership. The comparison results in a determination of whether the potential new area would expand, enhance, or duplicate resource protection or visitor use opportunities found in other comparably managed areas.

To be feasible as a new unit of the national park system, an area must be of sufficient size and appropriate configuration to ensure sustainable resource protection and visitor enjoyment (taking into account current and potential impacts from sources beyond its boundaries), and be capable of efficient administration by the NPS at a reasonable cost. In evaluating feasibility, the Service considers a variety of factors, such as: size; boundary configurations; current and potential uses of the study area and surrounding lands; land ownership patterns; public enjoyment potential; costs associated with acquisition, development, restoration, and operation; access; current and potential threats to the

resources; existing degradation of resources; staffing requirements; local planning and zoning for the study area; the level of local and general public support; and the economic/ socioeconomic impacts of designation as a unit of the national park system. The evaluation also considers the ability of the NPS to undertake new management responsibilities in light of current and projected constraints on funding and personnel.

There are many excellent examples of the successful management of important natural and cultural resources by other public agencies, private conservation organizations, and individuals. Most notably, state park systems provide for protection of natural and cultural resources throughout the nation and offer outstanding recreational experiences. The NPS applauds these accomplishments, and actively encourages the expansion of conservation activities by state, local, and private entities, and by other federal agencies. Unless direct NPS management of a studied area is identified as the clearly superior alternative, the Service will recommend that one or more of these other entities assume a lead management role, and that the area not be recommended as a potential unit of the national park system.

Studies evaluate an appropriate range of management alternatives and identify which alternative or combination of alternatives would be most effective and efficient in protecting significant resources and providing opportunities for appropriate public enjoyment. Alternatives to NPS management are not normally developed for study areas that fail to meet any one of the four criteria for inclusion listed above, particularly the "national significance" criterion.

In cases where a study area's resources meet criteria for national significance, but do not meet other criteria for inclusion in the national park system, the Service may instead recommend an alternative status, such as "affiliated" area.

To be eligible for "affiliated area" status, the area's resources must:

(1) meet the same standards for national significance that apply to units of the national park system;
(2) require some special recognition or technical assistance beyond what is available through existing NPS programs;
(3) be managed in accordance with the policies and standards that apply to units of the national park system; and
(4) be assured of sustained resource protection, as documented in a formal agreement between the NPS and the non-federal management entity.

Designation as a National Heritage Area is another option that may be recommended. Heritage areas are distinctive landscapes that do not necessarily meet the same standards of national significance as units of the national park system. Either of these two alternatives would recognize an area's importance to the nation without requiring or implying management by the NPS.

Previous Administrative Designations and Congressional Actions

Currently, there are three distinct historic district designations involving cultural resources of the Great Falls and one designation relating to natural resources. Additional congressional actions have provided roles for the NPS in the District.

1. National Natural Landmark

The *Great Falls of Paterson* was designated a National Natural Landmark (NNL) by the Secretary of the Interior in 1967 and nearby *Garrett Mountain* was added to the NNL in 1976. The NNL Program recognizes and encourages the conservation of outstanding examples of our country's natural history. It is the only natural areas program of national scope that identifies and recognizes the best examples of biological and geological features in both public and private ownership. NNLs are designated by the Secretary of the Interior. To date, fewer than 600 sites have been designated throughout the United States. The NPS administers the NNL Program and, as the agency responsible for maintaining the registry, the Service has developed criteria for eligibility, including national significance (36 CFR Part 62). Together, the Great Falls of Paterson and Garrett Mountain provide an excellent illustration of the jointed basaltic lava flow which began a period of extrusion and intrusion throughout eastern North America in the early Mesozoic, influencing present day landforms in this region.

2. National Register of Historic Places

The *Great Falls of Paterson and Society for Useful Manufactures (Great Falls Historic District)* of Paterson, NJ was nominated as a district to the Keeper of the National Register of Historic Places in 1970 and twice amended to expand its boundaries to include additional resources (1975 and 1986). The NPS administers the National Register of Historic Places. In the nomination forms (1970, 1975 and 1986) the New Jersey State Historic Preservation Officer recommended the level of significance of the resources as "national", and the nomination and addendums were signed by the NPS Keeper of the National Register. Areas of significance that were identified included architecture, commerce, conservation, education, engineering, industry, invention, landscape architecture, sciences, urban planning, and industrial architecture.

3. National Historic Landmark

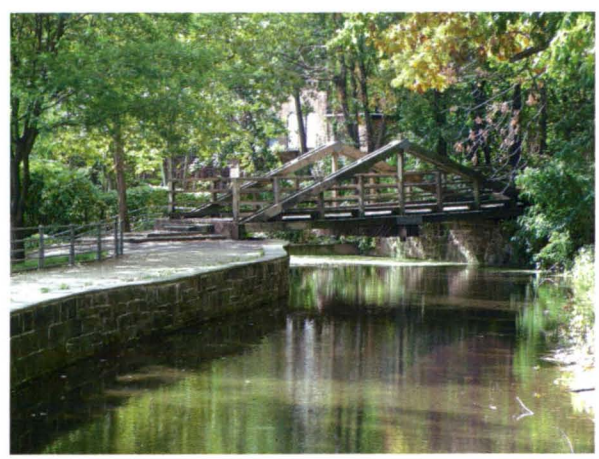
On May 11, 1976 the *Great Falls of the Passaic/ Society for Establishing Useful Manufacturers Historic District* was designated by the Secretary of the Interior to be a National Historic Landmark (NHL). A National Register Nomination form was prepared by Russell Fries, a historian who had worked on the Historic American Engineering Record (HAER) survey work in the Great Falls Historic District in 1973. In the nomination, engineering was identified as the area of national significance. The period of significance was determined to be 1750-1924 with significant dates as 1791, 1864 and 1914. The text also discusses the hydroelectric plant at the Falls as an element in the progression of the development of the system and of American engineering over the entire period. The statement of significance in the NHL

nomination also includes a list of important engineers and others involved in the design and development of the S.U.M. Raceway System (the system that provided water power) including: Alexander Hamilton, Phillip Schuyler, Pierre L' Enfant, Peter and John Colt, and Thomas Marshall.

4. New Jersey Urban History Initiative

In 1992, New Jersey Senator Frank Lautenberg was successful in earmarking funds in the Line Item Construction portion of the NPS budget for the "New Jersey Urban History Initiative" (UHI) involving projects in the cities of Trenton, Perth Amboy and Paterson. Paterson was allocated $4.147 million of these funds for projects in the Great Falls NHL. The NPS has provided funds for these projects through a cooperative agreement with the City of Paterson. The City assembled a Core Advisory Group consisting of City officials, the City Historic Preservation Commission, the New Jersey State Historic Preservation Office, representatives of the business community and interested citizens, to advise the NPS on the identification and administration of the UHI projects for Paterson. This group has recommended UHI funding for a variety of preservation projects. Many of the projects were designed to raise public awareness of the historic district and, through this awareness, increase public interest and involvement in protecting the resources that tell the stories of Paterson. On-going and completed projects conducted with UHI funds include:

- a condition assessment of buildings in the NHL District;
- an environmental assessment of the Allied Textile Printing (ATP) site;
- funding for a staff position for the Historic Preservation Commission (prior to the UHI, the Commission had no staff);
- development of design guidelines for the District;
- an AmeriCorps project to make the District more attractive and accessible to visitors by repairing trails around the raceway system and modifying the Visitor Center;
- an oral history project and ethnographic study conducted by the Library of Congress' American Folklife Center;
- the development of a $75,000 community grant program for historical, artistic or cultural projects related to the UHI;
- restoration and re-watering of a section of the historic raceway;
- hosting a symposium on rehabilitation;



Walking path along the historic upper raceway. NPS photo.

- conservation of a statue of Alexander Hamilton near the Great Falls;
- the stabilization of the ruins of the Colt Gun Mill using UHI funds as part of a match for a New Jersey Historic Trust grant to the City; and
- a cultural resource study, including archeological work and removal of hazardous materials, on the ATP site.

The development of design guidelines, assistance to the Historic Preservation Commission through support of a staff position, in combination with other actions taken under the UHI initiative, along with strong community support for historic preservation, led to considerable preservation and restoration of the district. This resulted in the National Historic Landmark Program removing the District from its "Priority 1 – Threatened List" and placing it on the "Watch" list in 2002.

In October 2004, the Governor of the State of New Jersey, by Executive Order, designated a portion of the Great Falls Historic District (including the historically significant water raceways) as one of three new urban state parks. With the advent of the State's administration of a portion of the NHL, the NPS has executed a cooperative agreement with the NJ State Historic Preservation Officer to carry out a cultural resource survey on the ATP site.

5. Omnibus Parks and Public Lands Management Act of 1996 (P.L. 104-333)

Congress enacted the Omnibus Parks and Public Lands Management Act of 1996 (Public Law 104–333). Section 510 of the Act established the *Great Falls Historic District* (the boundaries of the District are delineated as those contained on the National Register of Historic Places) and authorized $250,000 for grants and cooperative agreements for the development of a plan for the District, $50,000 for the provision of technical assistance by the Secretary of the Interior, and $3,000,000 for the provision of other assistance for restoring, repairing, rehabilitating, and improving historic infrastructure within the District. All funding requires a 50% local match. No funds have ever been appropriated under Section 510. The legislation provides similar authorities to the Secretary as other legislation establishing affiliated areas of the national park system, or national heritage areas.

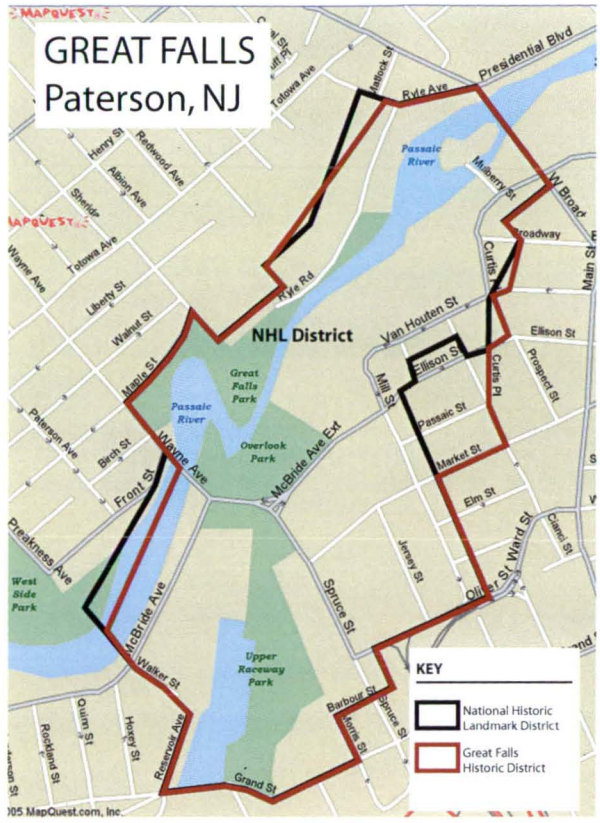
While not a designation bestowed by the Federal Government, the American Society of Civil Engineers named the Great Falls Raceway and Power System a National Historic Engineering Landmark in 1977. In 1984 the Society made a similar designation for the Lowell Waterpower System in Lowell, Massachusetts.

Study Area

The City of Paterson, New Jersey is located in northeastern New Jersey on the Passaic River, approximately 15 miles northwest of Manhattan (see figure# 1). It comprises a land area of 8.4 square miles. Major transportation access routes include Interstate 80 and the Garden State Parkway, as well as railroad access from the New Jersey Transit Main Line. The

2000 U.S. Census reported the population of Paterson to be 149,222 persons, 8,395 less than in 1990. The City's population is highly diverse and includes Latinos from many Latin American countries, people from the Middle East, Asians of Chinese and Korean descent, and African Americans, in addition to citizens of European ancestry. Foreign born residents comprise almost a third of the total population.

Paterson is the county seat for Passaic County and government is the City's largest employer, followed by health care. The City's current manufacturing base includes garments, textiles, electronic components, machine tools, ribbons, rubber goods, plastics, cosmetics, and packaging.



Great Falls Historic District boundary.

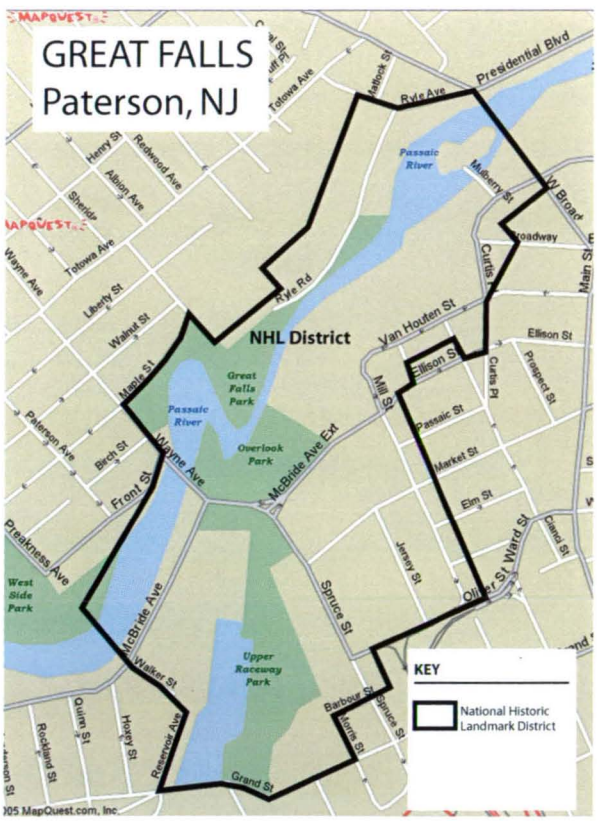


Regional context.

The Great Falls Historic District is located in the west central portion of the City along the Passaic River. The Great Falls Historic District Study Act of 2001, which authorized this study, describes the area to be evaluated as that within "the boundaries specified by the Great Falls Historic District listed on the National Register of Historic Places." This area is slightly different than the boundaries delineated for the NHL Great Falls of the Passaic/Society for Establishing Useful Manufacturers Historic District. While it is important to note that the determination of national significance conferred through the NHL designation is for an area slightly smaller than that comprising the congressionally defined study area, this difference does not affect the conclusion of the study.

During the course of this study, public comments were received to include certain resources outside of the Great Falls Historic District in the study area. Included among these was Hinchcliffe Stadium which does not relate to the period of significance of the district. While these resources were reviewed, they either did not relate to the congressionally stated purpose of the study or did not contribute additionally to the suitability analysis. Addition of these resources would negatively affect the feasibility analysis.

Some resources are mentioned in the report to provide further context in the history and resources section , they are identified as being outside of the district.



National Historic Landmark District boundary.

The National Park Service in New Jersey and Related Studies

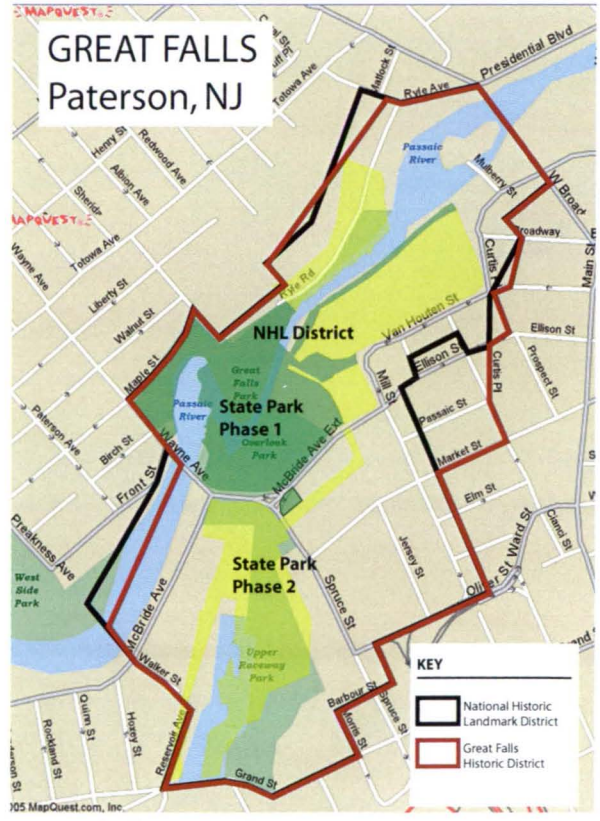
The NPS has enjoyed lengthy and collaborative natural and cultural resource protection relationships with the governments, organizations, and citizens of New Jersey. Units of the national park system in New Jersey include Morristown National Historical Park (the first national historical park in the system), Edison National Historic Site, portions of the Delaware Water Gap National Recreation Area and Gateway National Recreation Area, and portions of the Appalachian National Scenic Trail. The 1.1 million acre Pinelands National Reserve, an Affiliated Area of the national park system occupies 22% of the State's land area. The New Jersey Coastal Heritage Trail (a second Affiliated Area), and National Wild and Scenic River designations for the Great Egg Harbor River, Maurice River, and various segments of the Delaware River round out the NPS presence. Recent NPS studies have resulted in currently pending legislation to designate the Musconetcong Wild and Scenic River. The state is also the site of the Crossroads of the American Revolution National Heritage Area, designated on October 12, 2006.

NPS-administered Federal Land and Water Conservation Fund grants have preserved significant amounts of open space and provided recreation areas in the State. New Jersey has received over $117 million in Land and Water Conservation Fund grants since 1965. NPS Rivers, Trails and Conservation Assistance staff have provided technical assistance for trails and recreational developments to many governments and

organizations throughout New Jersey. There are 55 NHLs and 10 NNLs in New Jersey and the NPS NHL and NNL Programs have provided grants and technical assistance to further protect the State's valuable resources. Since 1999, eleven New Jersey projects have received Federal Save America's Treasures matching grants totaling over $3 million.

A Special Resource Study currently underway at Coltsville in Hartford, Connecticut has particular relevance to this study for the Great Falls Historic District. Although Samuel Colt established the Patent Arms Manufacturing Company in Paterson and began producing firearms in 1836, his business there failed in 1842 and he returned to Hartford, Connecticut, his birthplace, and established the Colt's Patent Arms Manufacturing Company. He resided with his family in Hartford at Armsmear, now an NHL. During the 108th Congress, the Coltsville Study Act of 2003 (P.L. 108-94) was enacted directing the Secretary of the Interior to conduct a Special Resource Study of Coltsville in Hartford, Connecticut for potential inclusion in the national park system. The study concerns resources associated with arms manufacturing conducted by Samuel Colt. That study has run concurrently with the Great Falls Historic District study and there has been close coordination between the respective study teams.

An important action by the State of New Jersey related to the Great Falls Historic District Study was the October 2004 designation of the *Great Falls State Park* which includes within its boundaries the extant resources most associated with the early years of the Society for the Establishment of Useful Manufactures including the raceways and the Great Falls itself. The State is in the process of concluding a national design competition for first and second phase development of the park and has pledged $10 million in park improvements. A representative of the NPS served on the State's competition jury to assist in selecting the winning design.



State Park phases 1 and 2.

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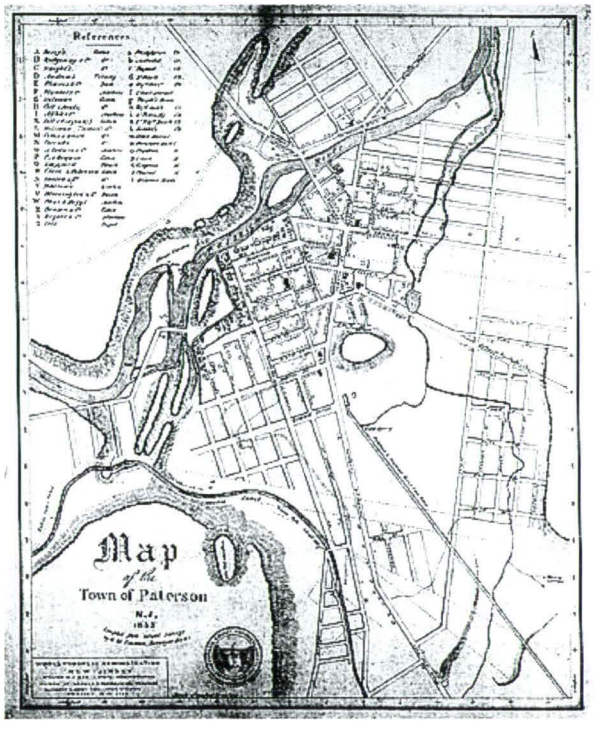
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Photocopy of Map: Town of Paterson, New Jersey: 1835. HAER, Library of Congress.

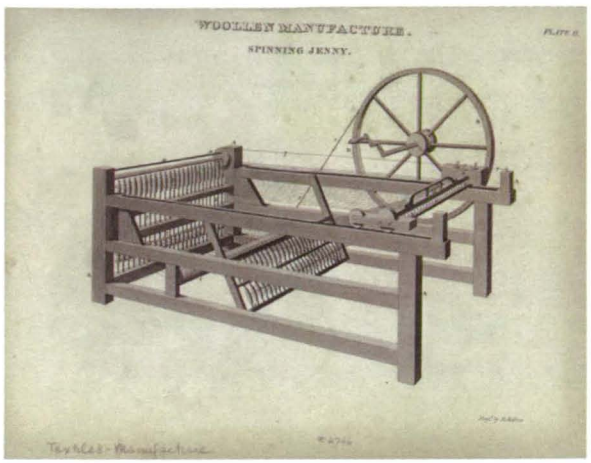
The Great Falls Historic District
Historical Overview and Resources

This chapter explores the history and resources of the Great Falls Historic District. It is not meant to be an exhaustive analysis of this historically special American place. Rather, it provides an overview for public understanding of the major events and people that contributed to the national significance of the Great Falls Historic District. Since the Great Falls is a congressionally designated Historic District and a National Historic Landmark, the analysis provides a brief background of why these very appropriate designations have been made.

The Context for Early Industrial Growth in America

The industrial revolution began in England with technological advances in textile productions. During the mid-eighteenth century the production of woolens was England's chief industry, the first stages taking place primarily in the homes of individual spinners and weavers, then finished with bleaching and fulling in small mills with water power. Fulling involved removing grease and oils from wool, using a tub filled with water and detergent, after which a water wheel powered pair of wooden mallets would beat the cloth in the tub for days, shrinking the cloth and compacting the weave. Clothiers facilitated the movement of the farmer's wool to the homes of the spinners and weavers, and then to the tiny fulling mills. Entire families were engaged in this manufacture and sustained by its income.

The first step in speeding the process towards industrialization was the invention of the flying shuttle, by John Kay in 1733. The flying shuttle allowed one man to operate a loom, rather than two as had previously been required. In 1769 Richard Arkright, building on the work of Lewis Paul, developed an automatic spinning machine. In 1774, a mill was set up to use Arkwright's machine. Improvements followed quickly, leading to James Hargreave's "spinning jenny" and then to the "spinning mule" developed by Samuel Crompton. This led to an excess of yarn, which was addressed by Edmund Cartwright's inventions and patents for mechanical weaving machines in 1785 and 1787.



Woollen Manufacture : Spinning Jenny. The Picture Collection of the New York Public Library
Source Note: From *The cyclopedia: or, universal dictionary of arts, sciences and literature.* (Philadelphia: Bradford, 1810-1842.) Rees, Abraham (1743-1825), author. Digital ID: 825894

A need arose for greater amounts of power required for these machines. Waterpower had been utilized for fulling mills since the Middle Ages. However, since the topography and waterways of England were not sufficient to produce the necessary power for larger operations, England turned to the development of the steam engine to power its textile mills. In the United States, the use of steam engines in manufacturing trailed because there was abundant and cheap water power, and good site selection on any number of rivers preempted the need for the more expensive steam power for many more decades.

Technological advancements also affected the supply and distribution of labor, which had initially been centered in the rural economies of the manor, where raw materials and labor were in close proximity, and an established pattern of home manufactures and local trade that existed since the Middle Ages. The early fulling mills, which relied on water power produced from available streams, were also rurally located. The new manufacturing technologies led to the demand for concentrated labor and development of early manufacturing cities, such as Manchester. Later, as the steam engine eliminated the siting constraints inherent in waterpower, manufactures moved to existing urban areas and concentrations of labor.

Many of the thirteen colonies in North America were established in part to further the mercantile ambitions of England, specifically by supplying raw materials to English manufactures, and a market for the finished manufactured goods. Early colonial outposts were generally established in ports that could support this exchange. In order to maintain that profitable status quo, England endeavored to obstruct manufacturing in the colonies.

Protectionist legislation advanced by the English manufacturers and labor interests had an enormous impact on the economic configuration of the colonies, banning exports of manufactured goods from their shores. Among them included the Woolens Act of 1699 that prohibited colonial export of woolen cloth and the Hat Act of 1732 that prohibited colonial export of hats. Additionally, technology and the skilled labor familiar with the new industrial technologies were banned from export from English shores. Capital necessary to fund the establishment of manufactures was controlled by European capitalists and banks.

The lack of American banks significantly impaired the establishment of credit, not only personal, but public credit. The Banks of England and Amsterdam, among others,

underwrote not only manufacturing at home, but mercantile adventures abroad in the various colonies. As Alexander Hamilton wrote in a 1781 letter to the fledgling nation's new superintendent of finance, Robert Morris, such banks underwrote state power by financing the English military with a "vast fabric of credit." National credit was necessary to underwrite functions of government, as much as a system of personal credit and capital were necessary to establish new manufacturing and mercantile endeavors. These issues dogged American manufactures into the early years of the Republic.

Two other factors would eventually affect the potential for manufactures as the colonies broke away from British rule: raw materials and labor. Initial forays into mechanized textile labor identified women and children as sources of cheap labor, children being employed by Arkright in his early mill. In colonial America the extraction and production of raw materials for export were initially the chief demand for labor. The population of the colonies was limited, and economic growth depended on indentured servants, enslaved Africans, and new immigrants.

Business companies were slow to start. The first American business company was probably *The New London Society United for Trade and Commerce*, chartered in 1732-33. While there is question about its corporation status, it carried on many trade activities. Companies in colonial America were to become more common and dealt in various industries such as fishing, mining, simple manufactures, banking, land, trade with "Indians," and transportation.

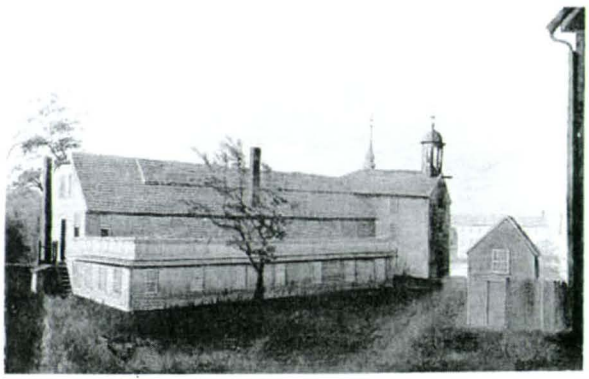
Manufacturing companies were few in number, but existed as early as 1642, such as the Massachusetts *Undertakers of the Glass Works.* Over one hundred years later in 1748 the *United Society for Manufactures and Importation* formed in Boston to produce linen, followed closely in 1751 by the *Society for Encouraging Industry and Employing the Poor* in the same city. In 1775 the *United Company of Philadelphia for Promoting American Manufactures* was formed and manufactured chiefly linens. While some ventures were already underway, not one had set out to aggressively pursue large-scale manufacturing on par with that of Britain.

The protectionist conditions established by England were fully in place when the American colonies began to establish their freedom from the Crown. During the Revolutionary War, access to capital and supplies were major limitations in the struggle for nationhood. The end of the conflict found the emerging nation in a newly established Confederation, seriously encumbered by debt, without unified power to generate revenue, lacking an effective executive, and fragmented along state lines with each state largely determining economic policy in accordance with its own self interest. It was not until soon after the U.S. Constitution was ratified in 1789 that America seriously began its journey towards economic, as well as political independence. Events adjacent to the Great Falls in Paterson, New Jersey were the basis for a significant early chapter in our national industrial history.

The first real step in America's industrial revolution, however, took place in another former colony – Rhode Island. Samuel Slater, born in 1768 in the County of Derbyshire, England, arrived in New York in 1789. Slater had apprenticed in England under Jedediah Strutt, a partner of English textile

manufacturing's noted technology pioneer, Richard Arkwright. Despite the embargo on emigrating skilled workers, Slater managed to sail to the United States under false pretenses. Immediately upon arrival, he gained employment in a small textile mill in New York City. He soon learned of manufacturing attempts in Pawtucket, Rhode Island by Moses Brown, a Quaker merchant. Brown had established a textile mill with machines of the type invented by Richard Arkwright in England.

Brown and his partners found that operations with the machinery were flawed and sought someone more experienced in textile machines to lead the enterprise. Slater came to Pawtucket, rebuilt part of the equipment, and convinced Brown to replace it and start anew. Two years later, the mill was so successful that a new water-powered mill was designed and established for the purpose of manufacturing textiles in 1792. Now known as "Old Slater Mill," it is a nationally significant resource of the John H. Chafee Blackstone River Valley National Heritage Corridor. It was designated a NHL in 1966. Soon after Slater's success, similar manufacturing efforts would take hold and grow throughout New England. Alexander Hamilton, the nation's newly appointed first Secretary of the Treasury followed these events closely.



Slater Mill, Pawtucket, Providence County, RI, west and north elevations. Note single-story addition extending to side of trench. Drawing c.1869. Credit cc. HAER ri,4-pawt,3-47. Library of Congress.



Slater Mill, Pawtucket, Providence County, RI. Interior first floor from east corner, looking northwest. HAER er ri,4-pawt,3-24. Library of Congress.

Alexander Hamilton and the Society for Establishing Useful Manufactures

In the same lengthy 1781 letter to Robert Morris cited previously, Alexander Hamilton had argued that an attack on English credit could be a surrogate attack on England's military, resulting in a withdrawal of the financial support underwriting its ventures—particularly since English citizens were already heavily taxed and could not alone support the military. Hamilton laid out other economic reforms necessary for ensuring not only victory over the English, but the advancement of a multitude of American socio-economic interests. Key to these reforms was the establishment of a national bank, and the restoration of national credit. Morris, who had just received approval from Congress for establishing the Bank of North America, responded favorably to Hamilton, establishing common grounds for an early friendship. This letter was Hamilton's entrance upon the stage of American economic development. Alexander Hamilton is arguably the architect of the American economic system, as well as a leading proponent of a unified central government. His background is somewhat obscure. Born in the British West Indies (believed to be Nevis), he is thought to have arrived in New York City circa 1772 or 1773. He entered Kings College but did not graduate due to the outbreak of the Revolutionary War. He became fully engaged in the conflict when he was appointed a captain of artillery. In 1777, he rose to prominence while serving as a key aide to General George Washington.



Alexander Hamilton by Charles Willson Peale, from life, c. 1790-1795. Oil on canvas. National Park Service. Independence NHP. http://www.cr.nps.gov/museum/exhibits/revwar/image_gal/indeimg/hamilton.html

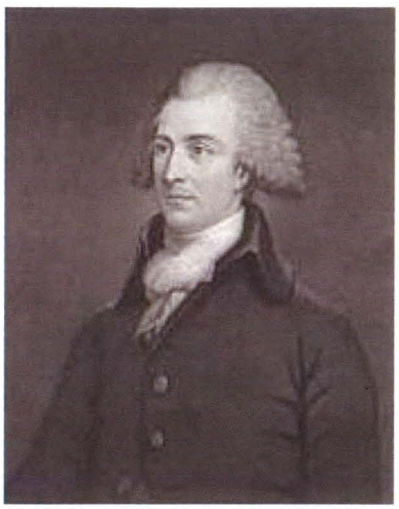
Hamilton came to know New Jersey well during his war experiences, having participated in the November 1776 retreat from New York and across the Delaware River into Pennsylvania, the battles of Trenton and Princeton, the Morristown encampments and the Battle of Monmouth. Following his military service, Hamilton was a representative to the Continental Congress and vocally advocated for reform of the ineffective Articles of Confederation and the convening of a constitutional convention. Hamilton's thinking was always national in scope. He wrote many of the *Federalist Papers* justifying the Constitution. As the nation's first Secretary of the Treasury, he authored numerous reports that were instrumental in shaping the financial and economic future of the United States such as the *Report on Public Credit, Report on a Plan for the Further Support of Public Credit, Report*

on the Bank, Report on Establishing the Mint, and the *Report on Manufactures.*

Of particular importance to this Special Resource Study is the December 1791 *Report on Manufactures.* Hamilton set forth multiple arguments in the report on the importance of stimulating American manufacturing. In contrast to the beliefs of Thomas Jefferson and others regarding the need to maintain an agrarian society, Hamilton argued that agriculture does not fully employ the workforce available, that industry would help to attract immigrant workers to the fledgling nation, and that the diversification of the economy would greatly strengthen the nation's ability to survive and prosper. He also advocated the use of women and child labor and protective tariffs.

Scholars have long offered the proposition that Treasury's assistant secretary, Tench Coxe, participated in the drafting of the report. Coxe was a noted advocate of manufactures and active in a Pennsylvania society for this purpose before his appointment. The report, unlike Hamilton's many others, was not received favorably by Congress, largely due to opposition from then Secretary of State Thomas Jefferson, James Madison and the Republican Party. Many prominent citizens, too, were skeptical of the fledgling nation's ability to raise capital and begin manufacturing at a sizable scale. The report contained an interesting note that:

It may be announced, that a society is forming with a capital which is expected to be extended to at least a million dollars, on behalf of which measures are already in train for prosecuting on a large scale, the making and printing of cotton goods.



Tench Coxe. www.findagrave.com/

Shortly before issuing the report, Hamilton had joined in supporting Coxe's plan for a manufacturing society operated by private interests enjoying the support of government. A prospectus for the Society for Establishing Useful Manufactures (S.U.M) was drawn up, most likely a collaborative effort by Hamilton and Coxe, and published on April 29, 1791. (Chernow, p.372).

The prospectus expounded on Hamilton's arguments for manufacturing more finished products by corporations, even using public subsidy if necessary. It called for the establishment of an entire town supported by private investments and devoted to the Society's manufactures producing a multitude of different products from linens to paper to beer. While no specific site was mentioned, Hamilton viewed New Jersey as the logical place for the venture due to its proximity to financial interests in New York and Philadelphia, an available labor force and abundant water power.

The S.U.M convened in New Brunswick for its first meeting in August 1791. Directors were



Wm. Duer. Library Division: Humanities and Social Sciences Library / Print Collection, Miriam and Ira D. Wallach Division of Art, Prints and Photographs. New York Public Library Digital Gallery. Digital ID: 421710

selected and included William Duer as governor, as well as John Dewhurst, Elias Boudinot, Alexander Macomb, Royal Flint, Benjamin Walker, Nicolas Low, John Bayard, John Nelson, Archibald Mercer, Thomas Lowring, George Lewis, and More Furmans. Seven were from New York and six from New Jersey. Most were financiers and the board lacked experienced membership in actual manufacturing.

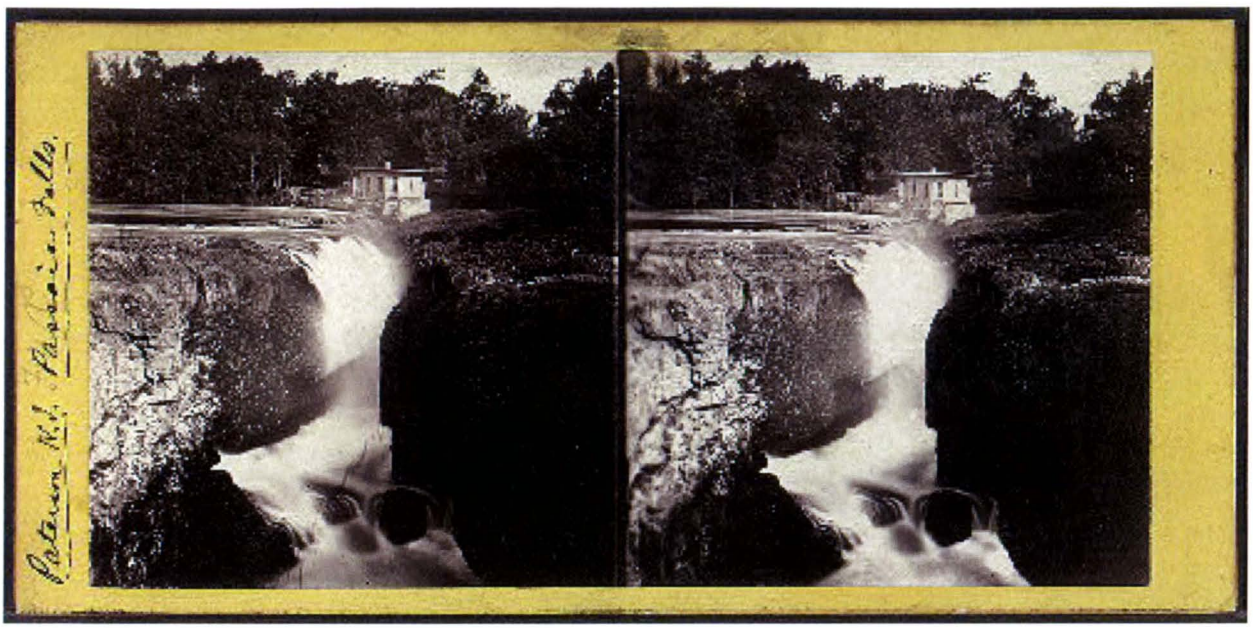
William Duer, the S.U.M. governor had been an assistant to Hamilton at Treasury prior to Coxe and was a prominent businessman of the time. Duer was raised and educated in England and moved to New York as a young man in 1768. He was known for a friendly disposition and eloquence that aided in his successes. During the Revolutionary War, he served as a deputy adjutant general for the New York troops and also on the New York "Committee of Correspondence." He became a delegate from New York to the Continental Congress, and was later appointed to the Board of War. He was particularly known to be prone to speculative ventures and a key figure in the corrupt Scioto Corporation, an infamous group of land speculators in Ohio from 1789-1792.

The name of the new manufacturing town, decided upon before the site was selected, was to be "Paterson" after William Paterson, New Jersey's governor. With Paterson's support, the Assembly and Council of New Jersey quickly awarded the S.U.M a liberal charter conveying exceptional powers.

With the signing of the charter by Governor Paterson in November 1791, New Jersey agreed to be the location of what many observe as the most ambitious commercial undertaking of that era. Hamilton is believed to have been heavily involved in drafting the charter. The charter gave enormous power to the S.U.M., including exemption from local taxes and the right to improve rivers, build canals and charge tolls. Article III of the charter provided,

...that the said corporation shall not deal, nor trade, except in such articles as itself shall manufacture, and the materials thereof, and in such articles as shall be really and truly received in payment and exchange therefore.

This was envisioned as no mere business or holding company enterprise, but one that manufactured the products and gathered the resulting profits at a scale previously unknown in the new nation.



Stereoscopic views of Passaic Falls and Paterson, New Jersey. Robert Dennis Collection of Stereoscopic Views, Photography Collection, Miriam & Ira D. Wallach Division of Art, Prints & Photographs, The New York Public Library.

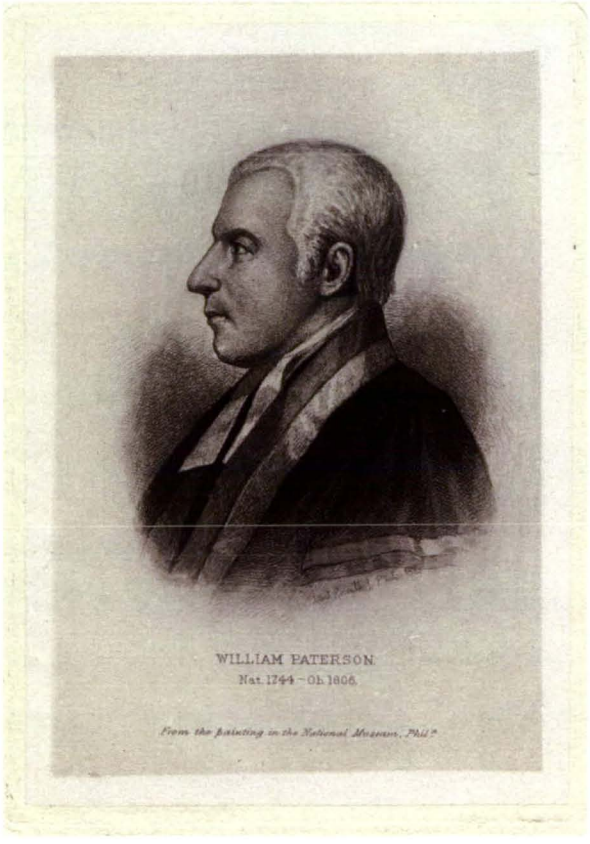
Paterson's Beginning

The name of the industrial settlement was already decided upon, but a location had yet to be selected. Hamilton employed a number of persons to seek out the most advantageous location. A letter from William Hall to Hamilton dated September 1791 made the following finding:

"Sir/
Last night Mr. Mort & myself returned from the Pasaic Falls- one of the finest situations in the world (we believe) can be made there – The quality of te water is good and in sufficient quantity to supply works of almost any extent, every thing necessary as to situation is here to be found... The situation so far exceeds our expectations that We are very desirous you shou'd see it..."

The site was the land adjacent to the Great Falls of the Passaic, a place Hamilton had visited briefly while serving as an aide to George Washington during the Revolutionary War. The site seemed particularly well suited for the start of an industrial city due to the abundant availability of water-power, timber from nearby forests, mineral ore in the surrounding mountains, and proximity to the markets of Philadelphia and especially New York City. In May 1792, the S.U.M. convened with Hamilton present to officially authorize the purchase of 700 acres of land adjacent to the falls and dispatched a group of directors to purchase the land.

The area around Great Falls was initially inhabited by the Lenni Lenape and colonized by the Dutch in the 17th century. In 1684,



William Paterson. Library Division: Humanities and Social Sciences Library / Print Collection, Miriam and Ira D. Wallach Division of Art, Prints and Photographs. In: Emmet Collection of Manuscripts, etc. Relating to American History. The Members of the Continental Congress, 1774-1789. New Jersey delegates. (created 1808-1890). New York Public Library Digital Gallery. Digital ID: 420187

fourteen Dutch families split the land into 100-acre lots all facing the Passaic River, with the remainder of land remaining common property. In 1714 a second major division occurred, known as the Boght Patent because of its lay within a bend in the river. Many of these division lines from the Boght are reflected in Paterson's eventual street plan. Plots were then divided vertically, creating strip farms similar to those in New England at the time. While small-scale operations like grist mills sprouted in the rural landscape, the area remained quite pastoral until Hamilton and the S.U.M. selected the site for the industrial City of Paterson. (Renner, p.2) The S.U.M. bought land above and below the falls to ensure complete control over its water power potential.

The first priority for the S.U.M. was putting into place the infrastructure necessary to provide water power for the vast enterprise. The original plan to construct canals from above the falls and emptying into the river below proved too costly. The S.U.M. embarked on a short-term program to construct a cotton spinning mill, a weaving operation, an establishment for printing calicoes, a sawmill, and housing for workers. (Renner, p.5)

The motives of Hamilton and those of Duer and his associates were different; Duer being driven by speculation and Hamilton additionally interested in demonstrating the value of industry in the growth of the nation. The S.U.M directors were also more narrowly focused, reflecting the smaller-scale operations in which they had experience.

Hamilton's biographer, Broadus Mitchell, notes that:

"The directors were merchants and promoters rather than industrialists. They were used to individual ventures, or to joint action with a friend or two, in brief projects, the outcome of which could be fairly calculated. The SUM was intended to be not only permanent, but expanding, and embraced such varied problems as power development, construction of machinery and plant, recruitment of skill, technological operation, purchase of materials and sales of products, town planning, lease of mill sites, and

attraction and housing of settlers." (Mitchell, p.185)

Another problem that the Society faced was the lack of technology and skilled workers. Hamilton and the directors agreed that the best way to get manufacturing underway was to actively seek out skilled English workers to come to Paterson and build the same modern equipment being used in Britain. Despite the English laws of the day and his post as Secretary of the Treasury, Hamilton, along with his assistant Tench Coxe, seemed to have few qualms about pursuing intellectual espionage as a means to ensure success. The goal was simply to get manufacturing up and running as soon as possible.

While pragmatism and a narrow industry orientation guided most of Paterson's development, one fascinating divergence is the appointment of Pierre L'Enfant, the temperamental and extravagant engineer who worked on plans for the nation's new capital city. Despite friendly relations with Hamilton, L'Enfant proved to be a problematic choice. He was under the employ of the S.U.M. for little more than one year and repeated requests by the Society for his plans were left unanswered. His city plan for Paterson was never carried out, and any actual drawings are lost. He did, however, design water power raceways that would ultimately be modified for use in the City.

During this period, financial panic set back the young nation, particularly in New York, between 1792 and 1793. The panic was largely caused by the massive amount of speculation, much of it by William Duer, the governor of the S.U.M. The S.U.M. was affected significantly, because Duer and other directors had taken or invested S.U.M. funds elsewhere. The effects were instant and a number of the original investors left. Hamilton expressed his concern to Duer in a May 23, 1792 letter containing advice about paying his debts:

"I hasten to express to you my thoughts, as your situation does not permit of delay. I am of opinion that those friends who have lent you their money or security from personal confidence in your honor, and without being interested in the operations in which you may have been engaged, ought to be taken care of absolutely, and preferably to all creditors. In the next place, public institutions ought to be secured. On this point the manufacturing society will claim peculiar regard. I am told the funds of that society have been drawn out of both banks; I trust they are not diverted. The public interest and my reputation are deeply concerned in the matter.

On May 25th, Hamilton took direct action on behalf of the S.U.M. by seeking a loan in its behalf from the Bank of New York. In his letter to William Seton, Hamilton goes so far as to suggest that the bank will be guaranteed that no loss will occur.

My Dear Sir:
The society for the establishing of useful manufactures, at their last meeting resolved to borrow a sum of five thousand dollars upon a pledge of deferred stock. Mr. Walker is empowered to negotiate the loan, and I expect application will be made to the Bank of New York for it. I have a strong wish that the directors of that bank may be disposed to give facilities to this institution upon terms of perfect safety to itself. I will add that from its situation it is much the interest of our city that it should succeed. It is not difficult to discern the advantage of being the

immediate market of a considerable manufacturing town. A pledge of public stock will completely fulfil the idea of perfect security. I will add more, that in my opinion banks ought to afford accommodation in such cases upon easy terms of interest. I think five per cent. ought to suffice, for a direct public good is presented. And institutions of this kind, within reasonable limits, ought to consider it as a principal object to promote beneficial public purposes.

To you, my dear sir, I will not scruple to say in confidence that the Bank of New York shall suffer no diminution of its pecuniary facilities from any accommodation it may afford to the society in question. I feel my reputation much concerned in its welfare.

I would not wish any formal communication of this letter to the directors, but you may make known my wishes to such of them as you may judge expedient.

Duer was ultimately thrown into debtors' prison in New York and other New York directors felt it necessary to attend to their own personal finances. Subscribers were now unwilling or unable to invest and the S.U.M. lost its early momentum. Duer would languish and die in prison. Hamilton, never fully forsaking the friend that placed his vision in peril, appealed to a creditor in a letter asking for understanding of Duer's unfortunate plight.

Financially crippled, the remaining directors of the S.U.M. turned to Hamilton for guidance. (Mitchell, p.192) He volunteered his leadership. Until a new superintendent was hired, Hamilton essentially (though unofficially) served as the manager of the Paterson site and as the de facto governor of the S.U.M. all at once.

Recovery and Reversal

The task of immediate recovery was enormous. Despite the obstacles, Hamilton continued to be dedicated to his grand manufacturing experiment. He attended meetings of the board and visited Paterson despite a bout with yellow fever. The directors finally found a replacement and hired Peter Colt, a Connecticut shipping merchant, as superintendent.

Colt, though untrained as an engineer, was brought in to be the superintendent of the S.U.M. in 1793. L'Enfant did not bow to his supervision, and eventually left the site with all of his plans later that year. Colt proceeded, as best as he was able, to continue construction of the industrial buildings as finances would allow. The first, a small frame cotton mill was constructed, but powered by an ox and known as the "Bull Mill." (Shriner, p. 62) A canal was completed in January 1794, and water power became available later that year. The second cotton mill, so long in the plans and constructed of stone and wood, opened in June 1794.

Despite Colt's improved management, the enterprise continued to decline. In 1796, at an emergency meeting, the S.U.M. ceased operations and dismissed the majority of directors from their duty only five years after the signing of the charter. Hamilton's envisioned manufacturing enterprise was to enter a lengthy period of land leasing and water power development enriching other aspiring industrialists. It would never live up to the charge of its far-reaching charter to deal and trade in its own manufactures.

As Ron Chernow has concluded:

By early 1796, with Hamilton still on the board, the society abandoned its final lines of business, discontinued work at the factory, and put the cotton mill up for sale. Hamilton's fertile dream left behind only a set of derelict buildings by the river. At first, it looked as if the venture had completely backfired. During the next two years, not a single manufacturing society received a charter in the United States. Hamilton's faith in textile manufacturing in Paterson was eventually vindicated in the early 1800s as a 'raceway' system of canals powered textile mills and other forms of manufacturing, still visible today in the Great Falls Historic District. The City that Hamilton helped to found did achieve fame for extensive manufacturing operations, including foundries, textile mills, locomotive factories, and the Colt Gun works. Hamilton had chosen the wrong sponsors at the wrong time. (Chernow, pp. 386-387)

Another Hamilton biographer, Richard Brookhiser, notes somewhat more bluntly:

The Society for the Establishment of Useful Manufactures never recovered, and the 'Report on Manufactures' was a dead letter. (Brookhiser, p. 107)

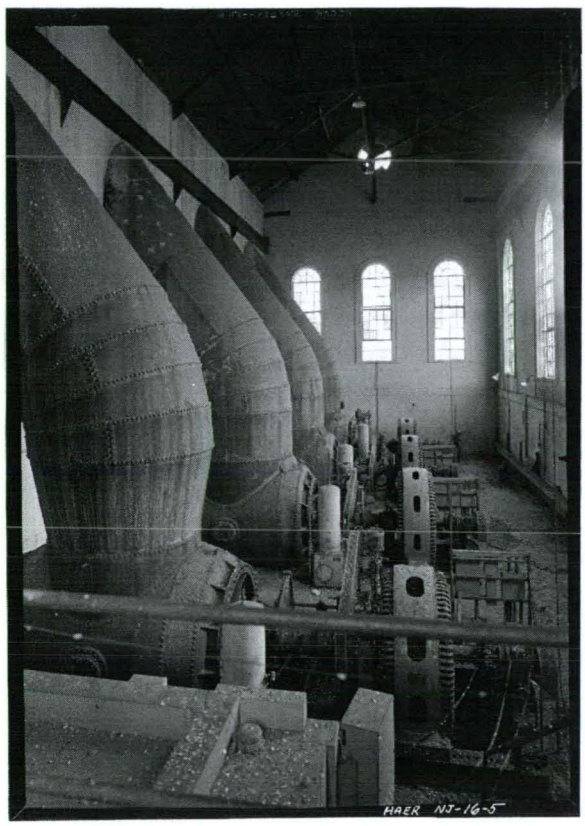
As a real estate venture, rather than a manufacturing colossus, the S.U.M. was ultimately to prosper. In 1800 part of the cotton mill was being used. A few other manufacturers trickled in and rented out mill seats (the site upon which a mill is located), breathing a small bit of life into the all but abandoned site.

Despite a fire that destroyed the cotton mill, a new raceway was cut in 1807 paid for by surplus income from the leasing of the mill seats. This was the first large investment made in Paterson in over 10 years, and the availability of additional power allowed for two more cotton mills to be built. Higher domestic demands for textiles came with the War of 1812 and the City began to grow and prosper. At the close of the war, the market became flooded with foreign goods and Paterson endured its second setback with mills idle and workers dismissed. The City weathered this new storm and began the process of renewal once more. This new capacity was partially enabled due to the completion of a second canal in 1829, greatly expanding the available water power.

A third crisis point for Paterson occurred in 1834 and 1837, when banks failed due to massive speculation. Industry, however, continued to pick up in diversified forms. Paterson's industrial future was about to be finally realized. It would not be the success of the S.U.M. as Hamilton envisioned it, but the realization of manufacturing diversity, and use of an immigrant work force would occur in



S.U.M. Hydroelectric Plant, Mcbride Avenue, Paterson, Passaic County, NJ. NPS photo.



S.U.M. Hydroelectric Plant, Mcbride Avenue, Paterson, Passaic County, NJ. Interior view of penstocks, turbines, and generators. HAER, Library of Congress.

Paterson and last into the next century. The same phenomenon would occur at the same time elsewhere in New Jersey and the nation.

Power for the Mills

A major reason for the Great Falls designation as a National Historic Landmark was the early harnessing of its water power resources. The following discussion of water power is largely drawn from the Historic American Engineering Record (HAER) Great Falls-SUM Survey, authored by Russell I. Fries.

Research has indicated that there were at least four stages of development of the Great Falls Historic District water power system. The first, between 1792 and 1794 provided for the basic water supply system and a portion of the middle basin. Between 1800 and 1802, the system was extended and the middle canal was possibly enlarged. From1806 to 1807, the lower raceway along Boudinot Street was added. Additions made between 1827 and 1846 were the most extensive and largely form the system as it exists today.

The first plan for diverting the waters of the Passaic for powering the mills of the S.U.M. were drawn up by Pierre C. L'Enfant, who was appointed in July, 1792. He began the design of a grand undertaking that would include a transportation canal over part of the watercourse and aqueduct. His plans included the construction of a reservoir to ensure a supply to the mills in periods of low river flow. The costly plans and L'Enfant's lack of desire to stay within the S.UM.'s financial means resulted in his being replaced by Peter Colt.

Colt continued aspects of L'Enfant's work and in mid-January of 1794, a channel from the river and floodgates had been completed, as well as a dam. The canal was finished and placed into operation in June 1794 to power three or four mills.

In the first decade of the 1800s, business activity at the Great Falls began to improve and plans were made to extend the canal. Head and tail races (the latter being canals to rid the system of water once it had been used by the mills) were constructed west of Mill Street and are still extant. This improvement added about 500 feet of mill lots along the street and increased the depth and capacity of the middle raceway.



Water from the upper raceway flows through the Ivanhoe spillway. NPS photo.

In 1806-7 additional improvements were made to allow a second tier of mill sites using water at the elevation of the tail race from the middle canal as the head race for the new sites. These were located between the river and the present Van Houten Street. Water from the canal went through each lot and returned to the river via individual tail races. A spillway at the east end of Boudinot Street handled excess water. Each of the above two improvements had a head of 22 feet available.

The third expansion of the system, and the most elaborate and expensive, was the addition of a new upper tier of mill lots on the west side of Spruce Street, completed in 1827. The addition required that the level of the whole system be raised almost to the base of the river to gain a further head of 22 feet for the new sites. The dam at the end of the ravine was raised and most likely enlarged. The deep gap was enlarged and partially filled to raise the water level, and after passing through, the water made an immediate right angle bend along the face of the ridge for almost 1,000 feet. The new canal was cut into the hillside with an embankment to hold the water. Water for the middle canal passed through the upper canal and the new tier of mill lots. This

required the tail race for the new upper group of mills to be higher than the old middle canal. Tail races on Spruce Street were raised on an embankment from 10 to 15 feet high. As mill lots developed, even these improvements became tested by 1850. The S.U. M. was forced to sell water rights to newcomers contingent upon an adequate supply to other mills. The only significant changes to the system after 1846 were the covering of several sections of the tail race on Mill and present day Market Streets. After 1850, many of Paterson's new mills were located outside the Great Falls Historic District and used steam as a power source instead of turbines powered by water.

Between 1912 and 1914, the S.U.M. opened another chapter by constructing a hydroelectric power generating station at the base of the Great Falls. A steam generating plant was also built for when the river was too low to run the electrical plant. Designed by the Thomas Edison Electric Company, the hydro-electric plant produced 4849 kilowatts and operated until 1969. The plant was purchased by the City of Paterson and restored to service in 1986 to produce almost 11,000 kilowatts per hour.

Major Industries, People and Events at the Great Falls

From the 1830s on, the area comprising today's Great Falls Historic District hummed with the sounds of railroad locomotive works and the textile trade. Paper-making, rope and hemp production settled into plants. Textiles of cotton, wool and silk, as well as arms were manufactured.

The Irish came in large numbers during and after their Great Famine of the 1840s and started anew as industrial laborers. Their rising populations caused those controlling political power to have concerns as the residents of the "Dublin" section of the City, near the Great Falls, struggled for increased representation. Skilled silk workers from England and Lyon, France, as well as Lodz, Poland arrived. Jews from Poland, Germany and Russia brought skills and traditions. Italian immigrants, and later African-Americans, joined the already diverse workforce. Labor unrest would ignite after the turn of the century, ironically in the City that was founded on Hamilton's proposition in his *Report on Manufactures* that women, children and immigrants were best suited to be the ones to produce the goods for a prosperous nation.

The City would continue to experience times of boom and bust as it progressed from the early days of the S.U.M. A fourth crisis occurred in 1857 when nearly every factory stopped and thousands lost their jobs. The last decade of the 19th century would be the pinnacle of industrial output in Paterson, and its status in silk production gained it the nickname "Silk City.

As the 19th century continued and the 20th century dawned and wore on through the Great Depression, Paterson's prosperity, like other industrial centers, continued to turn on and off. It ultimately followed the path of decline of most other older Northeastern industrial cities. The post World War II decline would still most of the factories at the same time that increasing numbers of African-Americans flowed in from the segregated South, seeking their own very late-arriving opportunities for economic advancement. The

opportunities were in a state of decline. Immigrants from other places search for the same opportunities in Paterson today. Unlike during its industrial peak, however, the mill sites adjacent to the Great Falls are mostly quiet with even fewer economic opportunities to offer. Its great heritage and associated important stories of our nation's industrial past, however, live on.

Locomotive Manufacturing

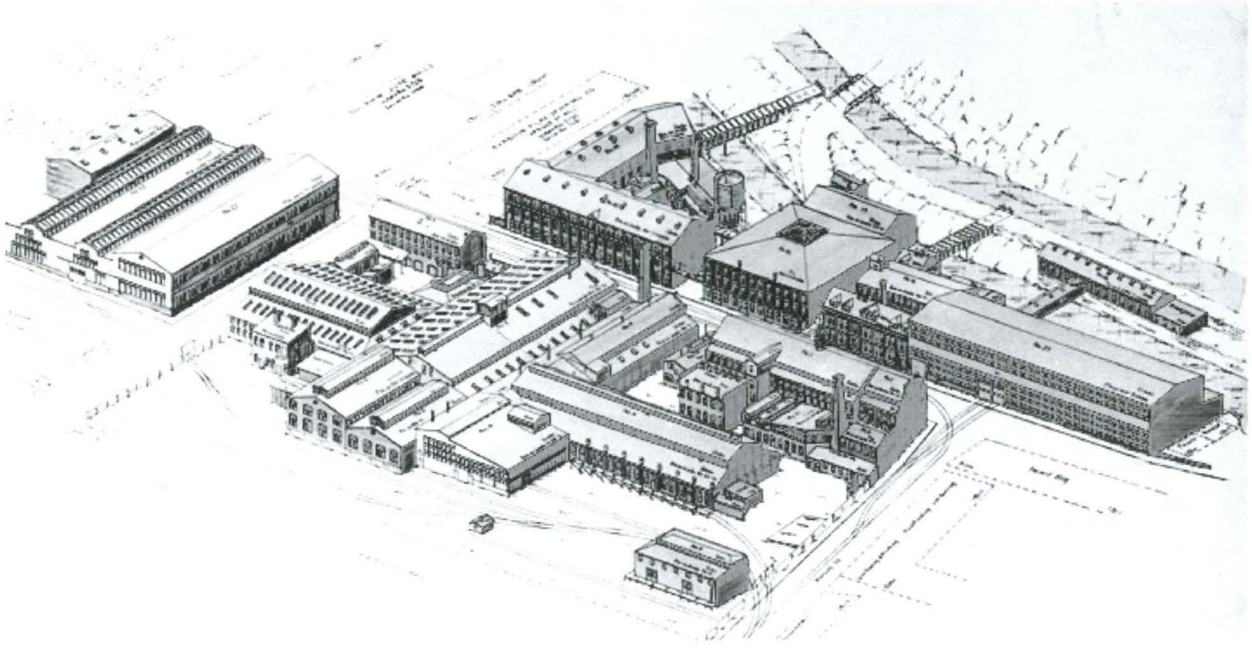
Thomas Rogers was born in Groton, Connecticut in 1792. He moved to Paterson in 1812. Having been trained in carpentry and as a blacksmith in Connecticut, he formed businesses in Paterson designing and building machinery for textile manufacturing. In 1832, he teamed up with two New York City financiers, Morris Ketchum and Jasper Grosvenor, to form the manufacturing firm of Rogers, Ketchum and Grosvenor. The company diversified, making among other items small parts for the newly developing railroad industry.

The production of railroad locomotives and rails in the United States followed earlier developments in England. Colonel John Stevens of Hoboken, New Jersey constructed a steam wagon in his yard in 1825. In 1829 Peter Cooper of New York built the *Tom Thumb* and it was placed into service on the newly constructed Baltimore and Ohio Railroad. In 1830 the West Point Foundry produced the first fully American built steam engine, *Best Friend*, to conduct scheduled passenger service on the Charleston and Hamburg Railroad. In 1831 the *De Witt Clinton* reached 25 miles per hour on the Mohawk and Hudson Railroad.



Danforth Locomotive & Machine Company, Market Street, Paterson, Passaic County, NJ. Photocopy of an engraving—ca, 1850-1859. HAER, Library of Congress.

Matthias W. Baldwin of Philadelphia made drawings of the Stephenson and Co. locomotive *John Bull* that was being stored in Bordentown, New Jersey prior to being assembled to run on Colonel John Stevens' Camden and Amboy Railroad. In 1832 Baldwin produced his first locomotive, *Old Ironsides*, which was used on the Philadelphia, Germantown and Norristown Railroad and stayed in service for 20 years. His locomotive works were ultimately to become the largest in the United States, producing over 70,500 locomotives when it ceased operations in 1956.



Rogers Locomotive & Machine Works, Spruce & Market Streets, Paterson, Passaic County, NJ. Photocopy of Associated Mutual Fire Insurance Map-1906. HAER, Library of Congress.

In 1835, Rogers, Ketchum and Grosvenor assembled its first locomotive for the Paterson and Hudson River Railroad, one that had actually been built by the same British manufacturer, Robert Stephenson and Company. In 1837 Rogers designed and built the *Sandusky* which contained his own design innovations. The *Sandusky* was placed in service in Ohio.

As Rogers' reputation grew in producing locomotives of endurance and increasing power, more orders arrived and the firm established itself in an important position in the industry. It also spawned other producers from within its own ranks. Rogers' shop foreman, William Swinburne, left to form his own locomotive works in partnership with Samuel Smith in 1845. Swinburne and Smith and Company went under a decade later in the 1857 financial panic. It soon afterwards was to be reorganized and purchased by the New York and Erie Railroad as a maintenance shop.

Another employee, John Cooke, formed Danforth, Cooke and Company in Paterson in 1852. This firm later changed to Cooke and Company, and was ultimately purchased by the American Locomotive Company shortly after the turn of the century. It produced close to 3,000 units before closing in 1926. During the late 19th century, Paterson was establishing itself as a major center for locomotive manufacturing in the country. The Grant Locomotive Company was also located in the City.

Perhaps the most popularly known locomotive produced by Rogers was that bearing the serial number 631. Built in late 1855, the locomotive was purchased by the Western and Atlantic Railroad. Christened *The General,* the

locomotive would become famous during the Civil War for an attempt by Union cavalry to highjack the Confederate train it was powering. The event was popularized in the 1962 movie, *"The Great Chase."* The locomotive *The General* is preserved today at the Southern Museum of Civil War and Locomotive History in Kennesaw, Georgia.

Thomas Rogers died in 1856 and his son Jacob S. Rogers took the helm and reorganized the firm into Rogers Locomotive and Machine works. The company maintained its competitive position in the industry and prospered.

A Rogers locomotive (Union Pacific #119), built in 1868, was present at the driving of the "Golden Spike" marking the completion of the first transcontinental railroad on May 10, 1869 at Promontory, Utah, although that was not the original plan of the event sponsors. Mishaps and weather events affecting other locomotives left #119 as the next in line to participate. Although scrapped in 1903, a replica of the locomotive is located at the Golden Spike National Historic Site, a unit of the national park system.

In the early 1890s Jacob S. Rogers resigned the presidency, but remained an investor, and the company was reorganized under its former treasurer, Robert S. Hughes, as the Rogers Locomotive Company. Hughes died in 1900 and the works were closed in 1901 by Rogers, who died later that year. Rogers left much of his fortune and a legacy of many valuable works of art to the Metropolitan Museum of Art in New York City.

Reorganized once more, the plant reopened briefly, but could not compete with a newer conglomerate, the American Locomotive Company (ALCO) or its older rival, and the consistently leading U.S. manufacturer, the Baldwin Locomotive Works of Philadelphia. It was finally absorbed into ALCO before the end of the decade, joining its neighbor, the Cooke Locomotive and Machine Works. ALCO continued making locomotives at the Rogers' plant for a few more years when major locomotive production and an important era in Paterson's history came to an end.

Today, the Paterson Museum occupies the former Rogers' erecting shop and offers interpretive exhibits and programs of the City's industrial past. The New Jersey Community Development Corporation occupies the former Rogers locomotive frame fitting shop and the former administration building which had since been converted to a textile factory. Both buildings comprise the Senator Frank R. Lautenberg Transportation Opportunity Center and Independence House.

Samuel Colt and the Gun Mill

Samuel Colt was born in Hartford, Connecticut in 1814, the son of a textiles manufacturer. As a teenager, he went to sea and legend persists that he conceived of his invention on a voyage and carved a wooden model of the revolving breach cylinder on the ship. He later had models made of the cylinder and secured an English patent in 1835 and one in America in 1836.

In 1836, he established the Patent Arms Manufacturing Company in Paterson. Colt was unsuccessful in attracting contracts with the government. The company was forced to



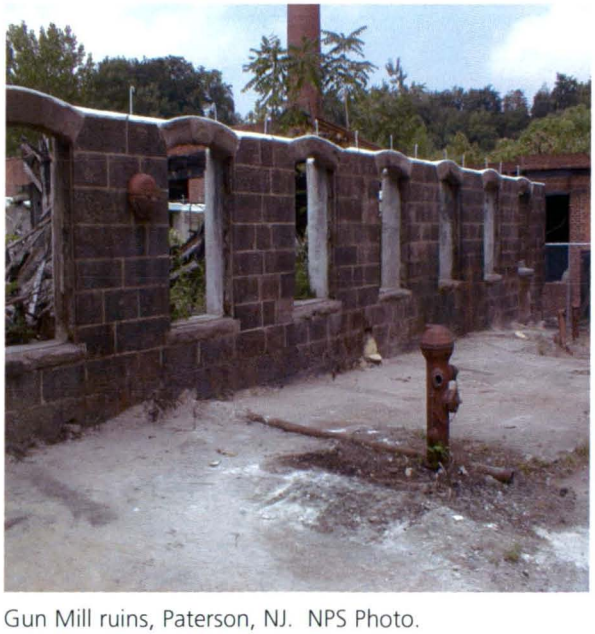
Samuel Colt, 1814-1862. This image is in the public domain because its copyright has expired.

close in 1842 after producing approximately 5,000 guns.

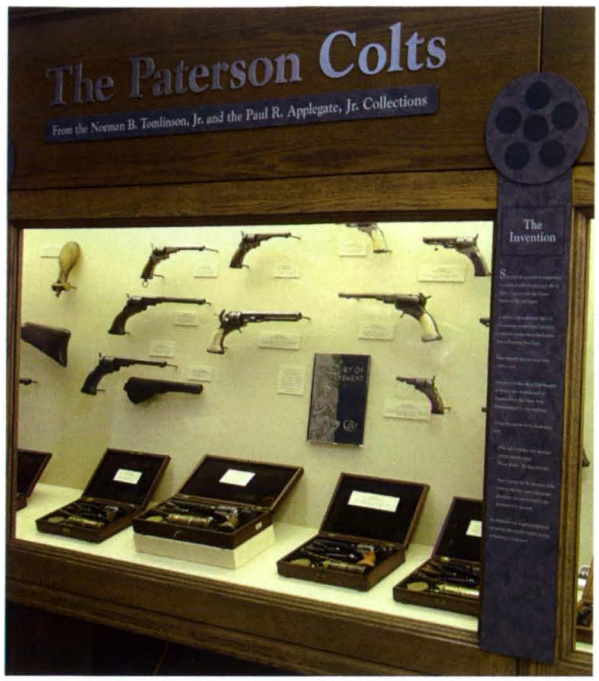
Samuel Colt was to later to make his fortune when he returned to his home state Connecticut. Awarded a government contract for revolvers to be used by U.S. troops in the Mexican American War, Colt urgently needed manufacturing space. He temporarily found space at Eli Whitney's factory and then established Colt's Patent Fire Arms Manufacturing Company in Hartford in 1848. Completed in 1855, Colt made it one the most advanced interchangeable parts factories in the nation. The Colt facility in Hartford, named "Coltsville," included the factory and workers housing and continued its production through World Wars I and II. The Colt Company still exists, but is no longer located at the Hartford site. His guns became popular among individuals on the western frontier, primarily after the factory moved to Hartford.

After his untimely death in 1862, Colt's wife Elizabeth took over the direction of the Hartford company for close to 39 years. Their nearby home, Armsmear, is a NHL. An NHL nomination for several Colt Company factory buildings and workers' housing has been submitted for formal consideration by the Landmarks Committee of the National Park System Advisory Board.

The remaining Patent Arms Manufacturing Company resources at the Great Falls have significantly less integrity than those in Hartford. The Colt mill in Paterson was a multi-storied structure built near the Great Falls. A weather vane in the shape of a gun sat atop a bell tower. As the Colt operation



Gun Mill ruins, Paterson, NJ. NPS Photo.



The Paterson Colts, Paterson Museum, Paterson, NJ. NPS Photo.

wound down, the building was used for other manufactures including early silk production. Later, the upper floors were removed. In 1983, the building was subjected to the arson caused fires of the Allied Textile Printing (ATP) site of which it is an integral part. Only the walls of the first two stories remain today.

John Holland and the Submarine

John Phillip Holland was born in 1841 on the west coast of Ireland not far from the Cliffs of Moher in Liscannor, County Clare. He joined the Irish Christian Brothers and became a teacher. He was particularly interested in science and the development of the flying machine and the submarine, completing his earliest design for the latter in 1869. He declined to take his perpetual vows into the Christian Brothers in 1872.

Holland left Ireland for the United States in 1873 to join his previously relocated mother and brothers in Boston. He moved to Paterson and took a teaching position at St. John's Parochial School. Two years after his arrival in the U.S., he submitted a submarine design to the Navy Department, the first of a number the Department chose not to accept. With financing from the Irish Fenian Brotherhood, a group committed to freeing Ireland from British control, John Holland built his first submarine in 1877. The Brotherhood was seeking a submarine that could be transported by ship and dropped off close to a British ship for the purpose of sinking it. It was constructed at the Albany City Iron Works in New York City. Designated *Holland I*, the craft was moved to the J. C. Todd and Company machine shop in Paterson for the installation of a petroleum



John Phillip Holland. This image is in the public domain because its copyright has expired.



The Holland I, Paterson Museum. NPS photo.

powered Brayton engine. The 14-foot long *Holland I* was launched in the Passaic River above the Great Falls in May and June 1878. Holland managed to take his submarine down to 12 feet for approximately one hour, but did not use the malfunctioning engine. Instead, he attached a flexible hose to an accompanying launch and powered the submarine by steam. Despite the malfunctioning engine, the Fenian Brotherhood was impressed with this initial performance and agreed to fund a larger vessel. Holland scuttled the hull of his first submarine into the Passaic River. It was discovered in 1927 and is currently on display at the Paterson Museum.

Holland's further submarine endeavors and his major contributions to the United States Navy as "The Father of the Modern Submarine" took place outside of Paterson. The only structural resource connected with his Paterson launching is the remains of the J.C. Todd and Company machine shop which was mostly destroyed by a series of fires at the Allied Textile Printing Site beginning in 1983.

Holland's second Fenian Brotherhood financed submarine, the 31-foot *Fenian Ram* was constructed by the Delamater Iron Company in Manhattan and first launched into the Hudson River in 1881. The ensuing trials were successful and a number of descents were accomplished. Holland also test fired unarmed projectiles provided by John Ericsson, designer of the Civil War ironclad, the *Monitor*. Because of internal financial disputes, the Brotherhood stole the submarine in November 1883 under cover of night and towed it to New

Haven, Connecticut where it was stored and later abandoned in a lumber shed. In 1916, the submarine was taken to Madison Square Garden for a fund raising endeavor for victims of the Easter uprising in Dublin. It was then removed to what is now the New York State Maritime College at Fort Schuyler. In 1927 it was purchased and moved to West Side Park in Paterson and more recently to the Paterson Museum where it is currently on display.



John Ryle's house. NPS photo.

John Ryle and "Silk City"

Paterson's history is perhaps most readily identified by its label "Silk City." It is one that is well deserved. During the late 19th and early 20th centuries Paterson's silk mills supplied close to 50% of the country's entire silk production and ranked second behind Connecticut in the production of spool silk in the United States. Well over 100 factories and mills were involved in all aspects of silk manufacturing and necessary support in the late 1880s, employing thousands of skilled and unskilled workers, mostly recent immigrants, in jobs such as weavers, dyers, throwers and twisters.

The first attempt at silk production in Paterson occurred in Samuel Colt's gun factory in 1838. Christopher Colt attempted to weave silk on the fourth floor of the gun mill. It was quickly realized that the enterprise would be unprofitable and it was abandoned.

Christopher Colt sold his machinery to George Murray, who previously had owned a silk business. Murray brought in John Ryle, a knowledgeable person in the silk trade who came to America from the silk manufacturing center in Macclesfield, England. Ryle had initially taken a position as superintendent of a small mill in Northampton, Massachussets, but was at the time working in New York City as a merchant for a silk factory in Macclesfield owned by his brothers.

Murray initially recruited Ryle to run his new venture from the Colt gun mill which he purchased in 1840. They became partners in 1843 and Ryle took over completely when Murray retired in a few years later. As the business flourished, Ryle bought the gun mill and constructed additional structures at the site. He later built his own mill, named after Murray which was lost to fire. The business went through ups and downs and almost floundered during the 1857 financial downturn. A new Murray mill was constructed in 1869. The business suffered hardships again in 1872, but Ryle emerged once more, reorganizing as John Ryle and Sons. This firm later became part of the Pioneer Silk Company.

During his tenure, Ryle became a major force in silk production, lobbying for relaxation of tariffs on imported raw materials. He was the first to produce silk thread on a spool,

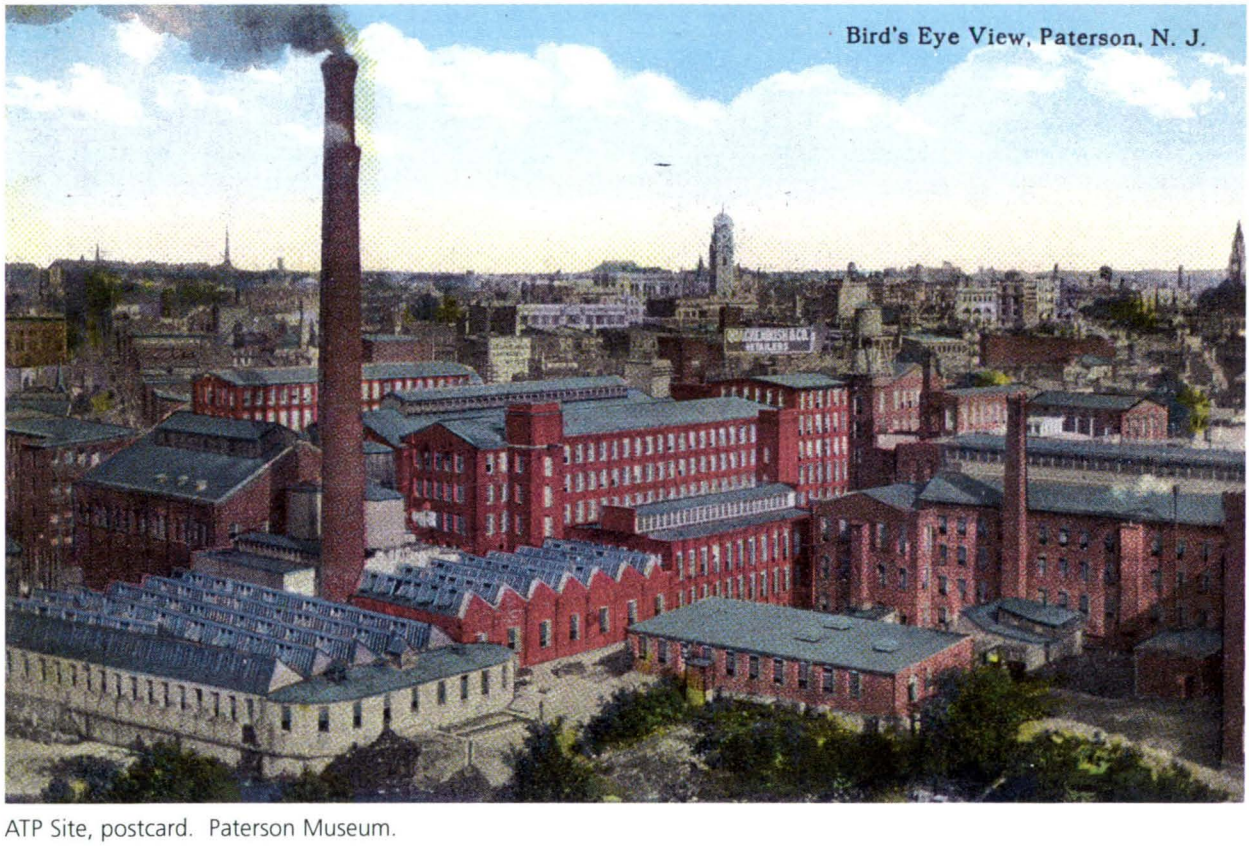


Lambert Castle. NPS photo.

responding to a request from Elias Howe, the manufacturer of sewing machines (Shriner, p. 81).

Two of his employees, Robert Hamil and James Booth would form their own successful firm of Hamil and Booth beginning in 1855. Other silk enterprises were established and prospered in Paterson both within and outside of the Great Falls Historic District well into the next century. Many were smaller operations that came and went using and reusing existing mills in the historic district for silk manufacturing and dyeing, or related work.

While many historic mill resources associated with the silk industry were significantly damaged in the ATP site fires, a number of mills periodically used for such manufactures remain. Among these are the Franklin Mill, Essex Mill, Congdon Mill, Harmony and Industry Mills which were operated by the Williams and Adams Company, and the



ATP Site, postcard. Paterson Museum.

Pheonix Mill, the oldest mill in the district. John Ryles' house, although moved slightly from its original site, is also located in the district, now converted to office use.

Above and outside the Great Falls Historic District on nearby Garrett Mountain is Belle Vista, often called "Lambert's Castle." It was built by Catholina Lambert in 1892. Lambert established the silk operations of Dexter, Lambert and Company on Straight Street in Paterson, outside the Great Falls Historic District, in 1866. He came from an impoverished background in England, his parents being mill laborers, and had served an apprenticeship at an English cotton mill. Lambert rose to become one of the wealthiest of Paterson's "Silk Barons." The castle now serves as the headquarters of the Passaic County Historical Society.





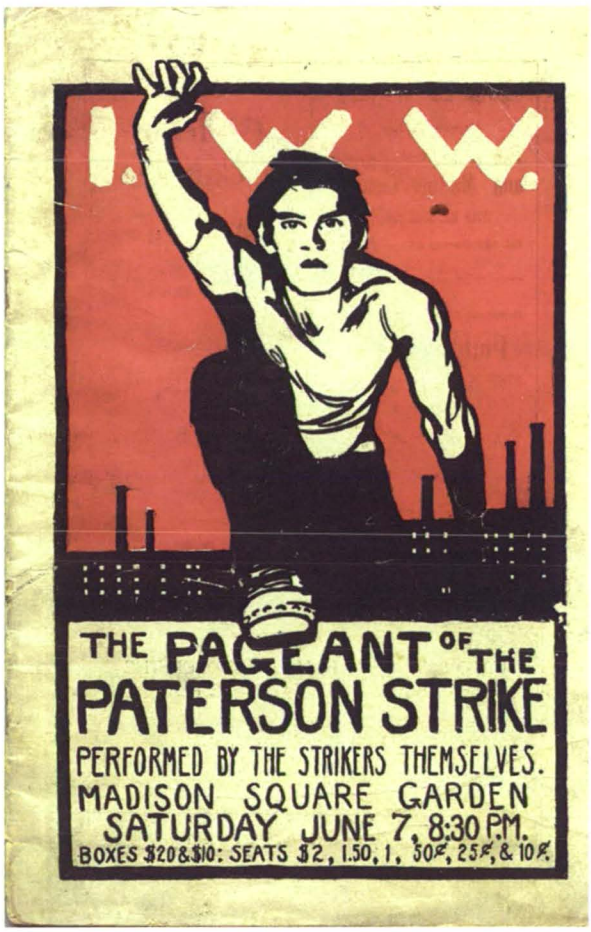
The Phoenix Mill. NPS photos.

The Silk Strike of 1913

While the silk industry thrived and the "Barons" became wealthy, labor unrest was soon to affect the City. Initially, silk workers were recruited or arrived from Northern Europe; at the end of the 19th century many were from Eastern and Southern Europe. Difficult working conditions and the threat of new technological innovations in the mills resulted in labor unrest and union activities. Work interruptions became commonplace and many silk manufacturers began moving operations to locations with less labor conflict in Pennsylvania and elsewhere.

During the late 19th and early 20th century, conflict between labor and management was growing not only in Paterson, but throughout the country. Establishment of labor unions was on the rise and major labor actions were becoming more frequent. Strikes and events demonstrating continuing labor unrest included the Great Railroad Strike of 1877, the Haymarket Riot in Chicago in 1886, the Homestead "Lockout" in Pennsylvania in 1892, the Pullman strikes in Illinois in 1893 and 1894, the Anthracite Coal Strike in Pennsylvania in 1902, the New York Shirtwaist Strike of 1909, and the Lawrence Textile Strike in Massachusetts in 1912 to name just a few.

Paterson was not a stranger to labor actions, having been the scene of one of the nation's earliest actions, the 1835 strike by child



I.W.W. Pageant of the Paterson Silk Strike. Lithograph by Robert Edmund Jones. American Labor Museum, Botto House National Landmark.

laborers in some 20 factories protesting 13½ hour working days. The strike wore on for six weeks and resulted in a partial win for the children. The settlement was reached for 12 hours of work on weekdays and 9 hours on Saturday.

The Paterson Silk Strike of 1913 included requests for increased wages and an 8 hour work day. It was primarily focused, however, on the impact of technology which permitted one worker to tend three or four looms instead of the usual two. Workers saw the new technology as a threat to their livelihoods. At the Doherty Silk Mill, one of Paterson's largest, workers walked out on January 27, 1913 because of the installation of the newer machines throughout the factory. Workers in other mills soon joined the walk out. Ultimately, an estimated 24,000 workers were involved.

Paterson's mills had attracted the attention of the Industrial Workers of the World (IWW), commonly referred to as the "Wobblies." The union was fresh from its success in leading the Lawrence, Massachusetts "Bread and Roses" strike. Paterson mill owners responded harshly, bringing in outside strikebreakers. Paterson police also took strong actions against the striking workers.

The IWW brought in many prominent socialists and labor leaders including Elizabeth Gurley Flynn, Carlo Tresca, Bill Haywood, Emma Goldman, Margaret Sanger, Eugene Debs and Upton Sinclair. Forbidden to gather for meetings in Paterson, major rallies were held at the home of Maria and Pietro Botto in nearby Haledon. The Bottos were Italian immigrants who had worked in the Paterson mills. Their home, now a NHL commemorating its role in the strike, is the site of the American Labor Museum.

Living conditions for the striking workers became more difficult during the strike and the organizers provided for many children to be sent out of the city to stay with volunteering families predominately in New York City and Elizabeth. The IWW leaders also attracted the interest of intellectuals in New York City and plans were made for a great pageant at Madison Square Garden focusing on the Paterson strike as a vehicle to raise funds. On June 7, 1913 thousands attended the pageant

with silk workers portraying strike events and activities.

Mill owners continued to refuse to give in to striker demands and remained financially viable, in part by the fact that they could redirect manufacturing orders to their relocated mills in Pennsylvania. After 22 weeks, the solidarity among strikers began to show cracks as some and then more workers returned to the mills.

The strike ended along with the effectiveness of the IWW in the northeast. In 1919, after a series of smaller strikes, many silk workers in Paterson won the 8-hour workday.

Silk mills continued to prosper in Paterson during World War I. In time, many smaller concerns were bought up by larger companies such as the Standard Silk Dying Company and Allied Textile Printers. As technological advancements occurred in the development of synthetic fabrics including nylon and rayon, Paterson's role as "Silk City" came to a close.

Cotton, Flax, Paper, Hemp and Jute

Cotton was the product of the Great Falls Historic District's first mill, constructed by the S.U.M., and the later Phoenix Mill, constructed circa 1813. The original portion of the Phoenix Mill is the oldest currently standing mill in the district, now converted to housing. Mills in the district continued producing cotton fabrics and thread along with other products.

John Colt produced cotton duck and a durable sail cloth for vessels. The inability to obtain cotton during the Civil War meant many northern textile mills closed or sought other raw materials.

One of the largest of the mills at Great Falls was the Barbour Flax Spinning Company. Thomas Barbour came to the United States from Lisburn, Ireland circa 1850 to establish an American branch of his family's Lisburn manufacturing interests—William Barbour and Sons. In 1852 he established a business concern at Exchange Place in New York dealing in threads and twines, including those of his family's Lisburn mill. In 1864 he moved to Paterson and began operations at the mill previously used by John Colt for the



Barbour Flax Spinning Company, Spruce Street Mill, Spruce & Barbour Streets, Paterson, Passaic County, NJ. East elevation. HAER NJ,16-pat,7-b-1. Library of Congress.



Photocopy of a Lithograph—ca. 1880-1889. Barbour's Flax Thread Works: Paterson, New Jersey (8x10 neg.) HAER NJ,16-PAT,7-A-1. Barbour Flax Spinning Company, Granite Mill, Spruce & Barbour Streets, Paterson, Passaic County, NJ. Library of Congress.

production of cotton duck. Barbour was to construct two more mills as the business grew.

Henry Butler, born in Connecticut and the son of a paper mill owner, came to Paterson in 1837 and began paper manufacturing in the Passaic Mill. In 1850 he constructed the Ivanhoe Mill and continued his paper making enterprise as the Ivanhoe Manufacturing Company, making it one of the most popular brands in the nation. Although there were ten buildings associated with the Ivanhoe operations, only the wheelhouse structure remains today between the upper and middle S.U.M. constructed raceway.

The manufacture of rope, twine and carpet backing from hemp and jute was also a part of

Paterson's industrial past. The Dolphin Jute Company was one of the largest of these enterprises in the Great Falls Historic District. The Company occupied some of the Rogers Locomotive Works' buildings, along with the Paterson Silk Exchange, when Rogers ceased operations.

Mills at the Great Falls were used and reused by different manufacturers during the history of the area. The Phoenix Mill, and Colt Mill, as well as both Passaic mills, for example, were the sites of many different industries, as were others. Reuse of mills within the district continues today with public and private uses including housing, offices and the Paterson Museum in the places that once rang with the sounds of industrial production and labor. Paterson's present plans for the district are for continued adaptive reuse of the mills.

The Great Falls and its industries secured for Paterson a major portion of its rich industrial history. The district, however, was not the only location in the City for such uses. Major silk operations like Dexter and Lambert on Straight Street were located elsewhere. The Wright Aeronautical Company which came to Paterson in 1919 to Lewis Street produced the engine that powered Charles Lindberg's *Spirit of St. Louis* across the Atlantic Ocean to France in 1927. Wright Aeronautical would become Curtiss-Wright Corporation in 1929 and the company would go on to produce engines and aircraft that helped win World War II. The corporation still exists, but no longer in Paterson.

A Final Note on the S.U.M.

The S.U.M. continued its operations for approximately 153 years after its establishment in 1792. While it did not fulfill the vision of its founders, it did prosper during its history from real estate and water power ventures. In 1945, the S.U.M.'s charter and remaining property were purchased by the City of Paterson, which now owns the preponderance of the Great Falls Historic District.





The Franklin Mill. NPS photos.





The Essex Mill. NPS photos.

Historic District Resources

The Great Falls Historic District basically comprises a collection of predominately 19th century mills (some with later additions), other structures and water power raceways along the Passaic River below the Great Falls. The mills no longer contain original equipment, although representative machinery for textile and locomotive manufacturing exist at the Paterson Museum, located in a building of the former Rogers Locomotive Works.

Probably the earliest construction material used for mills in the district was cut brownstone block set in a minimal mortar bed. Typically, brownstone block walls were at least 18 inches thick. Cut brownstone also comprises the majority of the retaining wall along the Passaic River. Brick appears to have replaced cut brownstone in the next generation of mills. Multi-wythe wall sections of three to five wythes of brick were interlaced with soldier courses for durability. Timber and wood framing was also used for construction. Generally the configuration included rough cut floor joists bearing on timber girders spanning to 12 inch square wood columns. More modern 20th century structures or additions were constructed of steel and concrete (Maxman pp. D-49-D59).

A series of fires at the ATP site substantially damaged most of the 30 buildings there, including some of the district's most important historic resources. This site is among the properties now included within the boundaries of the newly designated state park. The remaining resources in the district outside of the ATP site largely retain a high degree of integrity and many have been adaptively reused for other purposes.

The ATP site lies within the heart of the historic district and consists of approximately 7 acres. It contains portions of the S.U.M. constructed raceways and the ruins of numerous historic mill structures. Among mills within the ATP site were some of the earliest in the district. It was here that the S.U.M. established a mill in 1794. Included, too, was the Colt Mill (1836) where Samuel Colt produced his first firearms and in the same building John Ryle brought silk textile



The Harmony Mill. NPS photo.



The Nightingale Mill. NPS photo.

manufacturing to Paterson. Additional buildings constructed by Ryle were also at the site. The Todd Mill (c. 1876), where the engine for John Holland's first submarine was fitted, was located here, along with the Waverly (1857) and Mallory (c. 1860) textile mills and the Passaic Mill complex.

Many of these resources were later consolidated under the ownership of larger manufacturing enterprises in the late 19th and early 20th centuries including, successively, the Knipscher and Maass Silk Dyeing Company, Standard Silk Dyeing Company, and Allied Textile Printing Company. The remainder of the Great Falls Historic District is comprised of buildings associated with the S.U.M, locomotive and textile manufacturing, and other manufacturing enterprises.

Buildings directly associated with the S.U.M. include the hydroelectric plant (1914), a field house (1914), remnants of the steam and boiler plant (1876), two gate houses (1846 and 1906), and the S.U.M. administration building (c. 1920). The upper (begun in 1847), middle (begun in 1792) and lower (1807) water power raceways, including head and tail races are virtually all intact. The S.U.M. Passaic Street Bridge (1858) also remains.

Buildings associated with locomotive manufacturing include the Rogers Locomotive Works' administration building (1881), the erecting shop (1871), the frame fitting shop (1881), and the millwright shop (rebuilt in 1879 on the site of the Passaic Paper Mill (1832). In 1974 archeological excavations were conducted at the site of the former blacksmith shop.

Danforth and Cooke Locomotive Company resources include the the office building (1881), and the foundry (1831). The site of the Grant Locomotive Company erecting shop (c. 1850) was the subject of archeological excavations in 1974.

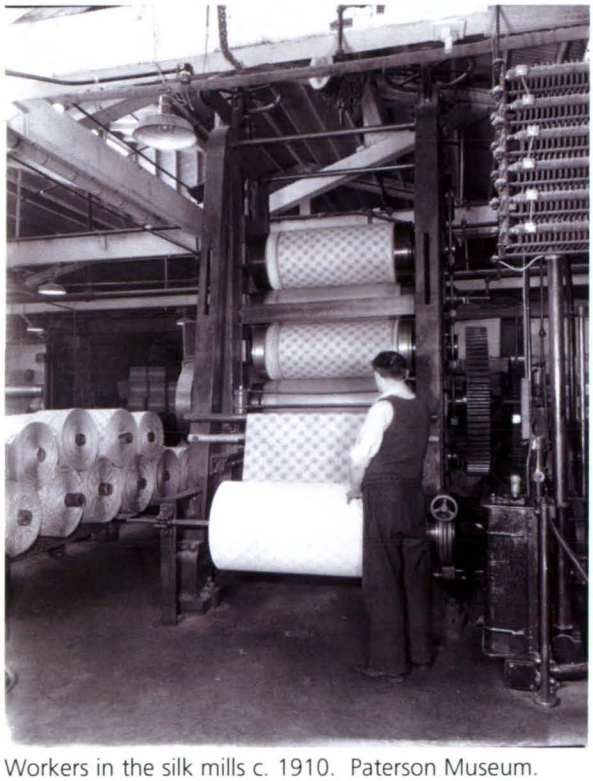
Buildings associated with textile and silk companies include the Barbour Flax Company complex including the flax mill (1860) and the Granite Mill (1881). Other textile manufacturing resources in the district include the Franklin Mill (c. 1870 with later addition), the Essex Mill (1871), the Congdon of Nightingale Mill (1915), the Phoenix Mill (the

oldest extant mill in the district with portions constructed in 1816 and additions c.1826), the Harmony Mill (1876), the Industry Mill (1875 and 1879), and the Addy Mill (1873-1880).

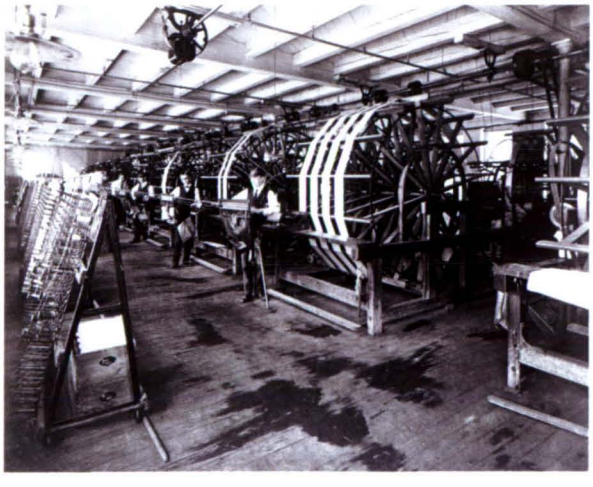
The Old Yellow Mill (originally built in 1803 and rebuilt in 1856) was an early paper rolling factory and joins the Ivanhoe Wheel house as the major remnants of paper manufacturing in the district. The Dolphin Jute Mill Complex (1844 and later addition) also remains.

Historic homes within the district include those of John Ryle (1830), Benjamin Thompson (1835) and John Colt (1850).

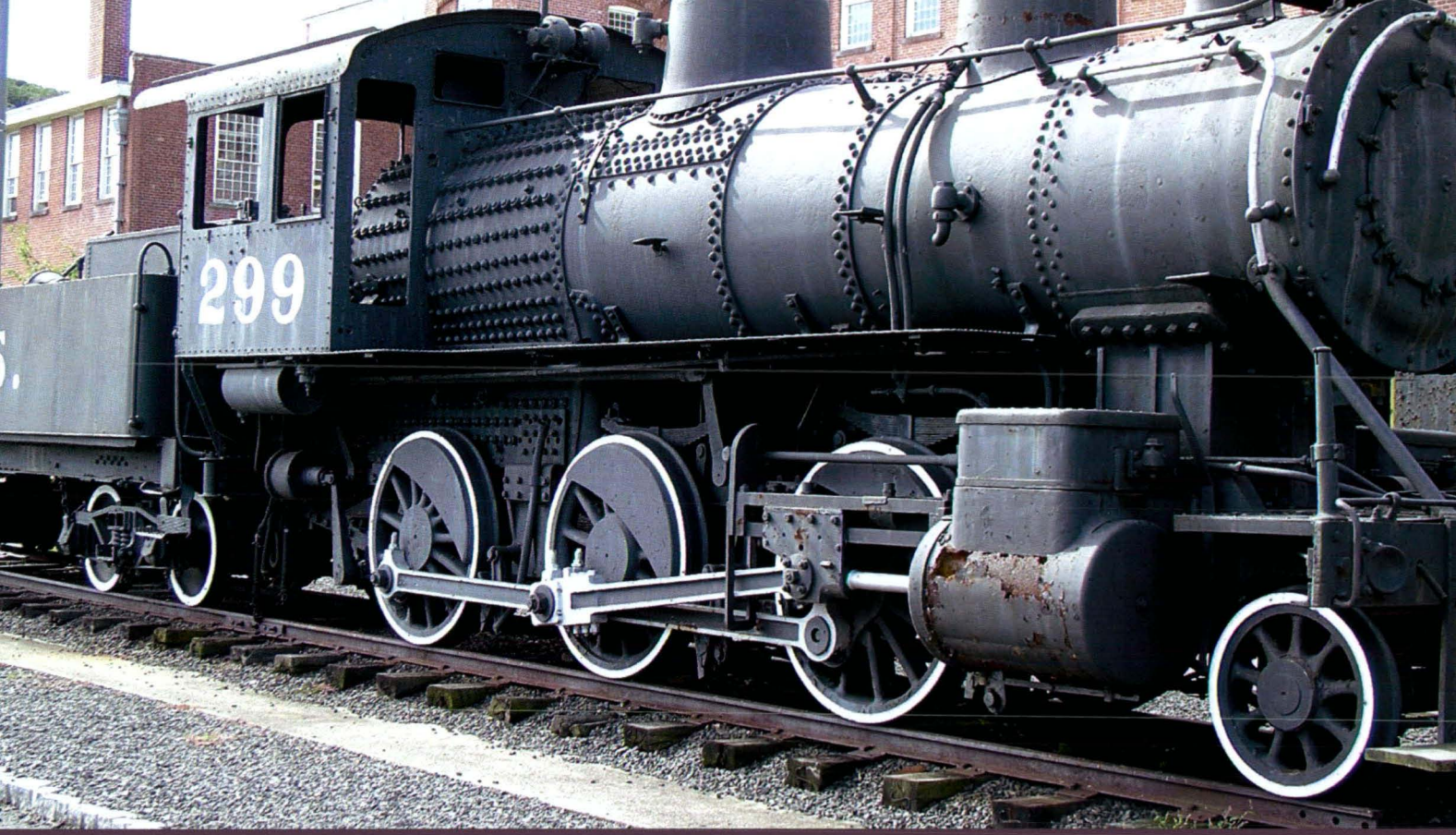
Other than the S.U.M.-constructed water power improvements, the extant resources of the Great Falls Historic District are typical of many northeastern cities that experienced industrialization in the 19th century.



Workers in the silk mills c. 1910. Paterson Museum.



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Paterson, NJ, Great Falls. NPS Photo.

Designation Analysis

Analyses of National Significance, Suitability, Feasibility and Need for NPS Management

Introduction

For a determination to be made as to whether a resource should be considered for potential designation as a unit of the national park system, analyses are conducted based on criteria established by Congress in *Title III of Public Law 105-39,* and in accordance with NPS Management Policies. To be eligible for consideration, an area must:

1. possess nationally significant natural or cultural resources;
2. be a suitable addition to the system;
3. be a feasible addition to the system; and
4. require direct NPS management instead of alternative protection by other public agencies or the private sector.

This chapter evaluates the Great Falls Historic District and applies the criteria for designation as a potential unit of the national park system cited above.

National Significance of the Great Falls Historic District

NPS Management Policies provide that a resource will be considered nationally significant if it meets all of the following criteria:

1. is an outstanding example of a particular type of resource;
2. possesses exceptional value or quality in illustrating or interpreting the natural or cultural themes of our nation's heritage;
3. offers superlative opportunities for public enjoyment, or for scientific study; and
4. retains a high degree of integrity as a true, accurate, and relatively unspoiled example of a resource.

National significance for cultural resources is evaluated by applying the NHL criteria contained in 36 CFR Part 65. National significance is ascribed to districts, sites, buildings, structures and objects that possess exceptional value or quality in illustrating or

interpreting the heritage of the United States in history, architecture, archeology, engineering and culture, and that possess a high degree of integrity of location, design, setting, materials, workmanship, feeling and association, and that:

1. are associated with events that have made a significant contribution to, and are identified with, or that outstandingly represent, the broad national patterns of United States history and from which an understanding and appreciation of those patterns may be gained; or
2. are associated importantly with the lives of persons nationally significant in the history of the United States; or
3. represent some great idea or ideal of the American people; or
4. embody the distinguishing characteristics of an architectural type specimen exceptionally valuable for the study of a period, style or method of construction, or that represent a significant, distinctive and exceptional entity whose components may lack individual distinction; or
5. are composed of integral parts of the environment not sufficiently significant by reason of historical association or artistic merit to warrant individual recognition but collectively compose an entity of exceptional historical or artistic significance, or outstandingly commemorate or illustrate a way of life or culture; or
6. have yielded or may be likely to yield information of major scientific importance by revealing new cultures, or by shedding light upon periods of occupation over large areas of the United States. Such sites are those which have yielded, or which may reasonably be expected to yield, data affecting theories, concepts and ideas to a major degree.

National significance for natural resources can be evaluated by applying the NNL criteria contained in 36 CFR Part 62. Within the NNL Program, national significance describes an area that is one of the best examples of a biological or geological feature known to be characteristic of a given natural region. Such features include terrestrial and aquatic ecosystems; geologic structures, exposures and landforms that record active geologic processes, or portions of earth history; and fossil evidence of biological evolution.

When evaluating national significance in congressionally authorized Special Resource Studies, resources that have been designated as NHLs or NNLs are considered to already have been determined to be nationally significant and require no further analysis.

Resources associated with the S.U.M. within the Great Falls Historic District, established by P.L. 104-333, have been designated by the Secretary of Interior as nationally significant for reasons identified in their specific NHL and NNL designations. The district, therefore, meets the criterion for national significance. It must be noted that, during the course of this study, numerous scholars, authors and other knowledgeable persons have confirmed the importance of the events and resources associated with the Great Falls Historic District. The study team also confirmed that

the resources of the district largely retain integrity.

Suitability Analysis of the Great Falls Historic District

NPS Management Policies provide that an area is considered suitable for addition to the national park system if it represents a natural or cultural resource type that is not already adequately represented in the system, or is not comparably represented and protected for public enjoyment by other federal agencies; tribal, state, or local governments; or the private sector.

It is important to note that the suitability analysis is not limited, simply, to whether resources are represented in the system, but extends the analysis to similar resources protected by other public entities and the private sector. Adequacy of representation is determined on a case-by-case basis by comparing the potential area to other comparably managed areas representing the same resource type, while considering differences or similarities in the character, quality, quantity, or combination of resource values.

The comparative analysis also addresses rarity of the resources; interpretive and educational potential; and similar resources already protected in the national park system or in other public or private ownership. The comparison results in a determination of whether the proposed new area would expand, enhance, or duplicate resource-protection or visitor-use opportunities found in other comparably managed areas.

In evaluating natural resources, a comparison is made to other similar types of resources represented in the national park system or protected by other public or private entities.

The Great Falls of the Passaic – The Natural Feature

The Great Falls, 77 feet in height, is the second largest waterfall (in width and volume, not height) in the United States, east of the Mississippi River. The American Falls at Niagara Falls, by comparison, is the largest in width and volume in the United States and 176 feet in height.

The Great Falls were formed approximately 13,000 years ago during the end of the last ice age. As the glacier receded, Glacial Lake Passaic was formed behind the Watchung Mountains. The Falls were carved through the underlying, approximately 200 million year old, basalt.

Waterfalls are well represented in many state parks and in units of the national park system and other federal lands thoughout the nation. A number of these and their associated rivers have provided power sources for historic and present industrial uses.

The American Falls, linked to a major historic and present power source in New York State, are a part of the Niagara Reservation NHL and administered by the State of New York's Office of Parks, Recreation and Historic Preservation (OPRHP) as Niagara Falls State Park, along with a number of companion state parks along the Niagara River and Gorge. ORHP also

administers Taughannock Falls State Park, site of a 215 foot waterfall, and Letchworth State Park, among others.

The High Falls in downtown Rochester is part of a state sponsored heritage area and an urban cultural park celebrating Rochester's industrial past. Rochester's Heritage Area focuses on High Falls, a revitalized complex of mills, factories and archaeological sites adjacent to the Genesee River. Lowell National Historical Park also interprets the use of water power along falls on the Merrimack River.

The NPS has recently completed a congressionally authorized National Heritage Area (NHA) Feasibility Study to determine if a potential Niagara Falls NHA met criteria for congressional designation. The study determined that the study area, which included the American Falls and communities along the Niagara Gorge to Lake Ontario, qualified for congressional designation as a NHA. The preferred alternative in the study includes the establishment of a limited term Federal Commission to undertake a heritage area plan for the NHA, later to be succeeded by a non-federal management entity after five years.

An earlier reconnaisance analysis performed by the NPS determined that the Niagara Falls State Park would not meet criteria for designation as a unit of the national park system because it was already protected by the State of New York and there was no need for NPS management.

One of the themes of the potential heritage area detailed in the study is the history of water power in the region. Legislation to designate a Niagara Falls National Heritage has recently been introduced in Congress.

Numerous state parks throughout the nation feature waterfalls as scenic and recreational attractions. The Great Falls, itself, is now part of the New Jersey State Park System. A sampling of other protected resources include Amicalola Falls State Park in Georgia, Silver Falls State Park in Oregon, Falls Creek and Caesar's Head State Parks in South Carolina, Ricketts Glen State Park in Pennsylvania, and Blackwater Falls State Park in West Virginia, among many others.

Units of the national park system and other federal lands also contain a myriad of waterfall attractions. Some of the nation's most majestic falls can be found at Yellowstone, Yosemite (with Yosemite Falls, the highest in the US dropping vertically 2425 feet, Sentinel at 2,000 feet, and Silver Strand at 1,182 feet), the Great Smokies, Grand Teton, Grand Canyon, Mt. Rainier, and Shenandoah, among others.

Crabtree Falls at George Washington National Forest in Virginia cascade 1200 feet to its base. In the U.S Forest Service-administered Columbia River Gorge National Scenic Area, Multnomah Falls is one the nation's highest year-round, non cascading waterfalls at 620 feet.

It is the conclusion of this analysis that the Great Falls, as the primary natural feature of the Great Falls Historic District, and its use for industrial water power, does not meet the suitability analysis for potential inclusion in the national park system. Numerous waterfall resources, including those historically used for water power and possessing scenic or recreational values, are already adequately represented in the national park system or protected by other federal and state governmental entities.

The Great Falls Historic District – Cultural Resources

In evaluating the suitability of cultural resources within or outside the NPS, the Service uses its "Thematic Framework" for history and prehistory. The framework is an outline of major themes and concepts that help to conceptualize American history. It is used to assist in the identification of cultural resources that embody America's past and to describe and analyze the multiple layers of history encapsulated within each resource. Through eight concepts that encompass the multi-faceted and interrelated nature of human experience, the thematic framework reflects an interdisciplinary, less compartmentalized approach to American history. The concepts are:

1. Peopling Places
2. Creating Social Institutions
3. Expressing Cultural Values
4. Shaping the Political Landscape
5. Developing the American Economy
6. Expanding Science and Technology
7. Transforming the Environment
8. Changing Role of the United States in the World Community

The three thematic concepts applicable to the Great Falls are peopling places, expanding science and technology, and developing the American economy.

Peopling Places

This theme examines human population movement and change through prehistoric and historic times. It also looks at family formation, at different concepts of gender, family, and sexual division of labor, and at how they have been expressed in the American past.

The theme includes such topics as family and the life cycle; health, nutrition, and disease; migration from outside and within; community and neighborhood; ethnic homelands; encounters, conflicts, and colonization. For the purposes of this study, the topic of migration from outside and within is most appropriate. The area of significance for this study is immigration.

Paterson's industries in the Great Falls Historic District benefited from immigrant labor during much of its productive period. Indeed, it was a stated purpose of Alexander Hamilton, when the City was founded, to attract immigrant labor to this planned industrial city.

During the 19th and early 20th centuries, the labor force particularly comprised succeeding waves of English, Irish, German, Polish, Jewish, and Italian immigrants. In the 1830s almost 50% of Paterson's population was Irish, most settling near the mills of the Great Falls in an area known as "Dublin." In 1860, the Irish still comprised 40% of the population. They became a political force in the City and gerrymandering was frequently used in the last quarter of the 19th century to circumvent their growing power.

As the 20th century arrived, Italian immigrants located within the same area. Germans and Poles worked in the mills including many Jewish immigrants. Some were able to ultimately establish their own mills and advance economically as owners.

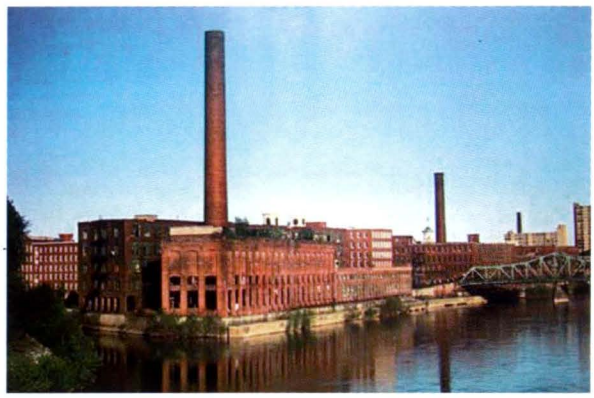
Working long hours and under harsh conditions by today's standards, immigrant

workers, both skilled and unskilled, were the backbone of Paterson's early and growing industrial might, particularly in its textile, locomotive and silk factories. The City, today, continues its tradition as a location for recent immigrants including Hispanic, Latino and Middle Eastern populations.

Immigration resources and themes are well represented in the national park system and sites associated with immigration are also protected by other entities. Example sites include:

1. Castle Clinton National Monument, New York—Constructed as a fort to defend New York Harbor between 1808 and 1811, Castle Clinton became a major immigration receiving station. Over 8 million people entered the United States through what was then known as Castle Garden between August 3, 1855 and April 18, 1890 when it was closed. The site was later reopened as the New York City Aquarium. Programs and tours trace the history of the fort from its defensive role and its changing uses as a theatre, immigration station, and aquarium.

2. Statue of Liberty National Monument and Ellis Island, New York and New Jersey—A gift from the people of France dedicated on October 28, 1886, the Statue of Liberty became a beacon for millions of immigrants to our nation's shores. The monument includes Ellis Island, which became the entry point for over 12 million persons between1892 to 1954. It is the nation's premier site for interpreting the American immigration experience as a point of entry.



Lowell's mile of mills as seen from across the Merrimack River, Lowell, MA. NPS photo.

3. Lowell National Historical Park, Massachusetts—Located in Lowell, the park interprets the American Industrial Revolution and the experiences of immigrant workers. The Boott Cotton Mills Museum with its operating weave room of 88 power looms, "mill girl" boardinghouses, the Suffolk Mill Turbine Exhibit and guided tours tell the story of the transition from farm to factory, chronicle immigrant and labor history and trace industrial technology. The park includes mills, worker housing, 5.6 miles of canals, and 19th-century commercial buildings.

4. Lower East Side Tenement National Historic Site, New York—an Affiliated Area of the national park system, the tenement building at 97 Orchard Street is located in the Lower East Side of New York City. The site interprets the immigrant experience and includes restored apartments of actual residents, as well as offering educational programs on historical and contemporary immigration. The site is owned and managed by the Lower East Side Tenement Museum, Inc.

5. Angel Island State Park, California—A NHL, between 1910 and 1940, Angel Island served as a U.S. immigration station in California. Approximately 1 million persons were processed through the facility. Angel Island represents the impact of the Chinese Exclusion Act which restricted the immigration of Chinese laborers and prohibited U.S. citizenship to Chinese immigrants already in this country. Acting as a detention center, approximately 250,000 Chinese and 150,000 Japanese immigrants were detained at the site.

6. Ybor City Museum State Park, Florida—A NHL, Ybor City Museum State Park provides visitors a glimpse into the lives of the immigrants who settled, lived in, and built the thriving community of Ybor City in Tampa Florida. The museum park traces the rich cultural history of Ybor City and the cigar making industry. Spaniards, Italians, Germans, Jews, Cubans, and Afro-Cubans called Ybor City home, establishing their own newspapers, restaurants, social clubs, mutual aid societies and hospitals. The site is a unit of the State of Florida Park System.

Congressionally designated National Heritage Areas provide additional protection and interpretation of resources related to immigration. A few examples include:

1. Essex National Heritage Area, Massachusetts—Essex comprises approximately 500 square miles in eastern Massachusetts. Three theme trails (Early Settlement, Maritime, and Industrial) permit visitors to explore the region's resources from many historical perspectives. A number of sites within the heritage area interpret immigration in association with the Industrial Theme Trail.

2. John H. Chafee Blackstone River Valley National Heritage Corridor, Massachusetts and Rhode Island—Blackstone interprets the rich American industrial revolution heritage of the Blackstone River Valley in Massachusetts and Rhode Island. Immigration resources, themes and stories are central to its interpretation of industry and workers.

3. Keweenaw National Historical Park, Michigan—The park is made up of nationally significant sites affiliated with historical copper mining on Michigan's Keweenaw Peninsula. In addition to the park's Calumet and Quincy units, the National Park Service also works with partners known as "Keweenaw Heritage Sites," which assist in preserving and telling the story of the hard-rock copper mining industry in the Keweenaw region. Keweenaw National Historical Park, along with the heritage sites, interpret immigrant life and contributions that relate the story of copper on the Keweenaw Peninsula.

4. Lackawanna Valley National Heritage Area, Pennsylvania—Coal mining, railroading and railroad building, steel, food processing, large-scale fabrication, printing, textiles, trolleys, and mass education were all industries in the Lackawanna Valley in eastern Pennsylvania. The region became a magnet for new immigrants between 1860 and 1910. Resources in the heritage area interpret immigrant worker contributions to the region's coal mining and industrial past.

5. Rivers of Steel National Heritage Area, Pennsylvania—Rivers of Steel in western Pennsylvania is devoted to telling the story of the legacy of "Big Steel" and the many immigrants who flocked to the region in the 19th and 20th centuries to labor in the mills.

A number of museums also interpret the immigrant experience in the United States. The Dreams of Freedom Immigration Museum in Boston (MA) provides living history and interpretation of that City's immigrant stories. At the Johnstown (PA) Heritage Discovery Center's *America: Through Immigrant Eyes*, visitors take an active assigned role and experience the daily life of their immigrant character as they tour exhibits.

Some museums are dedicated to specific immigrant groups such as the Danish Immigrant Museum in Elk Horn, Iowa and the Scandinavian Heritage Museum in Seattle, Washington. The Museum of Work and Culture in Woonsocket, Rhode Island—part of the Blackstone River Valley NHA—interprets the compelling stories of French Canadian immigrants seeking economic improvement in the mill towns along the Blackstone River.

Conclusion

While the Great Falls Historic District has many resources and rich stories relating to the theme of immigration in the U.S., it does not appear to have particularly unique resources or stories when compared to those already represented in the national park system, or protected and interpreted by other public and private entities.

Expanding Science and Technology

This theme focuses on science, which is modern civilization's way of organizing and conceptualizing knowledge about the world and the universe beyond. Technology is the application of human ingenuity to modification of the environment in both modern and traditional cultures, and includes topics such as experimentation and invention, and technological applications. The areas of significance for this study are engineering and technology.

Paterson's Great Falls Historic District was the scene of significant technological advances in industrial processes and engineering advancements in the use of water power for industry and, later, electrical generation. The first signature project of the SUM was its ambitious endeavor to provide for the design and construction of a system for industrial water power, drawing water from the Passaic River and diverting it by gravity through raceways to manufacturing sites – a task initially assigned to Pierre Charles L'Enfant. The establishment of the system, as an early water power system, is a primary reason for the NHL designation of the Historic District.

Technological innovations were evident in many of Paterson's industrial enterprises from the invention and production of Colt's first revolver and the fitting of an engine to Holland's first submarine, to innovations by locomotive manufacturers, and those affecting the Paterson textile silk trade. Like most cities in the Northeast and those in New Jersey, Paterson had its own manufacturing specialties in the industrial milieu of the 19th and 20th

centuries. In the emerging competitive climate of manufacturing, advancements in technology were often among the keys to success. This analysis has purposely focused on resources comparable to those represented in the Great Falls Historic District and is not meant to be an exhaustive analysis of all sites representing the theme.

Resources interpreting the themes of engineering and technology are well represented in the national park system or protected by other public and private entities. Sites interpret the use of waterpower from its simplest forms to large hydroelectric systems. Examples of sites for waterpower include:

1. Lowell National Historical Park, Massachusetts—Lowell was dependent on waterpower for its continuing industrial success. Its system of canals provided power to mills and evolved from 1821 to the 1850s configuration that is still visible today. Lowell NHP contains significant waterpower resources and interprets waterpower and its industrial applications in its programs and exhibits. In the first turbines designed by Uriah Boyden and adapted by James B. Francis to power Lowell's mills, the water entered the wheel at its center and was directed outward by stationary vanes to turn another set of moving vanes. By 1858, 56 Boyden turbines, rated at 35 to 650 horsepower, helped drive Lowell's mills. In both the waterwheel and turbine, the power was transferred by gears to the mill's main power shaft or drive pulley.

2. Saugus Ironworks National Historic Site, Massachusetts—Saugus is the site of the first integrated ironworks in North America, 1646-1668. The park interprets the critical role of iron making to seventeenth-century settlement and its legacy in shaping the early history of the nation. The site features an open-air museum with working waterwheels to demonstrate early waterpower techniques.

3. John H. Chafee Blackstone River Valley National Heritage Corridor, Massachusetts and Rhode Island—Blackstone interprets waterpower as part of its story of the industrial revolution in America. The Blackstone River provided the waterpower for the birth of industry in America with its 438-foot drop over a 46-mile length. Structures related to waterpower and early transportation - dams, ponds, mills, canals, locks and the related mill villages, towns and cities are all integral parts of the Blackstone Valley riverscape. The Blackstone was harnessed for waterpower to fuel textile mills beginning in 1790 in a cotton mill (Slater's Mill) in Pawtucket, Rhode Island.

4. Gilbert Stuart Birthplace, Rhode Island—A NHL, this site interprets the 18th century waterpower used for the grist and snuff mills that were typical of small systems. Established by Stuart's father, the snuff mill was the first powered by water in the colonies.

5. Tennessee Valley Authority, Tennessee—The TVA is a major electrical power generator and interprets hydroelectric power in its visitor centers located throughout the Tennessee Valley.

6. Hoover Dam, Nevada and Arizona—A NHL, administered by the Department of the Interior's Bureau of Reclamation. The Dam is a National Historic Landmark and has been rated by the American Society of Civil Engineers as one of America's Seven Modern Civil Engineering Wonders. The Bureau

interprets hydroelectric power at its Tour Center and conducts tours of the facility.

7. Augusta Canal National Heritage Area, Georgia—Built in 1845 as a source of power, water and transportation, the Augusta Canal was one of the few successful industrial canals in the American South. Spearheaded by native Augustan Henry H. Cumming, who perceived that Augusta could one day become "the Lowell of the South," the Augusta Canal began to fulfill Cumming's vision in short order. By 1847 the first factories - a saw and grist mill and the Augusta Factory were built, the first of many that would eventually line the Canal.

8. Folsom Powerhouse, California—A NHL, this hydroelectric generating plant sent high-voltage alternating current over long-distance lines for the first time in 1895, a major advance in the technology of electric power transmission and generation.

9. Niagara Power Project Power Vista, New York—Operated by the New York Power Authority, the facility interprets hydroelectric power associated with Niagara Falls and the historical role of hydroelectricity in the Niagara Frontier.

10. Adams Power Plant Transformer House, New York—A NHL, until well into the 20th century, this electric-power generating facility retained its position as the largest hydroelectric power plant in the world. The transformer house, built in 1895 from designs by McKim, Mead and White, is the only surviving structure of the plant, which has been hailed as "the birthplace of the modern hydroelectric power station." When it became operational, long-distance commercial electrical transmission became a reality. The plant does not currently enjoy the same level of protection as other resources, but is within the area proposed as the Niagara Falls National Heritage Area.

Example sites for technology and engineering include:

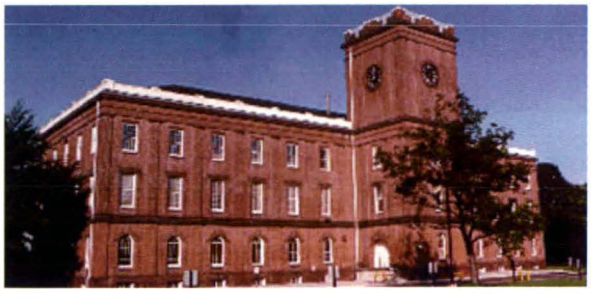
1. Edison National Historical Site, New Jersey—For more than forty years, the laboratory created by Thomas Alva Edison in West Orange, New Jersey, had enormous impact on the lives of millions of people worldwide. Out of the West Orange laboratories came the motion picture camera, vastly improved phonographs, sound recordings, silent and sound movies and the nickel-iron alkaline electric storage battery. Edison National Historic Site provides a unique opportunity to interpret and experience important aspects of America's industrial, social and economic past, and to learn from the legacy of the world's best known inventor.

2. Golden Spike National Historic Site, Utah—The site commemorates the completion of the world's first transcontinental railroad which was celebrated where the Central Pacific and Union Pacific Railroads met on May 10, 1869. Its paramount purpose is to illustrate the social, economic, and political impacts of the transcontinental railroad on the growth and westward development of the United States. One of the two locomotives present when the last spike was driven, was Rogers Locomotive Works' locomotive # 119, manufactured in Paterson, NJ.

3. Lowell National Historical Park, Massachusetts—As part of the history told at Lowell are the technological advancements of textile and other manufactures that were instrumental in the success of the early American Industrial Revolution.

4. Saugus Iron Works National Historic Site, Massachusetts—Saugus is the site of the first integrated ironworks in North America, 1646-1668. Resources interpreted at the site demonstrate seventeenth-century engineering and design methods, and iron-making technology and operations.

5. Springfield Armory National Historic Site, Massachusetts—Begun as a major arsenal under the authority of General George Washington early in the Revolutionary War, the first national armory began manufacturing muskets in 1794. Within decades, Springfield Armory had perfected pioneering manufacturing methods that were critical to American industrialization. The site interprets the technological evolution of arms manufacturing during it long history of production.



Springfield Armory National Historic Site. NPS photo.

6. Hopewell Furnace National Historic Site, Pennsylvania—The site is one of the finest examples of a rural American 19th century iron plantation. It interprets iron-making technology, business operations and village life of the early iron-making period.

7. Harpers Ferry National Historical Park, West Virginia—In 1819, John H. Hall, a New England gunmaker, signed a contract with the War Department to produce 1,000 breechloading rifles – a weapon he had designed and patented in 1811. Under the terms of the contract, Hall came to Harpers Ferry where he occupied an old Armory sawmill along the Shenandoah River. The site soon became known as Hall's Rifle Works, and the small island on which it stood was called Lower Hall Island. Hall spent several years tooling new workshops and perfecting precision machinery for producing rifles with interchangeable parts – a boldly ambitious technological goal for an industry which was traditionally based on the manual labor of skilled craftsmen.

8. Steamtown National Historic Site, Pennsylvania—Steamtown was established to further public understanding and appreciation of the role steam railroading played in the development of the United States. The site provides displays and interpretation of locomotive construction and technology.

9. Southern Museum of Civil War and Locomotive History, Georgia—Located in Kennesaw, and a member of the Smithsonian Institution Affiliations Program, the museum contains a reproduction of the Glover Machine Works and features the only restored belt-driven locomotive assembly line in the country, original machining equipment, and two restored Glover locomotives in various stages of assembly. An interactive presentation detailing the train building process, from metallurgy and patterns to casting and construction helps

visitors experience life as a factory worker, while detailed company records provide insight into the management of the Glover Machine Works. The site is also the location of one the Rogers' Locomotive Works most famous locomotives, "The General," which was built in Paterson in 1855.

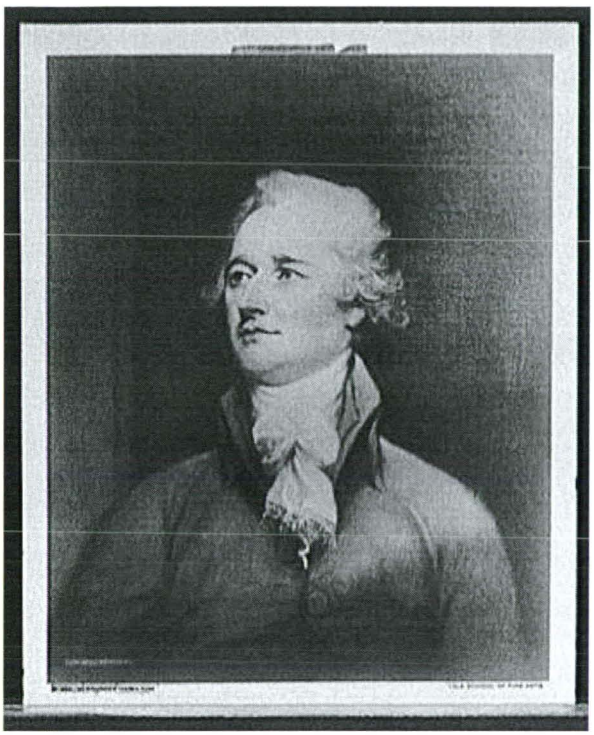
11. John H. Chafee Blackstone River Valley National Heritage Corridor, Massachusetts and Rhode Island—As part of the history and interpretation offered through resources of the heritage area, many technological innovations are examined that were associated with the American Industrial Revolution including the first successful cotton mill.

12. U.S. Submarine Force Museum, Connecticut—The Submarine Force Museum, located on the Thames River in Groton, maintains the world's finest collection of submarine artifacts. It is the only submarine museum operated by the United States Navy, and as, such is the primary repository for artifacts, documents and photographs relating to U.S. Submarine Force history. The museum traces the technology and development of submarines from David Bushnell's Turtle, used in the Revolutionary War, to the modern Los Angeles, Ohio, Seawolf and Virginia class submarines.

13. Erie Canalway National Heritage Corridor, New York—The Erie Canalway NHC preserves associated resources and interprets the construction and operation of one of the nation's foremost engineering projects. In the early 19th century, this waterway opened the "Old Northwest" to settlement and gave Western agriculture access to Eastern markets. A remarkable engineering feat for the period, it helped to make New York City one of the most important trade centers in the world.

Conclusion

While the Great Falls Historic District has many resources relating to the thematic concept of Expanding Science and Technology, it does not appear to have particularly unique resources when compared to those already represented in the national park system or protected and interpreted by other public and private entities.



Alexander Hamilton by John Trumbull. Library of Congress, Prints and Photographs Division, Detroit Publishing Company Collection.

Alexander Hamilton and Developing the American Economy

This theme reflects the ways Americans have worked, including slavery, servitude, and non-wage, as well as paid labor. It also reflects the ways they have materially sustained themselves by the processes of extraction, agriculture, production, distribution, and consumption of goods and services. Topics that help define this theme include extraction and production, distribution and consumption, workers and work culture, labor organizations and protests, exchange and trade, and economic theory. These themes are commonly applicable to historic industrial districts such as the Great Falls Historic District. The areas of significance are industry and labor.

Because Paterson proudly traces its history as a manufacturing center to Alexander Hamilton and the creation of the S.U.M., it is important for this Special Resource Study to address the question of Alexander Hamilton's overall contributions to the nation, and the role that the experiment he nurtured at the Great Falls played in the larger scheme of his life and those many contributions.

While there is no question that Hamilton viewed the manufacturing promise of Paterson, the Great Falls and the S.U.M., as a vehicle to implement his strong beliefs in an industrially-based United States, the fact of the matter is that the Paterson venture, as envisioned, failed early-on due to the major weaknesses of its governor/director participants. The S.U.M. did not become the manufacturing colossus Hamilton envisioned; rather, it became primarily a real estate venture, ultimately providing land and water power for manufacturing enterprises below the falls.

Hamilton's vision of an industrial society was achieved in the United States, and in Paterson, but after the early decline of the S.U.M., more quickly and wide-spread in places like Lowell and Waltham, Massachusetts and other New England cities that were built on the firm stepping stones of less grandly conceived endeavors.

Hamilton's life is one that continues to impact our nation. While known for his writings and interest in manufactures, particularly his report to Congress on that subject which followed soon after the establishment of the S.U.M.,

Hamilton provided much more that shaped the nation and our society. Indeed, his *Report on Manufactures* was not well received by Congress at the time, nor acted upon, despite its ultimate realization.

Hamilton was a close and trusted associate of General George Washington, serving on his staff for most of the Revolution. He fought at White Plains, Trenton, Princeton, Monmouth and Yorktown. He was instrumental in the establishment of and served as delegate to the Constitutional Convention and was a principle author of the Federalist Papers, a still enduring source on the meaning of the United States Constitution. Hamilton served as the first Secretary of the Treasury and became one of America's great early statesmen. He initiated the First Bank of the United States, and established the Revenue Cutter Service, the forerunner of the U.S. Coast Guard.

Hamilton is regarded as "The Father" of the U.S. Coast Guard and was instrumental in the establishment of the U.S. Navy. His *Report on Public Credit* was a major milestone in American financial history. Hamilton established the foundations for American capitalism and commodity and stock exchanges. He was responsible for the establishment of the first political party. He stood as a national founder who believed in strong central government, national defense, assistance to business and industry, national debt financing and a strong national banking system. Many of the issues he addressed are as relevant to Americans today, as they were during his time of life; only the scale, perhaps, is different.

While Hamilton's association with the founding of Paterson is important to the City and its history and is part of the reason for the district's designation as a NHL, there are no resources at Great Falls save the falls and the S.U.M. constructed water raceways that reflect the period of his association. Paterson represented his vision of industrial progress in 1791, but the vision in this one place was quickly dashed by the financial adventures of William Duer and others. Hamilton's vision was ultimately achieved in Paterson, but through a lengthy application of entrepreneurial skills of many individual manufacturers, not the single manufacturing entity he originally conceived. That phenomenon occurred in other locations all over the Northeast and the nation at the same time.

Authors Stanley Elkins and Erik McKitrick in their book chronicling the Federal Period provide a comparative perspective of the S.U.M. They write:

When the directors in 1796 voted to shut down altogether to avoid 'evident loss,' they were putting a period to some four years of amateurness, cross purposes, and divided attention. Not until the 1820s and '30s with the activities of the Boston Associates would something like Hamilton envisioned come into being. The foundation of Lowell, Chicopee, and Holyoke during that period would be the fruit of careful planning and two decades of prior technological experience in small mills all over New England. (Elkins and McKitrick, p. 280)

Alexander Hamilton, the person, is not as well represented in the national park system as his significant contributions to American history deserve, but it is largely through a failure of the Service to fully interpret his recognized achievements, not a lack of places associated

with those contributions. One unit, Hamilton Grange, is fully dedicated to Hamilton, while another has strong associations with his major accomplishments. Increased interpretation of Hamilton's life and legacy by the NPS would improve public knowledge and appreciation of this important American figure. The following are units of the national park system associated with Alexander Hamilton:

1. Hamilton Grange National Memorial, New York—The memorial preserves the New York City home of Alexander and Elizabeth Hamilton, completed in 1802. Named "The Grange" after the Hamilton family's ancestral home in Scotland, it served as his home for only two years before his death in 1804. The home was designed by architect John McComb Jr.

2. Independence National Historical Park, Pennsylvania—Independence NHP in Philadelphia is the site of Independence Hall where both the Declaration of Independence and the U.S. Constitution were created. A dedicated nationalist from the start, it was Hamilton who orchestrated the groundswell for a Constitutional Convention. Hamilton participated as a member of the Congress as the Constitution was drafted and participated in congressional deliberations on the matter. His role in authoring many of the Federalist Papers was instrumental in gaining its ratification.



Liberty Bell, Independence National Historical Park. NPS photo.



First Bank of the United States, Philadelphia. NPS photo.

The First Bank of the United States is also located at Independence National Historical Park. The establishment of the bank provoked the first great debate over strict, as opposed to an expansive interpretation of the Constitution. In adopting Hamilton's proposal and chartering the bank, both the Congress and the President took the necessary first steps toward implementing a sound fiscal policy that would eventually ensure the survival of the new federal government and the continued growth and prosperity of the United States.

3. Federal Hall National Memorial, New York—While constructed after the period of Washington's inauguration in New York City at that location and Hamilton's appointment as Secretary of the Treasury, the unit indirectly is associated. It overlooks the New York Stock Exchange, the icon of U.S. financial power that Hamilton helped to create.

Other resources which relate to Hamilton include:

1. The National Constitution Center, Pennsylvania—Located in Philadelphia, the Center conducts programs and exhibits dedicated to increasing public understanding of, and appreciation for, the Constitution, its history, and its contemporary relevance. Hamilton is depicted in its exhibit on Founding Fathers.

2. Schuyler Mansion State Historic Site, New York—A NHL, an elegant Georgian style mansion, was the home of Phillip Schuyler, Hamilton's father-in-law. It was the site of Hamilton's marriage to Elizabeth Schuyler in 1780. The site is administered by the New York State Office of Parks, Recreation and Historic Preservation.

3. Hamilton Hall, Massachusetts—A NHL located in Salem, the Hall was established when political differences between Federalists and Republicans split the Salem Assemblies in 1805. The Federalists erected this three-story brick building to house their social activities. It is a distinguished example of a Federalist-Adamesque public building.

4. Alexander Hamilton's Memorial and Tomb, New York—Located at Trinity Church Yard in New York City, the site is the burial plot of Alexander Hamilton.

Sites reflecting the theme of Developing the American Economy in the area of industry which relate to similar resources of Paterson include:

1. John H. Chafee Blackstone River Valley National Heritage Corridor, Massachusetts and Rhode Island—The Blackstone River Valley of Massachusetts and Rhode Island is popularly described as the "Birthplace of the American Industrial Revolution," the place where America made the transformation from farm to factory. America's first successful textile mill, Slaters Mill, could have been built along practically any river on the eastern seaboard, but in 1790 the forces of capital, ingenuity, mechanical know-how and skilled labor came together at Pawtucket, Rhode Island where the Blackstone River provided the power that kicked off America's drive to industrialization. The mills and factories of the Blackstone Valley served as the cornerstone of America's industrial growth.

2. Lowell National Historical Park, Massachusetts—Lowell interprets the rise of industry during the American Industrial Revolution. While it was a center for textile manufacturing, Lowell grew into the location for many other industrial pursuits. Foremost were textile machinery firms established to meet the demands of textile manufacturers throughout New England. The Lowell Machine Shop and the Kitson Machine Company were the largest of these companies, but there were many others.

The Lowell Machine Shop did not limit itself to textile machinery, producing steam locomotives for New England's expanding rail network. Other textile-related firms manufactured and distributed a broad array of mill fixtures, tools, and textile machine parts. New entrepreneurs built companies unconnected with textiles. Firms established to

supply an expanding national market for patent medicines grew into a major Lowell industry. The Hood and Ayer companies and Father John's Medicine were prominent in this field, pioneering in the skillful use of mass-market advertising.

The city's economic base grew more and more diversified: shoe factories, boilerworks, scalemakers, and a brewery. During World War I, munitions manufacturers prospered, and the United States Cartridge Company, founded shortly after the Civil War by well known politician and General Benjamin Butler was one of the leading employers in the city.

3. Springfield Armory National Historic Site, Massachusetts—The Armory produced firearms between 1777 and 1968. It was responsible for many innovations in arms design and production including the use of interchangeable parts and precision manufacturing. In 1891 it became the Army's main center for developing and testing small arms.

4. Harpers Ferry National Historic Site, West Virginia—The United States Armory and Arsenal, established here in 1799, transformed Harpers Ferry from a remote village into an industrial center. Between 1801 and the outbreak of the Civil War in 1861, the Armory produced more than 600,000 muskets, rifles, and pistols, and employed, at times, over 400 workers. Inventor John H. Hall pioneered interchangeable firearms manufacture at his Rifle Works between 1820-1840, and helped lead the change from craft-based production to manufacture by machine.

Hall, a native of Portland, Maine, devoted his uncompromising attention to the "uniformity principle" of interchangeable manufacture at the Harpers Ferry Armory. The "uniformity principle," referred to as "the American system of manufactures" by the British, made use of special-purpose machines to produce parts so accurately sized that they were interchangeable. Hall pioneered mechanized arms production and the manufacture of interchangeable firearm components, laying a solid foundation for America's emerging factory system.



Steamtown National Historic Site, Gouldsboro, PA. Canadian National 3254 pulls a passenger train past Snag Pond in Gouldsboro, PA. Steamtown operates many excursions into the Pocono Mountains along this route. NPS photo, Ken Ganz.

5. Boston National Historical Park, Massachusetts—The park includes portions of the Charlestown Navy Yard. Established in 1800, the Yard served as a ship building and repair center until 1974. The men and women of its workforce built more than 200 warships and maintained and repaired thousands. From its inception the yard was in the forefront of shipyard technology, from building the Navy's only ropewalk, supplying the Navy with most of its rope supplies, to making itself a center of missile and electronics conversions.

6. Steamtown National Historic Site, Pennsylvania—Steamtown was established to further public understanding and appreciation of the role steam railroading played in the development of the United States. The site provides extensive displays and interpretation of locomotive construction and technology.

7. National Heritage Areas—Besides Blackstone, many of the congressionally designated heritage areas focus on industrial heritage throughout the United States. A listing of national heritage areas protecting and interpreting historic industrial resources include: Augusta Canal NHA, Automobile NHA, Essex NHA, Hudson River Valley NHA, Lackawanna Valley NHA, National Aviation NHA, National Coal Heritage, Oil Region NHA, Rivers of Steel NHA, Schuylkill River NHA, Southwestern Pennsylvania Industrial Heritage, and Wheeling NHA.

8. Cheney Brothers Historic District, Connecticut—A NHL, this 175-acre milling community in South Manchester, Connecticut commemorates and interprets the Cheney family's silk manufacturing enterprises. With over 200 mill buildings, worker houses, churches, schools, and the Cheney family mansion, this is an excellently preserved example of a 19th to early 20th century paternalistic mill town. Established originally in 1838 as the Mount Nebo Silk Company, Cheney Brothers became the single largest and most profitable silk producer in the nation by the late 1880s.

9. Armsmear and Coltsville, Connecticut—Armsmear, a NHL, was the home of arms manufacturers Samuel and Elizabeth Colt in Hartford, Connecticut. Coltsville, the Colt manufacturing complex in Hartford Connecticut is presently the subject of a NHL nomination pending before the National Park System Advisory Board. Coltsville is the location of Samuel Colt's arms factory which was managed by his wife after Colt died. Colt moved to Hartford after his Paterson factory failed. The buildings associated with Coltsville maintain high degrees of integrity. The site is the subject of a Special Resource Study currently being conducted by the NPS to determine if it meets criteria for designation as a unit of the national park system.

10. Southern Museum of Civil War and Locomotive History, Georgia—The museum contains a reproduction of the Glover Machine Works, featuring the only restored belt-driven locomotive assembly line in the country, original machining equipment, and two restored Glover locomotives in various stages of assembly. An interactive presentation detailing the train building process, from metallurgy and patterns to casting and construction. The site is the location of one the Rogers' Locomotive Works most famous locomotives, "The General," which was built in Paterson in 1855. The General was popularized in the Civil War episode known as "The Great Chase."

11. Railroad Museum of Pennsylvania—One of the leading sites devoted to railroading, the museum also includes papers, manuals, records, blueprints, and diagrams of the Baldwin Locomotive Works of Philadelphia from the Matthew Gray Collection, the Charles Scott Collection and the Frank Moore Collection. Baldwin was the nation's largest locomotive manufacturer.

12. Pullman Historic District, Illinios—A NHL, constructed between 1880 and1884 for engineer and industrialist George M. Pullman

(1831-1897). Pullman was a completely planned model industrial town. It represents a dramatic and pioneering departure from the unhealthy, over-crowded makeshift and unsanitary living conditions found in working-class districts in other19th century industrial cities and town. In 1894, it was the focus of a bloody and violent strike which spread nation-wide over the railroad networks, prompting President Grover Cleveland to intervene with Federal troops and resulted in the first use of the Sherman Anti-Trust Act to smash the unions.

13. Boston Manufacturing Company, Massachusetts—A NHL in Waltham, this manufacturing complex represents the first truly modern factory in the U.S. Employing innovative power looms, it signaled the birth of American industrialization and ended U.S. dependency on British technology. It was the technological basis for a fundamental reorganization of the factory system.

14. Harrisville Historic District, New Hampshire—This NHL provides an unrivaled glimpse into the life of an early 19th century New England mill town. A center for the manufacture of woolen goods since 1799, the town has maintained mills, stores, boarding houses, dwellings, and churches that reflect the myriad levels of society.

15. Harmony Mills, New York—A NHL, located in Cohoes the Harmony Mills Company was one of the largest American producers of cotton fabric for printed calicoes and fine cotton muslins from the late 1860s through the 1880s. Harmony Mill No. 3 was the largest individual cotton factory in the world when it was completed in 1872, and was acknowledged as representing the state of the art at that time. The Harmony Mills district has been described as "one of the finest examples of a large-scale textile mill complex outside of New England."

16. Clark Thread Company Historic District, New Jersey—A NHL, with over 35 buildings on approximately 13 acres of land, this district incorporates most of the extant factory buildings of the Clark Thread Company in East Newark, New Jersey, the world's foremost maker of cotton thread in the late 19th to early 20th century. This NHL does not currently enjoy the same level of protection as other resources cited above.

Sites reflecting the theme of Developing the American Economy in the area of labor which relate to similar resources and events of Paterson include:

1. Botto House, New Jersey—a NHL, located in Haledon, New Jersey, the site was the home of Maria and Pietro Botto, immigrant silk workers from northern Italy. The house played a major role in the reform of the American workplace. During the Paterson Silk Strike of 1913, it served as a rallying point for thousands of striking workers and their families who advocated the eight-hour day and an end to child labor. The site is operated by the American Labor Museum and interprets historical labor unrest in Paterson.

2. Kate Mullany National Historic Site, New York—An Affiliated Area of the national park system, the site was the home of Kate Mullany, who organized and led Troy's all-female Collar Laundry Union in the 1860s, and was America's most prominent female labor leader. Male unionists recognized her group as the only bona fide female union in the country,

and applauded her success in bargaining with laundry owners for her objectives. Mullany and her colleagues also supported other working unions and labor activity.

3. Bost Building, Pennsylvania—A NHL, located in Homestead, Pennsylvania, the site is part of the Rivers of Steel National Heritage Area. Between June 29 and November 21, 1892, much of the nation followed the events of a labor strike outside Pittsburgh, Pennsylvania, that pitted the Carnegie Steel Company against one of the strongest labor unions at the time. During the strike at the Homestead Steel Works, know as "The Homestead Lockout," the Bost Building served as the local headquarters for the Amalgamated Association of Iron and Steel Workers and as the base for American and British newspaper correspondents reporting the events. The confrontation turned bloody when Pinkerton guards approached Homestead on barges in a failed attempt to reclaim the Steel Works from the striking workers and their supporters. It took the Pennsylvania Militia to restore order. The Bost Building is the best surviving structure associated with this important strike. The building serves as the primary visitor center for the heritage area.

4. Matewan Historic District, West Virginia—A NHL, the District is exceptionally significant in the history of labor organization in America. It was the scene of the "Matewan Battle" of May 19, 1920 where coal company officials tried to remove union workers from company housing. The conflict was precipitated by striking coal miners who demanded the company recognize the legitimacy of the United Mine Workers of America. The coal companies retaliated by bringing in armed guards to evict miners from local mines and their families from company housing. The ensuing conflict left ten people dead. The episode was a pivotal event in the eventual end of coal company control in West Virginia. The site is part of the National Coal Heritage Area.

5. Socialist Labor Party Hall, Vermont—a NHL, located in Barre, the Hall is significant for its association with socialist and anarchist politics, labor organizations, and Italian immigrant heritage in the early 20th century. The Hall played a central role in the history of Italian anarchism and militant unionism in the United States, and was the leading place where debates took place among anarchists, socialists, and union leaders over the future direction of the labor movement in America. The Socialist Labor Party Hall, as the primary site for these discussions, embodies the radical heritage and the strength of the union movement during the early 20th century. The site is managed by the Barre Historical Society.

6. Pullman Historic District, Illinios—a NHL, the district is associated with the major railway strike known as, "Debs Rebellion" after one of its leaders, Eugene Debs. In 1894, it was the focus of the bloody and violent strike which spread nation-wide over the railroad networks, prompting President Grover Cleveland to intervene with Federal troops and resulted in the use for the first time of the Sherman Anti-Trust Act to smash the unions.

7. Lowell National Historical Park, Massachusetts—The park interprets labor conditions of mill workers and labor unrest that led to the famous general strike in Lawrence, led by the Industrial Workers of the World, and successive protests in Lowell, Fall River, and New Bedford. United mill workers

prevailed and enjoyed raises rather than the initial pay cuts imposed by management. The unprecedented series of strikes led to important gains for New England's immigrant textile workers.

8. Union Square, New York—A NHL, located in lower mid-town Manhattan, Union Square is nationally significant for the role it has played in American labor history. While the park has been the focal point for well over a century for parades, mass gatherings, soap-box orations and demonstrations, its particular moment in history occurred on September 5, 1882, when the first Labor Day Parade took place. This marked the beginning of organized labor's twelve-year effort to secure passage of national legislation that would set aside one day each year to recognize the contributions and achievements of American laborers.

Conclusion

While the Great Falls Historic District has many resources relating to the thematic concept of Developing the American Economy, it does not appear to have particularly unique resources unlike those already represented in the national park system or protected and interpreted by other public and private entities.

Determination of Suitability

Based on the analysis of many comparable resource types and interpretation already represented in units of the national park system or protected and interpreted by others, this study concludes that the resources of the Great Falls Historic District are not suitable for inclusion in the national park system.

This finding does not in any way diminish the major national significance of the Great Falls Historic District in the history of the United States. Paterson's story is one of great importance to public understanding of the building of the nation. Like Pawtucket, Lowell, Cohoes and other early industrial places, it is a part of the complex American experience that commemorates and celebrates water-powered industry, early industrialists, immigrant laborers, political figures, and our evolving political and economic processes. Its resources are exceptionally worthy of protection and interpretation. Many of the stories of Paterson's contributions to our national heritage can be understood simply by visiting the Paterson Museum which is located in the Great Falls Historic District in a building of the former Rogers Locomotive Works. Most of Paterson's industrial history is represented here including Hamilton and the S.U.M., Colt, the locomotive industry, textile manufacturing, the City's silk production, Holland's first two submarines, and Paterson's other valuable American treasures. Collections pertaining to Hamilton and the S.U.M. are housed at the Passaic County Historical society in Lambert Castle.



Old advertising painted on exterior wall of the former Rogers Locomotive building on Spruce Street; it reads: "Home of Paterson Silk Machinery Exchange." NPS photo.

Paterson is an example of the vision of Alexander Hamilton, American enterprise, and the work of many immigrant and citizen workers who made the nation prosper.

Feasibility Analysis

Since a finding of suitability for potential designation as a unit of the national park system was not the conclusion of the previous *Determination of Suitability* section of this report, a feasibility analysis is not a continuing necessary step in this study. It is offered to simply complete the analyses of the Great Falls Historic District under all designation criteria.

NPS Management Policies state that to be feasible for inclusion in the national park system, an area must be: 1) of sufficient size and appropriate configuration to ensure sustainable resource protection and visitor enjoyment, and 2) capable of efficient administration at a reasonable cost. A variety of factors are normally considered in evaluating feasibility, including land ownership, acquisition costs, access, threats to the resource, public enjoyment potential, the level of local and general public support, and staffing or

development requirements. The evaluation includes consideration of the ability of the NPS to undertake new management responsibilities in light of current and projected constraints on funding and personnel. In recent years, this latter factor has become increasingly important in determining feasibility.

This study concludes that the District is of sufficient size and configuration and there are no significant access issues affecting feasibility. Visitors to the Great Falls may not have internal access to all buildings and sites, but resources that are accessible provide the basis for a valuable visitor experience.

The District could benefit from a more pedestrian and visitor friendly traffic and transportation plan. All roads are open to traffic and visitor safety would be a factor of concern in the operation of a park unit. Traffic congestion, noise and exhaust odor impact the visitor experience negatively.

While threats to the resource have existed and continue to exist, they are not of a scale that requires full NPS management for resource protection. Since most resources in the District are publicly owned, and it would not be anticipated that NPS would seek ownership of any significant amount of District resources, ownership issues do not appear to impact feasibility. During the study process, there have been sufficient indications of public and governmental support for designation.

The feasibility of protecting the natural and cultural resources of the Great Falls Historic District would particularly depend on the demonstrated commitment of the City of Paterson and the State of New Jersey to manage the resources they own or administer in the District within the parameters of NPS management policies affecting units of the national park system, since a boundary for any potential unit would include both state and city-owned or administered resources. Strong historic resource protection measures would be necessary, consistency in state level management and decision making assured, and local zoning ordinance requirements would have to provide for the continuing integrity of resources and compatible types and intensities of development, uses, treatments, transportation, and signage within any potential park boundary.

To evaluate financial feasibility, analyses of comparable costs of existing units of the national park system of similar size are often used. Costs are normally expressed in ranges.

What are unknown in Paterson are the variables affecting potential costs associated with preserving the district's resources and those necessary to provide adequate visitor facilities. It would not be anticipated that the NPS would acquire resources, other than those necessary for operations and visitor services. Even these could be through a shared arrangement with other entities. Financial feasibility would in large part depend on partnerships with other public and private entities and, as is often the case in budget restricted times, financial or other donations from the public and private sector.

No firm offers of assistance have been forthcoming during the course of the study, although supporters of unit designation have consistently indicated that if the Great Falls becomes a unit of the national park system, such assistance would be available. Lacking

any tangible evidence of such commitments, the direct NPS costs for securing and refurbishing a facility for minimum visitor services and administration needs are estimated between $3 and $5 million including any exhibits in a visitor services facility and limited numbers of wayside exhibits in the district.

For a park to be established that results in meaningful resource protection at the Great Falls, this study assumes that financial and technical assistance would be required for non-federally owned resources in the district. This cost is estimated to be authorized at between $10 million and $15 million in matching share capital grants based, in part, on the lower end similar investment being made by the State of New Jersey in its newly designated state park. The ability of the City of Paterson to meet significant matching grant requirements is somewhat questionable due to its own continuing budgetary constraints.

Staffing and operational requirements for the Great Falls have been estimated at between 5 to 10 full time equivalent (FTE) positions with an estimated annual operating cost of $550,000 to $1.2 million annually. Other than for facilities owned by the NPS, there would be no anticipated maintenance costs.

The estimates also assume that NPS would not acquire or otherwise own any substantial archives or collections requiring special collection storage facilities. The costs for a general management plan and comprehensive interpretive plan and media development for the District are estimated at $800,000 to $1 million. The chart below categorizes potential initial and annual costs.

Capital Expenditures	Administration/Visitor Facilities: $1.8 to $3.2 million	Exhibits/Waysides: $1.2 to $1.8 million	Historic Preservation Grants: $10 to $15 million	**Total Capital Expenditures $13 million to $20 million**
General Management and Interpretive Planning/Media Development	General Management Plan: $600,000 to 700,000	Interpretive Plan and Media Development: $200,000 to $300,000		**Total Planning $800,000 to $1 million**
Vertical Totals By Category (not including annual operations)	Development and Park Planning: $2.4 to $3.9 million	Interpretation: $1.4 to $2.1 million	Grants: $10 million to $15 million	**Total Development/ Interpretation/ Grants $13.8 million to $21 million**
Park Annual Operations between 5 to 10 FTE over first ten-year period (2007-2016)	At low range of $550,000 per year including annual inflation adjustment: $6,034,050	At high range of $1.2 million per year including annual inflation adjustment: $13,165,200		**Total 10-year Estimate for Operations: $6,034,050 to $13,165,200**

The estimated ranges assume no donor or partnership participation in any costs. Such participation could reduce estimated capital and operational costs proportionally, depending on when such contributions are received. It must be noted that any contributions would also be required to follow stringent NPS partnership policies, requirements and procedures and may, depending on the level of donations, require review by appropriate congressional appropriations committees.

Determination of Feasibility

Under current NPS budgetary constraints, the estimated costs associated with the Great Falls Historic District are not feasible when considering the impact that such costs would have on existing units of the national park system in the Northeast Region, particularly in the State of New Jersey, which must compete for the limited and decreasing funding levels currently available to parks Service-wide.

Analysis of the Need for NPS Management

Since findings of suitability and feasibility for potential designation as a unit of the national park system were not the conclusions of the previous *Determination of Suitability* and *Determination of Feasibility* sections of this report, an analysis of the need for direct NPS management is not a continuing necessary step in this study. It is offered to simply complete the analyses of the Great Falls Historic District under all designation criteria.

Determination of the need for NPS management is the final criterion for evaluating resources for potential designation as a new unit in the national park system. There are many examples of successful management of nationally significant and important natural and cultural resources by other public agencies, private organizations, and individuals. The NPS applauds these accomplishments and actively encourages the expansion of conservation activities by federal, state, local, and private entities. Unless direct NPS management of a studied area is identified as the clearly superior alternative, the Service will recommend that one or more of these other entities assume a lead management role, and that the area not become a unit of the national park system.

In October 2004 the Governor of New Jersey, by executive order, designated portions of the Great Falls Historic District as one of three new urban state parks. The New Jersey Department of Environmental Protection is presently concluding a national design competition for the first phase development of the park. Phases 1 and 2 of the design competition include the Great Falls, raceways and other cultural resources that comprise the extant resources of the original S.U.M. improvements. The State has pledged $10 million for improvements at the new park.

The State of New Jersey Department of Environmental Protection, Division of Parks and Forestry, administers a number of state parks that have cultural resources and values significant to the State and our nation. Among them are parks associated with the American

Revolution at Washington's Crossing and Princeton and Monmouth Battlefields, as well as homes of important figures of the revolutionary period.

The Division also provides an understanding of New Jersey's commercial and industrial past at sites such as Allaire State Park, Batsto Village in Wharton State Forest, Long Pond Ironworks at Hewitt State Park, the cranberry and blueberry production history at Whitesbog Village in Brendan Byrne State Forest and at Double Trouble State Park, and the commercial importance of the Delaware and Raritan Canal at that State Park, among others. It administers coastal locations with light houses that represent New Jersey's maritime importance, and Fort Mott that historically guarded approaches to Philadelphia on the Delaware River.

The State also administers Liberty State Park which provides the backdrop to the Statue of Liberty and Ellis Island and contains the Central Railroad of New Jersey terminal that was the first stop for so many immigrants leaving Ellis Island on their way to new lives and locations, including Paterson, in their just adopted land. It is fully qualified and able to protect representative resources of the Great Falls Historic District and to interpret the important contributions that Paterson has made to the industrial history of the United States. This study concludes that there is no need for direct management of the Great Falls Historic District by the National Park Service.

Potential for Affiliated Area Status

Affiliated areas of the national park system are comprised of nationally significant resources that do not meet other unit designation criteria, but may require some special recognition or technical assistance beyond what is available through existing NPS programs. Such areas must meet the national significance criterion and be managed in accordance with the policies and standards that apply to units of the national park system.

The NPS study team believes that the Great Falls Historic District may be such a resource and with the advent of the newly designated Great Falls State Park, may be suitable for further consideration for its potential as an Affiliated Area of the national park system and congressional designation as a National Historic Site. The resources included in the state park are those that are primary to the NHL designation.

Legislation is already in place affecting the Great Falls Historic District that authorizes the Secretary of the Interior to provide the types of assistance that are often extended to affiliated areas. Among other benefits of affiliation, the areas so designated are entitled to display the NPS Arrowhead logo on signage and in appropriate marketing and interpretive materials and exhibits. Both the New Jersey Pinelands National Reserve and the New Jersey Coastal Heritage Trail are affiliated areas of the national park system. The NPS has provided substantial financial and technical assistance to the Pinelands National Reserve since its congressional designation in 1978, and to the Coastal Heritage Trail since its designation in1986.

Congress enacted Public Law 104–333 in 1996. Section 510 of the Act established the *Great Falls Historic District* and authorized $250,000 for grants and cooperative

agreements for the development of a plan for the District, $50,000 for the provision of technical assistance by the Secretary of the Interior, and up to $3,000,000 for the provision of other assistance for restoring, repairing, rehabilitating, and improving historic infrastructure within the District. All funding requires a 50% local match. Funding has not been appropriated by Congress under Section 510, in part, because of concerns regarding the ability of the City to meet the 50% matching requirements. With the forthcoming park financial investment by the State of New Jersey, the matching requirement appears to be of less concern.

With the advent of the Great Falls State Park designation in 2004 and the State of New Jersey's commitment of funds, it may be advantageous for the State and the NPS to consider partnering in the protection and interpretation of the District's proven nationally significant resources. Until such time as the plans for the entire Great Falls State Park are better understood, it would be premature for this report to recommend Affiliated Area status as a study alternative. But, should the State of New Jersey and the City of Paterson conclude that its goals and policies affecting the Great Falls Historic District can be accomplished in a manner that reflects NPS Management Policies for units of the national park system, a reconnaissance level survey could be completed at an appropriate time to make these determinations. A reconnaissance would also assist in determining the nature of any amendments to P.L. 104-333 that would be needed to accomplish mutually agreed upon preservation objectives for the Great Falls Historic District.

Study Conclusions

This congressionally authorized Special Resource Study of the Great Falls Historic District in the City of Paterson, New Jersey concludes that resources in the Great Falls Historic District:

1. meet the criterion for national significance; and,
2. fail to meet the criteria for suitability, feasibility, and need for NPS management.

This study further concludes that the Great Falls Historic District may have the potential to meet the requirements for designation as an Affiliated Area of the national park system if the State of New Jersey and the City of Paterson, after plans for the Great Falls State Park are more complete, express an interest in such a designation and are prepared to demonstrate that the management of the resources in the study area can be accomplished in accordance with NPS Management Policies and standards.



ALCO-Cooke locomotive #299, built for the Panama Railroad, rests in front of the Rogers Mill, home of the Paterson Museum. NPS photo.

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Consultation and Coordination

This chapter describes the required consultation procedures and public meetings and comments related to the preparation of the Great Falls Historic District Special Resource Study.

Notice of Intent

A notice of intent to conduct a Special Resource Study/Environmental Impact Statement was published in the Federal Register on September 15, 2003.

Public Scoping Meeting

In accordance with the National Environmental Policy Act (NEPA), a public scoping meeting was held on April 28, 2004 at the Paterson Museum. Approximately 55 people attended from Paterson and other communities.

The study team introduced the project, reviewed the Special Resource Study and NEPA process, and gave a brief overview of the administrative history of the Great Falls National Historic Landmark. The team described the opportunities for the public to participate in the planning process including sending email comments and identification of important resources, the availability of a study web site, and by commenting on the study report.

Letters from Congressman Bill Pascrell and Senator Frank Lautenberg supporting designation of the Great Falls Historic District were presented and read by congressional staff representatives. The meeting was then opened up to comments and questions from the audience, and there was discussion of the "vision" that people had for the District. All but one of the attendees who made comments favored designation of Great Falls Historic District as a unit of the national park system.

Additional Meetings

Members of the study team met periodically with representatives of the City of Paterson, and conducted a pre-study briefing for the City's Mayor, the Honorable Jose "Joey" Torres. Periodic meetings were also held with staff representatives of Senator Frank Lautenberg, former Senator Jon Corzine and Congressman Bill Pascrell. A special briefing was conducted for Congressman Pascrell by the study team in Washington on May 5, 2005. NPS Director Fran Mainella and other NPS representatives briefed Senator Lautenberg and Congressman Pascrell on November 3, 2005.

Meetings were also conducted during the study with representatives of the New Jersey Department of Environmental Protection and various Federal, state and local agency representatives to assess current grant making and planning activities of those agencies as they affected the Great Falls Historic District and the State's plans for a new park at the Great Falls. Various ad hoc contacts with members of the public occurred during the course of the study.

Written Communications

A number of individuals, organizations and elected officials indicated their interest in the study and in the designation of the Great Falls Historic District as a unit of the national park system through correspondence.

Congressional correspondence advocating unit designation was received at various times during the study from Senator Frank Lautenberg, Senator Robert Menendez, Congressman Bill Pascrell, Congressmen James Saxton and Congressman Rodney Frelinghuysen. A letter dated July 12, 2006 was also received from the entire New Jersey congressional delegation advocating unit designation.

Former New Jersey Commissioner of Environmental Protection, Bradley Campbell wrote on November 9, 2005 expressing the State's support for unit designation for the Great Falls Historic District and pointed out the advantages of a partnership between the State and the NPS.

Governor Jon Corzine reiterated the state's support in his letter of September, 11, 2006.

Paterson Mayor Jose Torres expressed his support for unit designation in a letter dated August 7, 2006.

A number of distinguished authors, scholars, and individuals familiar with Paterson's history sent written comments attesting to the national significance of the Great Falls, its industrial history, and its relationships to Alexander Hamilton. In some of these letters, the authors provided their views on the suitability and feasibility of unit designation. All of the letters are available for inspection at the offices of the National Park Service in Philadelphia, Pennsylvania. They are summarized below by the content of information provided.

National significance of the Great Falls and connection to Alexander Hamilton:

- David P. Billington, Professor of Engineering, Princeton University;
- Richard Brookhiser, author and Alexander Hamilton biographer;
- Ron Chernow, author and Alexander Hamilton biographer;
- Russell I. Fries, Skillman, New Jersey;
- Robert B. Gordon, Professor of Geophysics and Mechanical Engineering, Yale University;
- Jerold S. Kayden, Co-chair, Department of Urban Planning and Design, Harvard University;
- Lewis E. Lehrman, Co-chairman, The Gilder Lehrman Institute of American History;
- William E. Simon, Jr., Co-chairman, William E. Simon and Sons; and
- Daniel Walkowitz, Professor of History and Professor of Social and Cultural Analysis, New York University.

Comparability of the Great Falls Historic District to other units of the national park system (comparison with resources protected by others was not addressed):

- Eric DeLony, former Chief of the Historic American Engineering Record, Department of the Interior;
- Alison K. Hoagland, Associate Professor of History and Historic

Preservation, Michigan Technological University and Chair, Advisory Commission of the Keweenaw National Historical Park;
- Steven Lubar, Director, John Nicholas Brown Center, Brown University;
- John R. Mullin, Dean of the Graduate School, university of Massachusetts, Amhearst;
- Richard Sylla, Henry Kaufman Professor of the History of Financial Institutions and Markets and Professor of Economics, The Leonard N. School of Business, New York University;
- Robert M. Vogel, former Curator of Mechanical and Civil Engineering, the Smithsonian Institution; and
- Robert E. Wright, Clinical Associate Professor, The Leonard N. Stern School of Business, New York University.

Latham and Watkins Submission:

The law firm of Latham and Watkins LLP of Washington, D.C. submitted a 38-page document on behalf of the New Jersey Community Development Corporation to the Secretary of the Interior setting forth its reasoning for the national significance of the Great Falls Historic District, and its suitability and feasibility for designation as a unit of the national park system, as well as the need for NPS management of the site. The document contains many quotes from the letters cited above in reinforcing its advocacy for designation.

It should be noted that some of the resources mentioned in the document are not located within the study area of this Special Resource Study. A copy of the document is available for public inspection at the NPS offices in Philadelphia, Pennsylvania.

Other Correspondence:

The study team received letters from an interested citizen, Mr. Nick Sunday, who shared his views on a number of Paterson-related topics.

A letter was received from Mohamed El Filali, Outreach Director of the Islamic Center of Passaic County, advocating creation of a unit of the national park system in Paterson, as especially important to the Islamic Community.

Consultation

Required Consultation with Public Agencies
Section 106 of the National Historic Preservation Act of 1966, as amended, and National Park Service policy require consultation with the State Historic Preservation Office, Advisory Council on Historic Preservation and interested persons before undertaking an action on historic properties. Section 7 of the Endangered Species Act requires all federal agencies to consult with the United States Fish and Wildlife Service to ensure that any action authorized, funded or carried out by a federal agency does not jeopardize the continued existence of listed species or critical habitat.

Consultation was conducted through letters to the New Jersey State Historic Preservation Office and the New Jersey Field Office of the U.S. Fish & Wildlife Service. NPS received a written response from the U.S. Fish & Wildlife Service.

Consultation with Native American Tribes was conducted through letters to the federally recognized Native American tribes—the Stockbridge-Munsee Community of Wisconsin, the Delaware Nation, and the Delaware Tribe of Indians. The letters requested that these entities identify any issues regarding the study, their interest in future participation, resource identification and potential for collaborative action. A letter of response and an e-mail were received from the Delaware Tribe of Indians.

These documents appear in Appendix Two.

Great Falls Historic District
Special Resource Study Team and Advisors

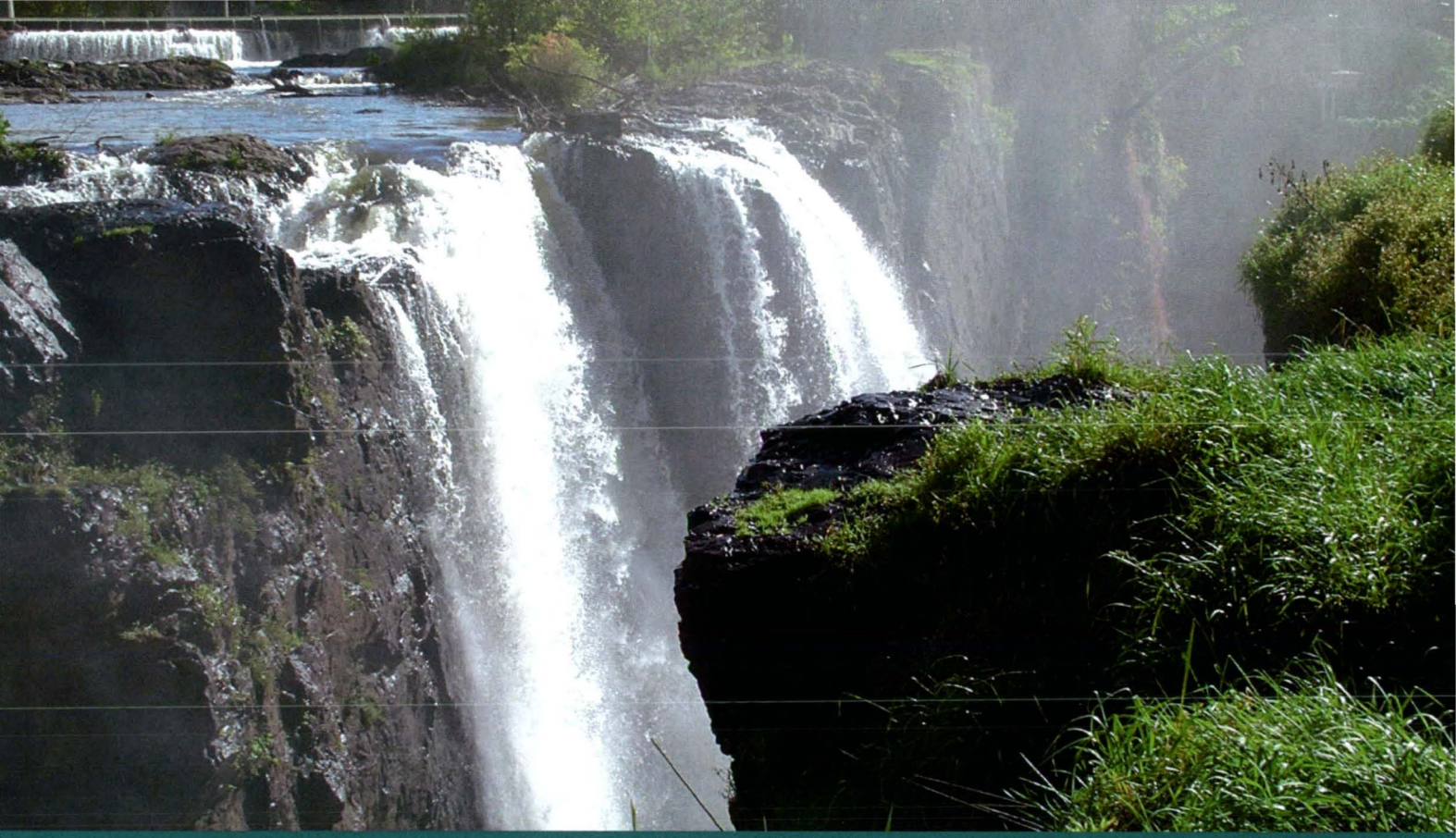
Study Team

Patricia Iolavera, Community Planner, Former Study Project Manager
William Bolger, Historian, Northeast Region
William Brookover, Historical Architect, Northeast Region
Allison Crnic, Community Planner, Northeast Region
Jennifer Gates, Architectural Technician, Preservation Assistance Program, Northeast Region
Christine Gobrial, Community Planner, Northeast Region
Jacquelyn Katzmire, Regional Environmental Coordinator, Compliance, Northeast Region
Jed Levin, Industrial Archeologist, Northeast Region
Alisa McCann, Architectural Historian, Northeast Region
Terrence D. Moore, Chief of Park Planning and Special Studies Northeast Region
Peter Samuel, Outdoor Recreation Planner, Northeast Region

National Park Service Advisors

Mary A. Bomar, Former Regional Director, Northeast Region
Robert W. McIntosh, Associate Regional Director for Planning, Construction and Facilities Management, Northeast Region
Keith Everett, Associate Regional Director, Resource Stewardship and Science, Northeast Region
Linda Canzanelli, Associate Regional Director for Park Operations and Conservation and Recreation Assistance, Northeast Region
David Hollenberg, Former Associate Regional Director, Design, Construction and Facilities Management, Northeast Region
Paul Weinbaum, History Program Manager, Northeast Region

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Appendix One

Legislation

16 USC 461 note.

SEC. 510. GREAT FALLS HISTORIC DISTRICT, NEW JERSEY.

(a) PURPOSES.—The purposes of this section are—

(1) to preserve and interpret, for the educational and inspirational benefit of the public, the contribution of our national heritage of certain historic and cultural lands and edifices of the Great Falls Historic District, with emphasis on harnessing this unique urban environment for its educational and recreational value; and

(2) to enhance economic and cultural redevelopment within the District.

(b) DEFINITIONS.—In this section:

(1) DISTRICT.—The term "District" means the Great Falls Historic District established by subsection (c).

(2) SECRETARY.—The term "Secretary" means the Secretary of the Interior.

(3) HISTORIC INFRASTRUCTURE.—The term "historic infrastructure" means the District's historic raceway system, all four stories of the original Colt Gun Mill, including belltower, and any other structure that the Secretary determines to be eligible for the National Register of Historic Places.

(c) GREAT FALLS HISTORIC DISTRICT.—

(1) ESTABLISHMENT.—There is established the Great Falls Historic District in the city of Paterson, in Passaic County, New Jersey.

(2) BOUNDARIES.—The boundaries of the District shall be the boundaries specified by the Great Falls Historic District listed on the National Register of Historic Places.

(d) DEVELOPMENT PLAN.—The Secretary may make grants and enter into cooperative agreements with the State of New Jersey, local governments, and private nonprofit entities under which the Secretary agrees to pay not more than 50 percent of the costs of—

(1) preparation of a plan for the development of historic, architectural, natural, cultural, and interpretive resources within the District;

(2) implementation of projects approved by the Secretary under the development plan; and

(3) a market analysis assessing the economic development potential of the District and recommending steps to be taken to encourage economic development and revitalization in a manner consistent with the District's historic character.

(e) RESTORATION, PRESERVATION, AND INTERPRETATION OF PROPERTIES.—

(1) COOPERATIVE AGREEMENTS.—The Secretary may enter into cooperative agreements with the State of New Jersey, local governments and nonprofit entities owning property within the District under which the Secretary may—

(A) pay not more than 50 percent of the cost of restoring, repairing, rehabilitating, and improving historic infrastructure within the District;

(B) provide technical assistance with respect to the preservation and interpretation of properties within the District; and

(C) mark and provide interpretation of properties within the District.

(2) PROVISIONS.—A cooperative agreement under paragraph (1) shall provide that—

(A) the Secretary shall have the right of access at reasonable times to public portions of the property for interpretive and other purposes;

(B) no change or alteration may be made in the property except with the agreement of the property owner, the Secretary, and any Federal agency that may have regulatory jurisdiction over the property; and

(C) any construction grant made under this section shall be subject to an agreement that provides that conversion, use, or disposal of the project so assisted for purposes contrary to the purposes of this section shall result in a right of the United States to compensation from the beneficiary of the grant, and that provides for a schedule for such compensation based on the level of Federal investment and the anticipated useful life of the project.

(3) APPLICATIONS.—

(A) IN GENERAL.—A property owner that desires to enter into a cooperative agreement under paragraph (1) shall submit to the Secretary an application describing how the project proposed to be funded will further the purposes of the District.

(B) CONSIDERATION.—In making such funds available under this subsection, the Secretary shall give consideration to projects that provide a greater leverage of Federal funds.

(f) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated from the Historic Preservation Fund authorized under the National Historic Preservation Act to the Secretary to carry out this section—

(1) $250,000 for grants and cooperative agreements for the development plan under subsection (d); and

(2) $50,000 for the provision of technical assistance and $3,000,000 for the provision of other assistance under cooperative agreements under subsection (e).

Public Law 107–59
107th Congress

An Act

To authorize the Secretary of the Interior to study the suitability and feasibility of designating the Great Falls Historic District in Paterson, New Jersey, as a unit of the National Park System, and for other purposes.

Nov. 5, 2001
[H.R. 146]

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

Great Falls Historic District Study Act of 2001.

SECTION 1. SHORT TITLE.

This Act may be cited as the "Great Falls Historic District Study Act of 2001".

SEC. 2. NATIONAL PARK SERVICE STUDY REGARDING GREAT FALLS HISTORIC DISTRICT, PATERSON, NEW JERSEY.

(a) DEFINITIONS.—In this section:

(1) GREAT FALLS HISTORIC DISTRICT.—The term "Great Falls Historic District" means the Great Falls Historic District in the city of Paterson, New Jersey, established as an historic district by section 510 of the Omnibus Parks and Public Lands Management Act of 1996 (Public Law 104–333; 110 Stat. 4158; 16 U.S.C. 461 note).

(2) SECRETARY.—The term "Secretary" means the Secretary of the Interior, acting through the Director of the National Park Service.

(b) STUDY.—As soon as practicable after funds are made available to carry out this section, the Secretary shall commence a study regarding the suitability and feasibility of further recognizing the historic and cultural significance of the lands and structures of the Great Falls Historic District through the designation of the Great Falls Historic District as a unit of the National Park System.

(c) STUDY PROCESS AND COMPLETION.—Section 8(c) of Public Law 91–383 (16 U.S.C. 1a–5(c)) shall apply to the study required by this section. Applicability.

(d) SUBMISSION.—The Secretary shall submit to the Committee on Resources of the House of Representatives and the Committee on Energy and Natural Resources of the Senate a report describing the results of the study. Reports.

(e) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated such sums as are necessary to carry out this section.

Approved November 5, 2001.

LEGISLATIVE HISTORY—H.R. 146:

HOUSE REPORTS: No. 107–47 (Comm. on Resources).
SENATE REPORTS: No. 107–74 (Comm. on Energy and Natural Resources).
CONGRESSIONAL RECORD, Vol. 147 (2001):
May 9, considered and passed House.
Oct. 17, considered and passed Senate.

○

Appendix Two

Consultation Correspondence

United States Department of the Interior

NATIONAL PARK SERVICE
Northeast Region
200 Chestnut Street
Philadelphia, PA 19106-2878

IN REPLY REFER TO:

D18(NER/PP-PP&SS)

October 8, 2003

Mr. Clifford G. Day
U.S. Fish & Wildlife Service
New Jersey Field Office
927 North Main Street
Heritage Square, Building D
Pleasantville, New Jersey 08232

Dear Mr. Day:

The National Park Service is initiating a Special Resource Study and Environmental Impact Statement in Paterson, NJ as required by the Great Falls Historic District Study Act of 2001, to determine if the Great Falls Historic District should be designated as a unit of the national park system. The study area is inside the City of Paterson, NJ and includes the Great Falls and the portion of the Passaic River immediately down stream from the falls.

In accordance with the National Environmental Policy Act requirements, public meetings will held to identify the concerns, resources, and interests of individuals, organizations, elected officials, and public agencies in the study area. A Draft Environmental Impact Statement (DEIS) will be developed to address the issues that are raised during the study.

Pursuant to Section 7 of the Endangered Species Act of 1973 (87 Statute 884, as amended, 16 U.S.C. 1531 et seq.) between the National Park Service and the Fish and Wildlife Service and the National Environmental Policy Act requirements, we are initiating consultation regarding potential impacts of the proposed federal actions in this study. At this point, we are still involved with scoping and would like to know if you have any concerns that should be addressed in the DEIS. If it would be helpful, we would be willing to meet with you to further discuss the project area, the goals and process of the study, and the preliminary resource assessment that has been completed to date. We look forward to working on this project. If you have any questions or would like to set up a meeting, please contact me at (215) 597-2284 or at patricia_iolavera@nps.gov if you have any questions or comments.

Sincerely,

Patricia Iolavera, AICP
Community Planner

United States Department of the Interior

FISH AND WILDLIFE SERVICE

New Jersey Field Office
Ecological Services
927 North Main Street, Building D
Pleasantville, New Jersey 08232
Tel: 609/646 9310
Fax: 609/646 0352
http://njfieldoffice.fws.gov

In Reply Refer to:

ES-03/584

NOV 3 2003

Patricia Iolavera, Community Planner
National Park Service, Northeast Region
200 Chestnut Street
Philadelphia, Pennsylvania 19106-2878

Dear Ms. Iolavera:

This responds to your October 8, 2003 request to the U.S. Fish and Wildlife Service (Service) for information on the presence of federally listed endangered and threatened species within the vicinity of the Great Falls Historic District located in Paterson, Passaic County, New Jersey. The National Park Service (NPS) is conducting a study to determine if the Great Falls Historic District should be designated as a unit of the National Park System. Pursuant to the National Environmental Policy Act (83 Stat. 852; 42 U.S.C. 4321 *et seq.*) (NEPA), the NPS will prepare a Draft Environmental Impact Statement to address issues raised during the study. The Service understands that the study area has a radius of approximately 5 city blocks from the falls.

AUTHORITY

This response is provided pursuant to NEPA, and to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) (ESA) to ensure the protection of endangered and threatened species and does not address all Service concerns for fish and wildlife resources. These comments do not preclude separate review and comments by the Service as afforded by the Fish and Wildlife Coordination Act (48 Stat. 401; 16 U.S.C. 661 *et seq.*) (FWCA), if project implementation requires a permit from the U.S. Army Corps of Engineers pursuant to the Clean Water Act (33 U.S.C. 1344 *et seq.*); nor do they preclude comments on any forthcoming environmental documents pursuant to NEPA.

FEDERALLY LISTED SPECIES

Except for an occasional transient bald eagle (*Haliaeetus leucocephalus*), no other federally listed or proposed endangered or threatened flora or fauna under Service jurisdiction are known to occur within the vicinity of the proposed project site. Therefore, no further consultation pursuant to Section 7 of the ESA is required by the Service. If additional information on federally listed species becomes available, or if project plans change, this determination may be reconsidered.

Current information regarding federally listed and candidate species occurring in New Jersey is enclosed, as well as addresses of State agencies that may be contacted for current site-specific information regarding federal candidate and State-listed species. The Service encourages federal agencies and other planners to consider federal candidate species in project planning.

OTHER SERVICE CONCERNS

The Service participated in the design of a downstream fish bypass facility during the rehabilitation of the Great Falls electric generating station during the 1980s. The Service's primary concerns for this site are maintenance of downstream fish passage, and of adequate dissolved oxygen levels, to avoid adverse effects to aquatic species. Both are required in the Federal Energy Regulatory Commission (FERC) license articles for this facility, which is now operated by Algonquin Power Systems, Inc. The Service requests to be notified if any changes to the FERC license are proposed during the course of the NPS study.

Please contact Wendy Walsh of my staff at (609) 646-9310, extension 48 if you have any questions regarding federally listed endangered or threatened species, or about the above Service comments.

Sincerely,

Annette Scherer

for John C. Staples
Assistant Supervisor

Enclosures

United States Department of the Interior

NATIONAL PARK SERVICE
Northeast Region
200 Chestnut Street
Philadelphia, PA 19106-2878

IN REPLY REFER TO:

D18(NER/PP-PP&SS)

October 8, 2003

Ms. Dorothy Guzzo
New Jersey State Historic Preservation Office
PO Box 404
Trenton, NJ 08625

Dear Ms. Guzzo:

The National Park Service is initiating a Special Resource Study and Environmental Impact Statement in Paterson, NJ as required by the Great Falls Historic District Study Act of 2001, to determine if the Great Falls Historic District should be designated as a unit of the national park system. I recently had a brief conversation with Dan Saunders of your office to apprize him of this effort.

Because the studies related to the Historic Landmark designation established the national significance of the district, our study will primarily focus on criteria related to suitability, feasibility, and management options. I've enclosed a one page summary sheet that we frequently use to acquaint people with this process to give you a more specific idea of the required criteria. It is our hope that we can work closely with your office during the performance of the study.

In accordance with the National Environmental Policy Act requirements and the National Historic Preservation Act, scoping efforts and public meetings will be held to identify the concerns, resources, and interests of individuals, organizations, elected officials, and public agencies in the study area. We will notify you as these are scheduled. A Draft Environmental Impact Statement (DEIS) will be developed to address the issues that have been raised during this phase of the study.

It would be helpful to meet with you or your staff to identify concerns of the New Jersey State Historic Preservation Office and discuss the preliminary resource assessment. Please let me know when this would be possible. In the next six months, the alternatives and their impacts will be roughed out in enough detail to present them to our state partners. At that time, it would be good to have a meeting to present the proposals and get your ideas and comments prior to writing the draft document. I will contact you as this project develops.

I look forward to our collaboration on this project. If you have any questions or would like to set up a meeting, please contact me at (215) 597-2284 or at patricia_iolavera@nps.gov.

Sincerely,

Patricia Iolavera, AICP
Community Planner

Enclosure: Special Resource Study Information Sheet

United States Department of the Interior

NATIONAL PARK SERVICE
Northeast Region
200 Chestnut Street
Philadelphia, PA 19106-2878

IN REPLY REFER TO:

D18(NER/PP-PP&SS)

November 6, 2003

Ms. Phyllis Wahahrock-Tasi
Delaware Nation
P.O. Box 825
Anadarko, OK 73004

Dear Ms. Wahahrock-Tasi:

We recently sent the enclosed letter to Tribal President Gonzales, and unfortunately neglected to send you a courtesy copy. Please accept our apologies. Contact information for our agency is at the end of the enclosed letter, along with descriptions of the project. If you have other questions, you are welcome to contact me as well at (215) 597-2284.

Sincerely,

Patricia Iolavera, AICP
Park Planning and Special Studies
NER, National Park Service
200 Chestnut Street, 3rd Floor
Philadelphia, PA 19106

Enclosures: Letter to Tribal President Gonzales
Location Map for Paterson, NJ
Special Resource Study Fact Sheet
Copy of Notice of Intent from Federal Register

United States Department of the Interior

NATIONAL PARK SERVICE
Northeast Region
200 Chestnut Street
Philadelphia, PA 19106-2878

IN REPLY REFER TO:

D18(NER/PP-PP&SS)

November 6, 2003

Ms. Sherry White
Stockbridge-Munsee Community of Wisconsin
N8476 Mo He Con Nuck Rd.
Bowler, WI 54416

Dear Ms. White:

We recently sent the enclosed letter to Tribal President Robert Chicks and unfortunately neglected to send you a courtesy copy. Please accept our apologies. Contact information for our agency is at the end of the enclosed letter, along with descriptions of the project. If you have other questions, you are welcome to contact me as well at (215) 597-2284.

Sincerely,

Patricia Iolavera, AICP
Park Planning and Special Studies
NER, National Park Service
200 Chestnut Street, 3rd Floor
Philadelphia, PA 19106

Enclosures: Letter to Tribal President Chicks
Location Map for Paterson, NJ
Special Resource Study Fact Sheet
Copy of Notice of Intent from Federal Register

United States Department of the Interior

NATIONAL PARK SERVICE
Northeast Region
200 Chestnut Street
Philadelphia, PA 19106-2878

IN REPLY REFER TO:

D18(NER/PP-PP&SS)

November 6, 2003

Brice Obermeyer, NAGPRA Director
Delaware Tribe of Indians
220 NW Virginia Avenue
Bartlesville, OK 74003

Dear Mr Obermeyer:

We recently sent the enclosed letter to Chief Brooks and unfortunately neglected to send you a courtesy copy. Please accept our apologies. Contact information for our agency is at the end of the enclosed letter, along with descriptions of the project.

Sincerely,

Patricia Iolavera, AICP
Park Planning and Special Studies
NER, National Park Service
200 Chestnut Street, 3rd Floor
Philadelphia, PA 19106

Enclosures: Location Map for Paterson, NJ
Special Resource Study Fact Sheet
Copy of Notice of Intent from Federal Register

United States Department of the Interior

NATIONAL PARK SERVICE
Northeast Region
200 Chestnut Street
Philadelphia, PA 19106-2878

IN REPLY REFER TO:

D18(NER/PP-PP&SS)

October 8, 2003

Chief Joe Brooks
Delaware Tribe of Indians
220 NW Virginia Avenue
Bartlesville, OK 74003

Dear Chief Brooks:

The Northeast Region of the National Park Service is initiating a Special Resource Study and Environmental Impact Statement in Paterson, NJ as required by the Great Falls Historic District Study Act of 2001. The purpose of the study is to determine if the Great Falls Historic District should be designated as a unit of the national park system. The study area is inside the city of Paterson, NJ and includes the historic district near the Great Falls and the Passaic River immediately downstream from the falls. The Great Falls Historic district is on the national register and is associated with Alexander Hamilton and the earliest efforts of the United States in relation to industry, engineering and transportation. A map of the study area and a copy of the Notice of Intent from the Federal Register have been enclosed for your convenience. We believe the proposed site is located in the aboriginal territory of your tribe.

The National Park Service (NPS) wishes to consult with the designated representative of your tribe about this study, especially if it involves an area that contains historical properties to which your tribe attaches religious and cultural significance. We welcome your comments on the scope of the project. We are especially interested in any comments or information you may be able to provide us regarding important tribal history events and places associated with the site, cultural resources that we should include in our evaluation of the suitability of this area becoming a unit of the NPS, or land areas of special concern to your tribal members. The NPS will hold discussions on management alternatives by mid-February, so it would be particularly helpful to have your comments by then. Once management alternatives are drafted, there will be opportunities to provide feedback on specific

alternatives for preserving and interpreting the Great Falls Historic District. Both a newsletter and website are under development that will help us to disseminate information and news about the project, including the dates of future public meetings. We have taken the liberty of adding your name to our newsletter mailing list.

We would welcome the opportunity to discuss this project further with you. If you have any questions about this project or would like to discuss it further, please contact me at (215) 597-6412 or Terrence_Moore@nps.gov.

Sincerely,

Terrence D. Moore
Chief of Park Planning and Special Studies
NER, National Park Service
Philadelphia, PA 19106

Enclosures: Location Map for Paterson, NJ
Special Resource Study Fact Sheet
Copy of Notice of Intent from Federal Register

United States Department of the Interior

NATIONAL PARK SERVICE
Northeast Region
200 Chestnut Street
Philadelphia, PA 19106-2878

IN REPLY REFER TO:

D18(NER/PP-PP&SS)

October 8, 2003

Robert Chicks, President
Stockbridge-Munsee Community of Wisconsin
N8476 Mo He Con Nuck Rd.
Bowler, WI 54416

Dear President Chicks:

The Northeast Region of the National Park Service is initiating a Special Resource Study and Environmental Impact Statement in Paterson, NJ as required by the Great Falls Historic District Study Act of 2001. The purpose of the study is to determine if the Great Falls Historic District should be designated as a unit of the national park system. The study area is inside the city of Paterson, NJ and includes the historic district near the Great Falls and the Passaic River immediately downstream from the falls. The Great Falls Historic district is on the national register and is associated with Alexander Hamilton and the earliest efforts of the United States in relation to industry, engineering and transportation. A map of the study area and a copy of the Notice of Intent from the Federal Register have been enclosed for your convenience. We believe the proposed site is located in the aboriginal territory of your tribe.

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and news about the project, including the dates of future public meetings. We have taken the liberty of adding your name to our newsletter mailing list.

We would welcome the opportunity to discuss this project further with you. If you have any questions about this project or would like to discuss it further, please contact me at (215) 597-6412 or Terrence_Moore@nps.gov.

Sincerely,

Terrence D. Moore
Chief of Park Planning and Special Studies
NER, National Park Service
Philadelphia, PA 19106

Enclosures: Location Map for Paterson, NJ
Special Resource Study Fact Sheet
Copy of Notice of Intent from Federal Register

United States Department of the Interior

NATIONAL PARK SERVICE
Northeast Region
200 Chestnut Street
Philadelphia, PA 19106-2878

IN REPLY REFER TO:

D18(NER/PP-PP&SS)

October 8, 2003

Bruce Gonzales, Tribal President
Delaware Nation
P.O. Box 825
Anadarko, OK 73004

Dear President Gonzales:

The Northeast Region of the National Park Service is initiating a Special Resource Study and Environmental Impact Statement in Paterson, NJ as required by the Great Falls Historic District Study Act of 2001. The purpose of the study is to determine if the Great Falls Historic District should be designated as a unit of the national park system. The study area is inside the city of Paterson, NJ and includes the historic district near the Great Falls and the Passaic River immediately downstream from the falls. The Great Falls Historic district is on the national register and is associated with Alexander Hamilton and the earliest efforts of the United States in relation to industry, engineering and transportation. A map of the study area, a Special Resource Study fact sheet, and a copy of the Notice of Intent from the Federal Register have been enclosed for your convenience. We believe the proposed site is located in the aboriginal territory of your tribe.

The National Park Service (NPS) wishes to consult with the designated representative of your tribe about this study, especially if it involves an area that contains historical properties to which your tribe attaches religious and cultural significance. We welcome your comments on the scope of the project. We are especially interested in any comments or information you may be able to provide us regarding important tribal history events and places associated with the site, cultural resources that we should include in our evaluation of the suitability of this area becoming a unit of the NPS, or land areas of special concern to your tribal members. The NPS will hold discussions on management alternatives by mid-February, so it would be particularly helpful to have your comments by then. Once management alternatives are drafted, there will be opportunities to provide feedback on specific alternatives for preserving and interpreting the Great Falls Historic District. Both a

newsletter and website are under development that will help us to disseminate information and news about the project, including the dates of future public meetings. We have taken the liberty of adding your name to our newsletter mailing list.

We would welcome the opportunity to discuss this project further with you. If you have any questions about this project or would like to discuss it further, please contact me at (215) 597-6412 or Terrence_Moore@nps.gov.

Sincerely,

Terrence D. Moore
Chief of Park Planning and Special Studies
NER, National Park Service
Philadelphia, PA 19106

Enclosures: Location Map for Paterson, NJ
Special Resource Study Fact Sheet
Copy of Notice of Intent from Federal Register

DELAWARE TRIBE OF INDIANS

220 N.W. VIRGINIA • BARTLESVILLE, OKLAHOMA 74003
TELEPHONE: (918) 336-5272 • FAX: (918) 336-5513

October 20, 2003

Terrence Moore
National Park Service
Northeast Region
200 Chestnut Street
Philadelphia, PA 19106-2878

Re: Special Resource Study and Environmental Impact Statement for the Great Falls Historic District, Patterson, NJ. D18 (NER/PP-PP&SS).

Dear Mr. Moore:

Thank you for informing the Delaware Tribe regarding the above referenced project. The Delaware Tribe is committed to protecting archaeological sites that are important to our tribal heritage, culture, religion and in particular locations that may contain human burial remains and associated funerary objects.

Although we are unaware of any locations with cultural or religious significance within the Great Falls Historic District, given the project's location, we are interested in the results of the study and would like to continue as a consulting party. We appreciate your cooperation and look forward to working together on our shared interests in protecting and preserving Delaware cultural heritage in the state of New Jersey.

Sincerely,

Brice Obermeyer

Brice Obermeyer, Ph.D.
NAGPRA Director
Delaware Tribe of Indians

Appendix Three

Bibliography

Bibliography

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Department of the Interior

As the nation's principal conservation agency, the Department of the Interior has the responsibility for most of our nationally-owned public lands and natural resources. Its duties include fostering sound use of our land and water resources; protecting our fish, wildlife and biological diversity; preserving the environmental and cultural values of our national parks and historic places; and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to ensure that their development is in the best interest of all our people by encouraging stewardship and citizen participation in their care. The Department also has major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.



National Park Service

The National Park Service is a bureau within the Department of the Interior. Its mission is to preserve unimpaired the natural and cultural resources and values of the National Park system for the enjoyment, education and inspiration of this and future generations. The Park Service cooperates with partners to extend the benefits of natural and cultural resources conservation and outdoor recreation throughout this country and the world.



National Park Service Special Resource Study

Great Falls Historic District

Paterson, New Jersey