



CHAPTER FIVE: Environmental Consequences

Impact Topics Considered	87
Impact Topics Eliminated from Further Evaluation	87
Methodology for Assessing Impacts	88
Impact Analysis	89

National Park Service policy requires that special resource studies be subject to the requirements of the National Environmental Policy Act of 1969, as amended (NEPA) and its implementing regulations (36 CFR 1500-1508), and Director's Order #12, *Conservation Planning, Environmental Impact Analysis, and Decision-Making* (2001), and accompanying Handbook. This document also fulfills the requirements of Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA), and has been prepared in accordance with the implementing regulations of the Advisory Council for Historic Preservation (36 CFR Part 800) and NPS Director's Order #28: *Cultural Resources Management* (DO-28) and accompanying Handbook. Since a study presents management alternatives at a broad level, the EA is similarly broad and the analysis is general in nature. Implementation of any action alternative would come only after action by Congress, and in the event that Congress authorizes the National Park Service to implement an alternative, the first order of business would be a general management planning process.

A complete description of the Affected Environment and its historical context may be found in Chapter Two: Historical Overview and Resource Description.

Impact Topics Considered

The National Environmental Policy Act requires that agencies consider whether a number of different possible issues require detailed analysis as impact topics. They cover a wide variety, ranging from air quality to threatened and endangered species to socioeconomic conditions. Impact topics are resources of concern that could be affected, either beneficially or adversely, by implementing any of the proposed alternatives. Impact topics were identified on the basis of federal laws, regulations, Executive Orders, NPS Management Policies, 2006, and NPS knowledge of resources. The following impact topics are considered and analyzed in this document:

- cultural resources
- natural resources
- visitor use and experience
- socioeconomic environment

For a detailed description of these resources, please refer to Chapter Two: Historical Overview and Resource Description.

Cumulative Impacts

Cumulative impacts are defined as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions” (40 CFR 1508.7). Cumulative impacts are considered for all alternatives, including the no-action alternative.

Impact Topics Dismissed from Further Consideration

Air quality: Motor vehicle emissions, industries, agricultural practices, and other inputs that have an effect on air quality are not expected to change as a result of any of the proposals in this study.

Hazardous Materials: Implementation of any of the alternatives is not expected to result in exposure of any population to hazardous materials.

Energy: The action alternatives presented in this document subscribe to and support the practice of sustainable planning and design in part by preserving existing sites. Although the alternatives would not significantly affect the use of energy, fuel consumption may increase from the possibility of increased traffic to the sites. This increase is negligible, so energy issues have been dismissed from further analysis.

Environmental Justice in Minority or Low-Income Populations: The proposed actions do not negatively impact minority or low-income populations, who may in fact experience negligible beneficial impacts through increased employment provided and education by the action alternatives.

Sacred Sites: No sacred sites have been identified at the sites, so the topic has been dismissed from further analysis.

Indian Trust Resources: No Indian Trust resources exist at the sites proposed for inclusion, so the topic was dismissed.

Public Health and Safety: Implementation of some of the proposed actions could potentially benefit public health. The alternatives would preserve agricultural land and open space, which would contribute to improved health and recreational opportunities. Providing financial assistance for

the preservation, protection, enhancement, and maintenance of resources would improve working conditions for employees and the safety of visitors. However, because the benefits to public health and safety would be minor, they have been dismissed from further analysis.

Environmental Consequences

This section assesses the potential impacts of implementing any of the management options in this study on the impact topics described above. A description of the management options is presented first, followed by a brief description of how impacts were determined, a chart that defines the impact intensities used to measure potential impacts, and a table that presents the impact analysis by alternative, so that impacts can be compared between management options. The planning team based the impact analysis and conclusions on the review of existing research and studies and site reconnaissance.

Methodology for Assessing Impacts

The impact analysis was developed by planning team members, who drew on knowledge of current conditions, existing literature and studies, information from other professionals, and input from the public. As required by NEPA, potential impacts are described in terms of type, context, duration, and level of intensity. These terms are defined below.

Type of Impact

Impacts can be beneficial or adverse. Beneficial or positive impacts would improve resource conditions while adverse impacts would deplete or negatively alter resources.

Context

Context is the setting within which an impact occurs and can be site specific, local, or region-wide. Site-specific impacts would occur at the location of the action, local impacts would occur within the general vicinity of the project area, and region-wide impacts would extend beyond the study area's boundaries.

Intensity

Impact intensity is the degree to which a resource would be adversely affected. Because level of intensity definitions

(negligible, minor, moderate, major) varies by resource, separate definitions are provided for each impact topic analyzed. The criteria that were used to rate the intensity of the impacts for each resource topic is presented below under "impact thresholds". Beneficial impacts do not receive intensity definitions.

Duration

Duration is a measure of the time period over which the effects of an impact persist. The duration of impacts can be either short-term or long-term. A short-term impact would be temporary in duration and would be associated with construction. Depending on the resource, impacts would last as long as construction was taking place. Long-term impacts last beyond the construction period, and the resources may not resume their pre-construction conditions for a longer period of time following construction. Impact duration for each resource is unique to that resource and is presented for each resource topic.

The following table characterizes the impact intensity, or the degree to which a resource may be affected by the actions contained in any of the alternatives.

An environmental analysis typically considers the impacts of any proposed change relative to the status quo or existing conditions. In evaluating the impacts of the proposed management options in this study, it is important to note that the change that suggests the greatest level of impact occurs in Management Option 1, the status quo alternative. Management Option 1 describes the current operating circumstances for the Corridor and the conditions expected once the Commission expires. This analysis will consider the impacts of Management Option 1 both pre- and post- expiration of the Commission. The pre-expiration component of Management Option 1 and the proposals for a continued federal presence in the Blackstone River Valley through the designation of an NPS unit in Options 2 and 3 have similar impacts at slightly different scales. It is also important to note that the National Heritage Corridor would continue to exist under new management and could continue to have an influence over natural and cultural resources, the visitor experience, and socioeconomic conditions; however, it would no longer be overseen by a federal commission or staffed by the National Park Service.

Intensity of Impact	Natural Resources	Cultural Resources	Visitor Use & Experience	Socioeconomic Resources
Negligible	Impact localized and not detectable, or at lowest levels of detection.	Impact barely perceptible and not measurable. No evident consequences, either adverse or beneficial.	Visitors would not detect or be affected by changes. Impact would be short-term.	Impact on the regional and local economy would not be measurable.
Minor	Impact localized and slightly detectable but would not affect overall structure of natural community.	Impact would be perceptible or measurable, but slight and localized. Action would not affect character or diminish features of eligible site. No permanent effect on integrity of resources.	Changes would be detectable, but slight and short-term. Visitors would be aware of impacts.	Impact would be barely measurable and affect only small sector of economy. Consequences of actions not readily apparent
Moderate	Impact clearly detectable; could appreciably affect individual species, communities, or natural processes.	Impact would be perceptible and measurable. Action would change a character-defining feature of a resource, but not eliminate integrity.	Changes would be apparent and likely long-term. Visitors would be aware of impacts and would likely be able to express opinions about changes.	Impact would be clearly measurable and affect a sector of local or regional economy. Adverse impacts would not threaten economic sectors, and beneficial impacts would not produce noticeable structural shifts.
Major	Impact highly noticeable; would substantially influence individuals or groups of species, communities, or natural processes.	Impact would be substantial, discernible, measurable, and permanent. Adverse impact could change a character-defining feature making resource no longer eligible for National Register.	Changes would be apparent, severely adverse or exceptionally beneficial; would have important long-term consequences. Visitor would be aware of the impacts and would likely express strong opinion.	Impact would be readily apparent and cause appreciable shifts in regional and local economy, either adverse or beneficial.

Impact Analysis

Management Option 1: John H. Chafee Blackstone River Valley National Heritage Corridor

Summary of Management Option

Under this option, no new unit of the National Park System would be created. The Commission would continue under its present authorities until it expires at the end of its current authorization in October 2011. The National Park Service would no longer provide staff to the Corridor.

After the Commission expires, a new management entity, the Blackstone River Valley National Heritage Corridor, Inc., would assume responsibility for managing the Corridor. The new management entity would assume many

of the functions previously undertaken by the Commission but would no longer receive operating support and staff from the National Park Service.

Natural Resources:

Pre-Expiration: Over the last nearly 25 years, the Commission has served as an advocate, coordinator, and convener for regional efforts to clean up the Blackstone River and improve public access to and use of the Corridor. Water quality, public access, and use of the river continue to improve. The Commission has also conducted a natural resources inventory that enhances local efforts to protect the region's natural resources and prioritize open space acquisition. Historically, those efforts have had a beneficial impact on the Valley's natural resources.

Post-Expiration: The new management entity for the Corridor could continue to perform the roles of advocate,

convener, and coordinator. In the absence of federal staff and a regular source of operating funds, the involvement and influence of the Corridor in these efforts could decline.

The shift in management for the Corridor could slow progress in many natural resource initiatives but would not eliminate them. The presumed impacts on natural resources in the region would continue to be positive, if negligible. The actual outcome will depend on the long-term strength of the new management entity.

Cultural Resources:

Pre-Expiration: Over the last nearly 25 years, the Commission has served as an advocate, coordinator, and convener for historic preservation, land protection, and Smart Growth, all in an effort to influence both public and private sector support for the resources that underlie the Blackstone River Valley's national significance. The Commission has conducted research, provided planning and preservation assistance, and undertaken demonstration projects in support of cultural resource protection objectives. The Commission has also supported the development of an extensive oral history program. Many of the technical and financial resources necessary to support these undertakings came directly through NPS programs and staff. Historically, they have had a beneficial impact on the Valley's cultural resources.

Post-Expiration: The new management entity for the Corridor could continue to perform the functions of advocate, convener, and coordinator for these initiatives. It could apply to existing NPS programs for assistance. However, in the absence of the NPS professional staff, their ability of the new entity to provide assistance to state and local agencies and their network of partners would be limited— at least until the management entity develops its own capacity for delivering such services.

Under the new management entity, cultural resource protection activities, particularly the oral history initiative and other projects that were previously undertaken by Commission staff, could suffer. The presumed impacts on cultural resources in the valley would continue to be positive, if negligible. The actual outcome will depend on the long-term strength of the new management entity.

Visitor Use & Experience

Pre-Expiration: Over the last nearly 25 years, the Commission has undertaken efforts that have enabled local residents and visitors to understand and appreciate the national significance of the Blackstone River Valley. A region-wide identity project using a system of logos, signage, and banners unifies the Valley while highlighting its individual resources. The oral history effort resulted in a video series, *Along the Blackstone*, highlighting different facets of the region's historic and contemporary communities. The presence of NPS interpretive rangers has contributed to the creation of a cohesive visitor experience in the Blackstone River Valley. The Commission also worked closely with state agencies to advance the development of recreational facilities (e.g., Blackstone River Bikeway). Historically, they have had a beneficial impact on the valley's visitor use and experience.

Post-Expiration: In the absence of NPS visitor services staff, the role of the Corridor would likely shift from being a provider of visitor services to being an advocate, convener, and coordinator for those who would continue to provide those services. The Corridor could apply to existing NPS programs and others for funding and assistance to advance visitor programming. It could also continue to maintain a regional perspective and encourage visitor service providers to operate within a valley-wide context rather than in isolation.

Under the new management entity, some visitor services activities could suffer – particularly those that were undertaken exclusively by NPS staff. The presumed impacts of this transition on visitor use and experience in the valley could be negative, and may be moderate in scope. The actual outcome will depend on the long-term strength of the new management entity.

Socioeconomic Environment

Pre-Expiration: Over its nearly 25-year history, the Commission's efforts have enabled local residents and visitors to understand and appreciate the national significance of the Blackstone River Valley. The identification and promotion of a regional identity for the Blackstone River Valley, as well as the protection and interpretation of the valley's resources have contributed to an improved economic outlook and enhanced quality of life in many valley communities. Federal investments in support of Corridor

objectives were leveraged to a significant degree, resulting in public/ private investments in excess of \$500 million since the creation of the Commission. In many communities, historic mill buildings have been repurposed for use as commercial or residential space with the support and assistance of Commission staff. Staff members continue to work collaboratively with state and local stakeholders to address issues associated with sustainable planning and development practices, creation of recreational corridors, and preservation of important regional resources. Historically, they have had a substantial, beneficial impact on the valley's socioeconomic environment.

Post-Expiration: The new management entity for the Corridor could continue to promote the Blackstone River Valley's regional identity and advocate for the protection, interpretation, and development of its natural, cultural, and recreational assets. However, with increasingly limited federal money to fuel their involvement in local initiatives, their ability to leverage additional public and private funds could be hampered and their positive impact on the region's socioeconomic environment could be diminished.

Given sufficient funds and staffing, the new management entity could continue to spearhead regional initiatives that would support and enhance the socioeconomic environment, though it is unlikely that it would achieve the same scale as its predecessor. The presumed impacts on socioeconomic environment in the valley would continue to be positive, if negligible. The actual outcome will depend on the long-term strength of the new management entity.

Cumulative Impacts

Pre-Expiration/Post-Expiration: Cumulative impacts are similar enough under both scenarios to merit considering them together. Whether under the management of a federal commission or another type of management body, the National Heritage Corridor is directly or indirectly engaged in any number of initiatives that are undertaken by other federal, state, or local agencies, and private enterprise that have the effect of supporting of its goals and objectives. A list of regional initiatives may be found in Chapter One: Study Purpose and Background.

The Commission presently has the authority to comment on any federal activity that may have an influence on conditions within the Corridor. The new management entity could seek to fulfill a similar function.

The management entity for the Corridor has and would continue to play a moderating role in mitigating the negative impacts that may be imposed by other initiatives in the region and in supporting the benefits that likewise may be derived by other regional initiatives. In this way, the management entity of the Corridor has and would continue to limit any negative cumulative impacts.

Management Option 2: Old Slater Mill National Historic Site

Summary of Management Option

Under this option, the Old Slater Mill National Historic Landmark District would be considered as a potential unit of the National Park System. The site would continue to be owned by the Old Slater Mill Association (OSMA), though NPS would acquire a preservation easement on the property to ensure its long-term preservation. The NPS would enter into a cooperative agreement with OSMA in support of the operation and management of the site.

NPS would be authorized to provide assistance to industrial heritage resources throughout the Valley and to agencies and organizations engaged in the protection and interpretation of the Blackstone River and its tributaries, Blackstone Canal, and the larger rural landscape as well as those working on the development of recreational trails that link industrial heritage resources.

Natural Resources

The focus of this alternative is on the Old Slater Mill National Historic Landmark (NHL) district and fostering an understanding and appreciation of the region's industrial heritage through interpretation of thematically related resources Valley-wide.

A segment of the Blackstone River runs through the NHL district, NPS would work with the Old Slater Mill Association (OSMA) to continue to protect both the natural and cultural features associated with this segment of the river and would collaborate with others to improve its water quality.

The significance of the river system would be interpreted throughout the Blackstone River Valley in terms of both industrial and environmental history. Interpretive themes related to the natural resources in the valley would rein-

force the efforts of those involved in their restoration and protection.

At the Old Slater Mill site, this management option could have a positive, direct impact on natural resource protection through actions taken to protect this segment of river. Valley-wide, its impact would be positive, moderate and indirect.

Cultural Resources

Old Slater Mill has been maintained and operated by OSMA since 1921 and was designated an NHL district in 1966. A considerable amount of preservation work has been undertaken by OSMA independently and in collaboration with the Corridor and the NPS.

Under this management option NPS would acquire a preservation easement on the Old Slater Mill property to ensure its long-term protection and availability to the American public. NPS would also continue to provide support for the protection of the character-defining features of the NHL district. This management option would be of positive, long-term benefit to Old Slater Mill and would represent a negligible or minimal impact to the current state of the cultural resources there.

Through its Valley-wide interpretive outreach, this management option could foster continued recognition and appreciation of related industrial heritage resources, thereby encouraging their stewardship. This would build upon the previous efforts of the Commission and those of the new management entity to likewise protect the region's cultural resources. This management option would be of positive, long-term benefit to the region's cultural resources and would represent a negligible or minimal impact to the current condition of the region's cultural resources.

Visitor Use & Experience

Old Slater Mill presently offers a regular schedule of visitor and school-based programming as well as static exhibits. A visitor center located directly across the street is available to orient visitors to the Blackstone River Valley.

Under management option 2, the National Park Service would work with OSMA, the City of Pawtucket, and others to recast the existing regional orientation center as a park visitor and education facility. This would offer a more intensive orientation to Old Slater Mill and allow for ex-

panded exhibits and programming. Both NPS and OSMA employees and volunteers would provide programming at the visitor center/ education facility and on-site at the mill complex. Visitors would benefit from an expanded menu of programs and activities.

Region-wide interpretation of the Blackstone River Valley's industrial heritage resources would be similar to what visitors presently experience. Printed guides for walking tour, signage, and other interpretive media would continue to be maintained in collaboration with the Corridor management entity and the communities. NPS ranger staff would continue to offer scheduled walking tours, lectures, and other events throughout the Blackstone River Valley.

Under management option 2, there is likely to be a positive, long-term impact on the visitor experience in Pawtucket. Valley-wide, the impact would continue to be positive, but there would be negligible to minimal change to the existing condition.

Socioeconomic Environment

The projected impacts of Management Option 2 combined with the continued existence of the National Heritage Corridor would not have an appreciable impact on the socioeconomic environment beyond what is described in Management Option 1.

Cumulative Impacts

On a region-wide basis, the cumulative impacts under this management option are likely to be similar to those described under Management Option 1. Within the context of the Old Slater Mill National Historic Landmark District, the contribution of NPS is likely to result in an incremental benefit with regards to the cumulative impacts of multiple actors.

Management Option 3: Blackstone River Valley Industrial Heritage National Historical Park

Summary of Management Option

This option envisions the creation of a new unit of the National Park System that would include specific sites and districts located in the Corridor. Within the named historic districts and/or along the Blackstone River and Canal, certain areas of national significance and NPS interest could

be acquired in full or less-than-full fee by NPS. Acquisition would be on a willing seller basis.

NPS would work collaboratively with a legislatively named regional partner and others to support the interpretation and long-term protection of contributing resources within the named historic districts and along the Blackstone River and Canal. Through a cooperative agreement with NPS, the regional partner would provide assistance to that end in the following areas: planning, preservation, interpretation, and development.

NPS would also work with the regional partner to seek the interpretation and long-term protection of related resources that are outside of the park's boundary including the Blackstone River Valley's larger rural landscape and remnant industrial villages.

Natural Resources

The areas of emphasis for this management option include Old Slater Mill Historic Site & Museum in Pawtucket, historic districts in Slatersville, Ashton, and segments of the Blackstone River State Park, all in Rhode Island; and historic districts in Whitinsville and Hopedale in Massachusetts. The Blackstone River and Canal are also highlighted. All of these locations intersect with rivers, and in some cases, reservoirs, within the Blackstone River watershed.

As feasible, NPS would work with local and state agencies and private enterprise to protect the natural and cultural features of these waterways and to improve their water quality. The significance of the river system would be interpreted throughout the Blackstone River Valley both in terms of environmental and industrial history.

Under this management option, NPS would work with a legislated regional partner (also the management entity for the NHC) that would assume the lead in undertaking resource protection and rehabilitation projects throughout the Valley.

Actions proposed under this management option would have a positive, moderate impact on natural resources and would encourage their protection valley-wide.

Cultural Resources

As is the case for natural resources, the areas of emphasis for this management option include Old Slater Mill

Historic Site & Museum in Pawtucket, historic districts in Slatersville, Ashton, and segments of the Blackstone River State Park, all in Rhode Island; and historic districts in Whitinsville and Hopedale in Massachusetts. The Blackstone River and Canal are also highlighted.

Under this management option NPS would acquire a preservation easement on the Old Slater Mill property to ensure its long-term protection and availability to the American public. NPS may also acquire other key historic structures and open space in the areas described above. These historic structures and open spaces would be preserved and interpreted in support of the park's interpretive themes. NPS would also continue to provide support for the protection of the character-defining features of within these areas. This management option would be of positive, long-term benefit to Old Slater Mill and other sites and districts associated with the proposed park, and would represent a positive impact on the current state of the cultural resources directly influenced by NPS ownership and management.

In collaboration with NPS, the park's regional partner would offer preservation support and assistance to industrial heritage resources throughout the Blackstone River Valley. This would continue the work already undertaken by the existing Commission and would not represent a substantial change from current conditions or practices. This collaboration would continue to be of positive, long-term benefit to the region's cultural resources.

Visitor Use & Experience

Under management option 3, NPS would work with pre-existing visitor facilities and museums to offer a uniform orientation exhibit that would provide an overview of the Blackstone River Valley's industrial heritage and how to experience it. In addition to the orientation exhibits, NPS would collaborate with these organizations to offer programs that support the interpretive themes of the park.

Visitors would also be offered information on programming being offered by the park's regional partner at thematically related industrial-heritage sites throughout the Valley.

As in management option 2, NPS could work with OSMA to offer an expanded menu of programs and activities. Under this management option, NPS would also develop interpretive facilities and install interpretive media in

locations that were previously undeveloped from a visitor experience standpoint. For instance, NPS might acquire a unit of worker housing at Slatersville or Ashton and develop an interpretive exhibit on the lives of millworkers.

The park’s legislated regional partner would play a substantial role in development of public information about the park and related sites throughout the Blackstone River Valley. The regional partner would also continue to play a substantial role in developing the Valley’s trail network and the Blackstone River Bikeway.

Under management option 3, there is likely to be a positive, long-term impact on the visitor experience at those locations that had previously been undeveloped from a visitor experience standpoint. Access to new facilities and interpretive media as well as regularly scheduled NPS programs would greatly enhance the visitor experience at those locations. Likewise, the potential for a regular NPS presence at Old Slater Mill would enable OSMA to serve more visitors and offer a broader range of programming.

As in management option 2, Valley-wide the impact would continue to be positive, but there would be little to no change to the existing conditions.

Socioeconomic Environment

Like Management Option 2, the projected impacts of Management Option 3 combined with the continued existence of the National Heritage Corridor would not have an appreciable impact on the socioeconomic environment beyond what is described in Management Option 1.

Cumulative Impacts

On a region-wide basis, the NPS would be closely allied with its regional partner and is therefore likely to have a greater incremental benefit in its capacity to influence regional activities that may have an impact on the area. Locally, in the context of the sites and districts that would compose the park, the NPS contribution is likely to result in an incremental benefit with regard to the cumulative impacts of multiple actors.

Impact Topic Areas	Management Option 1: J.H. Chafee Blackstone River Valley National Heritage Corridor Continues to Operate Under Current Authorities	Management Option 2: Old Slater Mill National Historic Site	Management Option 3: Blackstone River Valley Industrial Heritage National Historical Park
Natural Resources	Negligible, positive, long-term (largely regional)	Positive, long-term (largely local)	Positive, long-term (both local and regional)
Cultural Resources	Negligible, positive, long-term (largely regional)	Positive, long-term (largely local)	Positive, long-term (both local and regional)
Visitor Use & Experience	Moderate, negative, long-term (largely regional)	Positive, long-term (largely local)	Positive, long-term (both local and regional)
Socioeconomic	Negligible, positive, long-term (largely regional)	Negligible, positive, long-term (largely local)	Negligible, positive, long-term (both local and regional)
Cultural Impacts	Positive	Positive	Positive

Figure 14: Summary of Environmental Impacts.