NATIONAL PARK SERVICE • U.S. DEPARTMENT OF THE INTERIOR

Foundation Document

Allegheny Portage Railroad National Historic Site

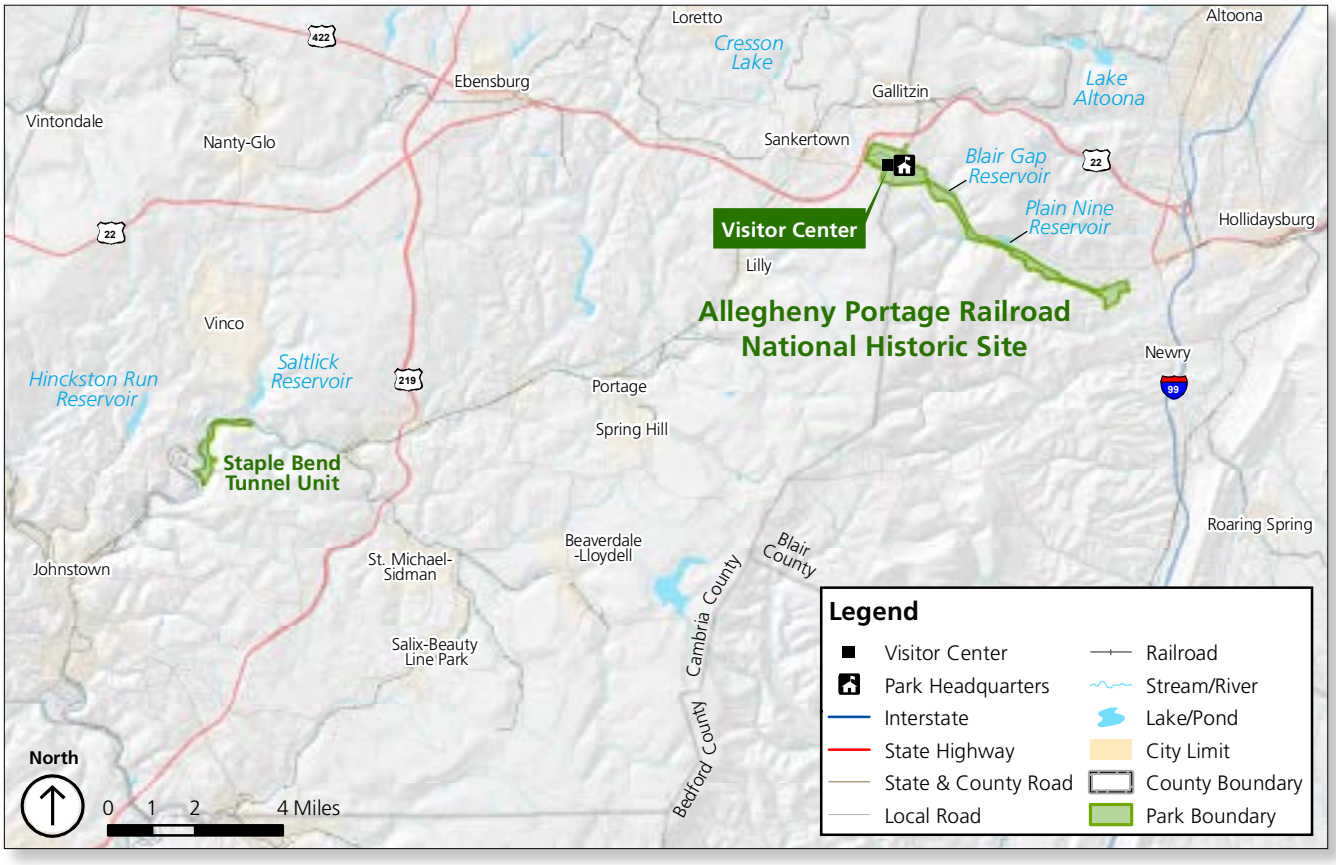
Pennsylvania

October 2013

Staple Bend Tunnel

American Engineering Accomplishments

Lemon House


Loretto
Altoona
Cresson Lake
Ebensburg
Gallitzin
Lake Altoona
Vintondale
Nanty-Glo
Sankertown
Blair Gap Reservoir
Visitor Center
Plain Nine Reservoir
Hollidaysburg
Lilly
Allegheny Portage Railroad National Historic Site
Vinco
Newry
Saltlick Reservoir
Hinckston Run Reservoir
Portage
Spring Hill
Staple Bend Tunnel Unit
Roaring Spring
Johnstown
St. Michael-Sidman
Beaverdale-Lloydell
Blair County
Cambria County
Salix-Beauty Line Park
Bedford County
North
0 1 2 4 Miles
Legend
Visitor Center
Park Headquarters
Interstate
State Highway
State & County Road
Local Road
Railroad
Stream/River
Lake/Pond
City Limit
County Boundary
Park Boundary

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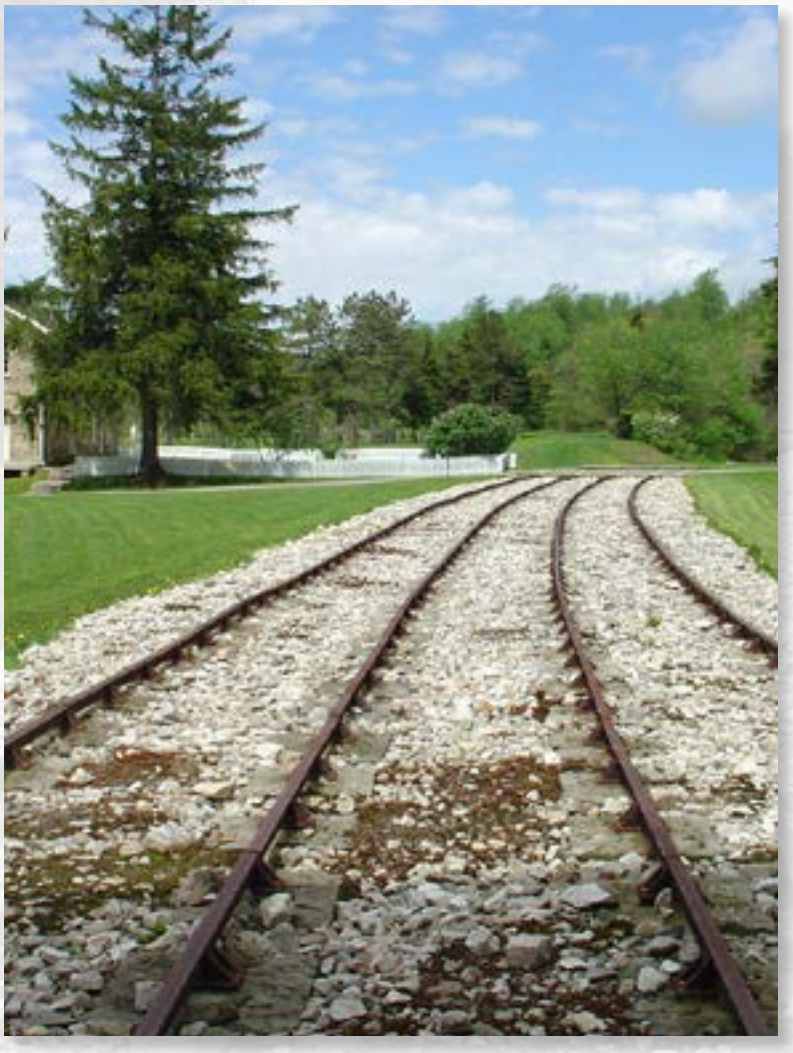


Introduction

Every unit of the national park system is required to have a formal statement of its core mission that will provide basic guidance for all planning and management decisions—a foundation for planning and management. Increasing emphasis on government accountability and restrained federal spending demand that all stakeholders are aware of the purpose, significance, interpretive themes, fundamental resources and values, and special mandates and administrative commitments of a park unit, as well as the legal and policy requirements for administration and resource protection that factor into management decisions.

The process of developing a foundation document provides the opportunity to gather together and integrate all varieties and hierarchies of information about a park unit. Next, this information is refined and focused to determine the most important attributes of the park. The process of preparing a foundation document aids park managers, staff, and stakeholders in identifying information that is necessary for future planning efforts.

A foundation document serves as the underlying guidance for all management and planning decisions for a national park unit. It describes the core mission of the park unit by identifying the purpose, significance, fundamental and important resources and values, interpretive themes, assessment of planning and data needs, special mandates and administrative commitments, and the unit's setting in the regional context.

The foundation document can be useful in all aspects of park management to ensure that primary management objectives are accomplished before addressing other factors that are also important, but not directly essential to achieving the park purpose and maintaining its significance. Thus, the development of a foundation document for Allegheny Portage Railroad National Historic Site is necessary to effectively manage the park over the long term and to protect park resources and values that are integral to the purpose and identity of the park unit.

This foundation document was developed as a collaborative effort among staff at the park, the National Park Service (NPS) Denver Service Center, and the NPS Northeast Regional Office. A workshop to facilitate this process was held on August 22–24, 2012, at the Lemon House in the main park unit outside of Cresson, Pennsylvania. A complete list of attendees and preparers is included in part 3 of this document.

The park atlas is also a part of the foundation project. It is a geographic information system (GIS) product that can be published as a hard copy paper atlas and as electronic geospatial data in a Web-mapping environment. The purpose of the park atlas is to support park operations and to facilitate planning decisions as a GIS-based planning support tool. The atlas covers various geographic elements that are important for park management such as natural and cultural resources, visitor use patterns, and facilities. The park atlas establishes the available baseline GIS information so it can be used to support future planning activities. The park atlas is available at http://insideparkatlas.nps.gov/.

Part 1: Core Components

All foundation documents include the following core elements:

The park purpose is the specific reason(s) for establishing a particular park. A park purpose statement is grounded in a thorough analysis of the legislation (or executive order) and legislative history of the park, and may include information from studies generated prior to the park's establishment. The purpose statement goes beyond a restatement of the law to clarify assumptions about what the law means in terms specific to the park.

The significance statements express why the resources and values of the park are important enough to justify national park designation. Statements of park significance describe why an area is important within a global, national, regional, and systemwide context. Significance statements are directly linked to the purpose of the park and are verified by data or consensus that reflect the most current scientific or scholarly inquiry and cultural perceptions because the resources and values may have changed since the park was established.

Interpretive themes connect park resources to relevant ideas, meanings, concepts, contexts, beliefs, and values. They support the desired interpretive objective of increasing visitor understanding and appreciation of the significance of park resources. In other words, interpretive themes are the most important messages to be conveyed to the public about the park. Interpretive themes are based on park purpose and significance.

Fundamental resources and values are features, systems, organisms, processes, visitor experiences, stories, scenes, sounds, smells, or other attributes of the park that merit primary consideration during planning and management because they are essential to achieving park purpose and maintaining park significance.

Other important resources and values are resources and values that are determined to be important and integral to park planning and management, although they are not related to park purpose and significance.

Brief Description of the Park

Allegheny Portage Railroad National Historic Site is in southwestern Pennsylvania in Blair and Cambria counties. The park protects the cultural resources that comprise the Allegheny Portage Railroad and tells the story of its influence on the nation. The park consists of two separate units extending across 40 miles. The main park unit is at the summit of the original portage, roughly 3 miles east of the town of Cresson. The main unit includes the visitor center, Lemon House, Incline 6 and Level 6, the Engine House 6 ruins and exhibit shelter, and Skew Arch Bridge. The eastern slope portion of the main unit is long and narrow, reflecting the original footprint of the portage railroad. This portion contains Inclines and Levels 6–10. The park's Staple Bend Tunnel unit is approximately 16 miles southwest of the main unit and features the first railroad tunnel in the United States.

The Allegheny Portage Railroad section of the Pennsylvania Mainline Canal system played a vital role in the nation's industrial development in the early 19th century. The portage railroad operated between 1834 and 1854 and was the most complex segment in the Mainline Canal system that connected Philadelphia and Pittsburgh. It was at this segment that the canal was blocked by the Allegheny Mountains. Overcoming this formidable natural barrier required ingenuity and skillful engineering. The portage railroad was the solution to this massive obstacle. It covered 36.6 miles and rose nearly 1,400 feet when it was completed.

The railroad was equipped with 10 inclined planes, 5 on each side of the mountain. As canal boats arrived at the portage railroad, they were removed from the water and placed on rail cars. The rail cars were pulled up and lowered down the mountain by hemp, and later wire ropes, along tracks set on the inclined planes. The ropes were pulled by stationary steam engines in the engine house at the head of each incline. Each inclined plane was separated from the next by a level. The rail cars were pulled along the levels first by horse power and later by steam locomotives.

The portage railroad provided the critical link in the flow of goods, materials, and people between the Atlantic coast and the Ohio and Mississippi rivers. Its completion significantly reduced travel time from Philadelphia to Pittsburgh and made regional trade exponentially more efficient. The Allegheny Portage Railroad also pioneered the first railroad tunnel in the United States, the use of wire cables, and containerized transport. These engineering feats made Pennsylvania's state-of-the art transportation route possible. The route brought needed commerce and revenue to the Commonwealth at a time when eastern seaboard states were vying for control of western trade.

The integrated railroad-canal system was a major advancement in the nation's transportation infrastructure and symbolized its growing industrial prowess. The move from roads and trails to more advanced mechanized transportation helped to create a national railroad network. This transportation link also shaped social and economic patterns throughout the region. The portage railroad sustained small industrial communities, such as Mount Etna, by connecting them to a national market. The trade that occurred via the portage railroad and Mainline Canal created lasting bonds between the northeast and frontier west, which continued through the Civil War.

The Allegheny Portage Railroad has been designated a national historic landmark and is listed in the National Register of Historic Places. It has also been designated a National Historic Civil Engineering Landmark by the American Society of Civil Engineers.

Park Purpose

Purpose statements identify the specific reason for the establishment of a particular park. Purpose statements are crafted through a careful analysis of the enabling legislation and legislative history that influenced the development of Allegheny Portage Railroad National Historic Site, which was designated on August 31, 1964 (see appendix A for enabling legislation and subsequent amendments). The purpose statement reinforces the foundation for future park management administration and use decisions. The following purpose statement was based on the review of park legislation, previous management documents, and discussions with park staff:

ALLEGHENY PORTAGE RAILROAD NATIONAL HISTORIC SITE preserves the history and remnants of the Allegheny Portage Railroad and interprets the Pennsylvania Mainline Canal's system of canals, railroads, and inclined planes and the impact these had on the early development of the nation.

Park Significance

Significance statements express why Allegheny Portage Railroad National Historic Site resources and values are important enough to merit national park unit designation. Statements of significance describe why an area is important within a global, national, regional, and systemwide context. These statements are linked to the purpose of the park unit and are supported by data, research, and consensus. Significance statements describe the distinctive nature of the park and inform management decisions, focusing efforts on preserving and protecting the most important resources and values of the park unit.

The following significance statements have been identified for Allegheny Portage Railroad National Historic Site (please note that the statements are in no particular order):

- The challenges presented by the terrain in the Allegheny Mountains led to a number of transportation and engineering innovations that advanced industrial development in the United States, including wire rope, containerized cargo, mechanized inclined planes, locomotive technology, steam engines, and tunnel construction.
- The Staple Bend Tunnel was the first railroad tunnel in the United States.
- Rising more than 1,400 feet and stretching for 36 miles, the Allegheny Portage Railroad was the first and largest system of inclined planes and levels in the United States.
- John Roebling solved the technical dilemmas associated with the Allegheny Portage Railroad's use of hemp rope to raise rail cars and canal boats by inventing wire rope. Wire rope later allowed internationally significant advancements in a variety of industrial fields, including bridge building, mining, and elevators.
- Completed in 1840 at a cost of $12 million ($280 million in 2012[1] dollars), the Pennsylvania Mainline Canal was the largest, most complex, and costliest single public works project in the United States.
- The Allegheny Portage Railroad and Pennsylvania Mainline Canal shaped patterns of regional economic and social development and were catalysts for industrial development in western Pennsylvania.
- The Allegheny Portage Railroad conquered the Allegheny Mountains, established a major transportation corridor across Pennsylvania, and paved the way for the iconic Pennsylvania Railroad and westward expansion.

1. Source: Handbook of Labor Statistics, U.S. Department of Labor, http://www.minneapolisfed.org/community_education/teacher/calc/hist1800.cfm

Interpretive Themes

Interpretive themes are an organizational tool. They provide the conceptual framework for visitor experience planning and programming. Interpretive themes are derived from and capture the essence of park significance, resources, and values. They can help to explain why a park story is relevant to people who may be unconnected to an event, time, or place. Themes go beyond a description of an event or process; they reflect the context and effects of those events or processes in order to foster opportunities to experience and consider the meanings, concepts, and values represented by park resources.

While themes are important as a framework to help guide interpretation and management decisions, they are not necessarily intended for public use. They serve to focus and develop visitor experience, services, and programming.

The following interpretive themes have been identified for Allegheny Portage Railroad National Historic Site:

- During the Industrial Revolution, an explosion of ideas and technology led to the creation of the Mainline Canal and fueled economic growth.
- The Mainline Canal facilitated new opportunities and experiences and embodied new ideas that changed lives.
- The natural landscape of Pennsylvania challenged planners to find innovative solutions to overcome natural obstacles and provided the natural resources necessary to construct and operate the Mainline Canal.

Fundamental Resources and Values

Fundamental resources and values (FRVs) are those features, systems, processes, experiences, stories, scenes, sounds, smells, or other attributes determined to merit primary consideration during planning and management processes because they are essential to achieving the purpose of the park and maintaining its significance.

The most important responsibility of NPS managers is to ensure the conservation of those qualities that are essential (fundamental) to achieving the purpose of the park and maintaining its significance. These qualities are called fundamental resources and values. Fundamental resources and values are closely related to legislative purpose, and are more specific than significance statements. FRVs help focus planning and management processes on what is truly significant about the park. If FRVs are allowed to deteriorate, the park purpose and/or significance could be jeopardized.

The identification of fundamental and other important resources and values should not be interpreted as meaning that some park resources are not important. This evaluation is made to separate those resources or values that are covered by NPS mandates and policies from those that have important considerations to be addressed in other planning processes.

The following fundamental resources and values have been identified for Allegheny Portage Railroad National Historic Site:

- **Staple Bend Tunnel.** The first railroad tunnel in the United States; it is 901 feet long with 150 feet of cut stone lining on both ends. The west entrance retains its Romanesque Revival façade.
- **The historic archeological foundation of Engine House 6.** The only viewable engine house foundation in the park unit, currently protected by Exhibit Shelter 6. The shelter includes a full-scale interpretive display of machinery used to raise and lower rail cars and canal boats on the incline.
- **Lemon House.** A stone structure at the head of Incline 6. The house was operated as a tavern by Sam and Jean Lemon to serve travelers and workers on the Allegheny Portage Railroad.
- **Skew Arch Bridge.** A 60-foot-long stone bridge that was constructed by hand and without mortar to carry the Huntingdon-Cambria-Indiana Turnpike over Incline 6 at an obtuse angle. The bridge builders made use of a rare form of masonry to accommodate the angle of the turnpike as it intersected with the portage.
- **The portage trace.** Remnants of sleepers, culverts, and inclined planes and levels, as well as historic archeological remnants of the other engine houses and supporting structures.
- **Opportunity to understand and appreciate early American engineering accomplishments.** Engineering feats and innovations used to raise and lower railcars and canal boats over 36 miles and 1,400 feet that were marvels in their time because of their scale and precision.
- **Sense of discovery.** Forests and hills surrounding many of the resources associated with the portage that still exemplify the remote and rugged nature of the Allegheny Mountains in the early 19th century. The juxtaposition of human accomplishment within a rugged natural setting gives the visitor a sense of discovery and is important for providing a context for the incredible challenges that were overcome during the construction and operation of the portage railroad.
- **Allegheny Portage Railroad museum collection.** Books, articles, photographs, archeological, and architectural objects related to the Allegheny Portage Railroad component of the Pennsylvania Mainline Canal, and transportation in the region.

Other Important Resources and Values

Other important resources and values are those features, systems, processes, experiences, stories, scenes, sounds, smells, or other attributes determined to be integral to park planning and management, even if they are not directly related to the park's purpose.

Following are other important resources and values for Allegheny Portage Railroad National Historic Site:

- **The 6 to 10 Trail system.** Multiuse trail system that follows the remnants of the old portage and new portage trace on the eastern slope of the Allegheny Mountains. The trail follows the original portage in some sections and contains newly constructed sections where the portage was replaced by development.
- **Path of the Flood Trail.** Multiuse trail that runs from Franklin to Ehrenfeld and is a combination of the old portage trace and Southern Cambria trolley line. The Staple Bend Tunnel Trail is an important segment of the Path of the Flood Trail.
- **The new portage trace.** A section that includes modern grading and engineering techniques as an advanced alternative to the system of inclines and levels. Most of the trace within the park includes the 6 to 10 Trail.
- **Other historic features that illustrate the role of the Allegheny Portage Railroad and the Pennsylvania Canal in the nation's history.** Historic remnants related to transportation, engineering, and commerce within the Allegheny Portage Railroad corridor include coal mines, manufacturing plants, mills, roads, and trails.

Summary

Allegheny Portage Railroad National Historic Site preserves the history and remnants of the Allegheny Portage Railroad and interprets the Pennsylvania Mainline Canal's system of canals, railroads, and inclined planes and the impact these had on the early development of the nation. By stating the park purpose, articulating significance statements, understanding interpretive themes, and identifying the fundamental resources and values that need protection, clear management decisions that fulfill the park purpose can be made. This single shared vision of what is most important about the park provides a basis for prioritizing the use of limited resources and the successful long-term protection of the fundamental resources and values of the park. This foundation document serves as the cornerstone for the future direction of the management of Allegheny Portage Railroad National Historic Site.

Part 2: Dynamic Components

Part 2 consists of two components:

- special mandates and administrative commitments
- assessment of planning and data needs

These components may change after this foundation document is published and may need to be updated periodically.

Special Mandates and Administrative Commitments

Many management decisions for a park unit are directed or influenced by special mandates and administrative commitments with other federal agencies, state and local governments, utilities, and other partnering organizations. Special mandates are requirements specific to a park, which expand on or contradict the legislated purpose of the park unit. They are park-specific legislative or judicial requirements that must be fulfilled, along with the park purpose, even if the requirements do not relate to that purpose. Administrative commitments in general are agreements that have been reached through formal, documented processes such as memorandums of agreement. These agreements can form a network of partnerships designed to fulfill the objectives of the park and facilitate working relationships with other organizations. All of these mandates and commitments either dictate some form of management action or will allow particular uses on park lands (e.g., permissible traditional uses, easements or rights-of-way, maintenance needs, use of park facilities or lands, or emergency service responses). Thus, these mandates and commitments are an essential component in the foundation document and in managing and planning for Allegheny Portage Railroad National Historic Site.

For more information about the existing commitments for the park, please see the inventory of special mandates and agreements in appendix C.

Assessment of Planning and Data Needs

Once park purpose and significance statements and fundamental resources and values have been identified, it is important to consider what additional information and planning tasks may be necessary to aid the National Park Service in its mission. The assessment of planning and data needs identifies any inherent conditions or threats contained in the gathered information and determines whether any additional planning steps, data needs, and management efforts may be necessary to maintain or protect the existing fundamental resources and values and other important resources and values.

There are three parts that make up the planning and data needs assessment:

1. analysis of fundamental and other resources and values
2. identification of key or major parkwide issues that need to be addressed by future planning
3. identification and prioritization of data and planning needs

The analysis of fundamental resources and values and identification of major issues leads up to and supports the identification and prioritization of needed plans and studies.

Analysis of Fundamental Resources and Values

The analysis of fundamental resources and values articulates the importance of each fundamental resource and value, its current status, potential threats and opportunities, needed data, planning and management decisions, and relevant laws and NPS policies related to management of the resources.

Fundamental Resource or Value	Staple Bend Tunnel
Description of the Fundamental Resource or Value	The first railroad tunnel in the United States; it is 901 feet long with 150 feet of cut stone lining on both ends. The west entrance retains its Romanesque Revival façade.
Importance	The Staple Bend Tunnel was the first railroad tunnel in the United States.
Relationship to Significance Statements	Related to the following significance statements: • The challenges presented by the terrain in the Allegheny Mountains led to a number of transportation and engineering innovations that advanced industrial development in the United States, including wire rope, containerized cargo, mechanized incline planes, locomotive technology, steam engines, and tunnel construction. • The Staple Bend Tunnel was the first railroad tunnel in the United States.
Current Conditions	• The tunnel is in good condition. • The tunnel is open to the public and receives heavy visitation. • Falling rocks can be a hazard within the tunnel. • A handrail has been installed on both sides of the tunnel to prevent visitors from walking directly along the walls, which are most susceptible to rock fall. • Bats inhabit the tunnel and have used it for hibernation. • The park currently offers special seasonal programming for visitors at the tunnel, including a popular ghost tour. • There is acid mine drainage along the Staple Bend Tunnel Trail roughly one mile east of the tunnel.
Trends	• Scientific concern over the impact of white-nose syndrome on bat populations may restrict visitor access to the tunnel in the future.
Threats	• Vandalism has occurred in the tunnel in the past, including graffiti inside and outside the tunnel and unauthorized vehicle use (all-terrain vehicles). • Water seepage within the tunnel contributes to rock fall. • Acid deposition may affect the tunnel's façade and stonework.
Opportunities	• The park's trail system connects to the locally managed Path of the Flood Trail just east of the tunnel. If the Path of the Flood Trail is completed, it could connect the park to a larger regional trail system.

Fundamental Resource or Value	Staple Bend Tunnel
Existing Information	Archeological reports • Report on Surveying and Mapping Staple Bend Tunnel Area. 1984. Appendix II – Correspondence & Information Furnished; and Appendix III – Basic Field Survey Information and Some Collected Information. • Archeological Study Proposal Staple Bend Tunnel. Zitzler. American University. 1988. • Archeological Management Report. Staple Bend Tunnel. 1989. • Archeological Interpretation Report Quarried Stone Feature. Staple Bend Tunnel. Eastern Applied Archeology Center. 1990. • Archeological Monitoring Geotechnical Tests Staple Bend Tunnel. Orrence. 1991. • Archaeological Testing and Data Recovery at Staple Bend Tunnel. Orrence. 1992. • Archeological Reconnaissance at Staple Bend Tunnel. Holt. 1990. Rev. 1994. • Archeological Work Plan Testing Tunnel Stabilization. Part I. Eastern Applied Archeology Center. 1996. • Archeological Testing at East and West Portals, Staple Bend Tunnel. Eastern Applied Archeology Center. Final. June 1997. • Archeological Investigation of Staple Bend Tunnel. Indiana University of Pennsylvania. Draft 2001. • Archaeological Investigations of the Structures in the Vicinity of Staple Bend Tunnel. Indiana University of Pennsylvania. Final. May 2008. • Archaeological Investigations of the Structures in the Vicinity of Staple Bend Tunnel. Supplemental Report on Masonry Repair and Ground Penetrating Radar Investigation. August 2010. Other sources • Pedestrian Survey Staple Bend Tunnel. Zitzler. 1989. • Historic structure report, Staple Bend Tunnel. 1991. • Federal highway inspection reports. • National historic landmark nomination. • Records of treatment.
Stakeholders	• Cambria County Conservation and Recreation Authority • Water authorities, including but not limited to the Cambria-Somerset Authority • Military units in the area (use the tunnel for fitness runs) • Borough of Franklin • Conemaugh Township • Federal Highway Administration • Pennsylvania Game Commission • Pennsylvania Department of Environmental Protection • Rollick, Inc. • Pennsylvania Historical and Museum Commission

Fundamental Resource or Value	Staple Bend Tunnel
Identified Data Needs	• Pedestrian counter for measuring use of the Staple Bend Tunnel Trail. • Visitor use surveys to determine visitor origins, frequency of use, and the value of the amenity to the local population. • Cultural landscape report for the area surrounding the tunnel. • Systematic study of bats' use of the tunnel. • Detailed documentation of Staple Bend Tunnel's stone façade through measured drawings, color and black and white photography, and notation of tool markings (Historic American Buildings Survey/Historic American Engineering Record). • Potential options for acid mine drainage remediation along the Staple Bend Tunnel Trail. • National Register of Historic Places nomination data.
Identified Planning Needs	• No planning needs were identified.
Management Actions to Protect and Maintain FRV	• Law enforcement patrols. • Project Management Information System (PMIS) project 167719 requests funding to complete National Register of Historic Places nominations for Staple Bend Tunnel, summit area, and eastern slope of the Old Portage Trace.
Laws and Policies That Apply to the FRV, and NPS Policy-level Guidance	**Park-specific Laws or Policies** • Hours of operation • Superintendent's compendium • General management plan, 1980 **NPS Policy-level Guidance** • Director's Order 28: *Cultural Resource Management* • Executive Order 11593, "Protection and Enhancement of the Cultural Environment"

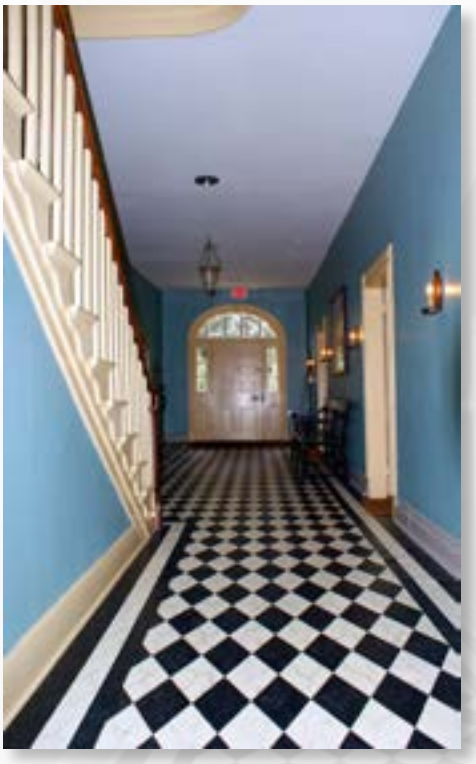
Fundamental Resource or Value	Historic Archeological Foundation of Engine House 6 (including exhibit shelter)
Description of the Fundamental Resource or Value	The only viewable engine house foundation in the park unit, currently protected by Exhibit Shelter 6. The shelter includes a full-scale interpretive display of machinery used to raise and lower rail cars and canal boats on the incline.
Importance	The Engine House 6 foundation is the only viewable engine house foundation in the park.
Relationship to Significance Statements	Related to the following significance statements: • The challenges presented by the terrain in the Allegheny Mountains led to a number of transportation and engineering innovations that advanced industrial development in the United States, including wire rope, containerized cargo, mechanized incline planes, locomotive technology, steam engines, and tunnel construction. • The Allegheny Portage Railroad and Pennsylvania Mainline Canal shaped patterns of regional economic and social development, and were catalysts for industrial development in western Pennsylvania. • The Allegheny Portage Railroad conquered the Allegheny Mountains, established a major transportation corridor across Pennsylvania, and paved the way for the iconic Pennsylvania Railroad and westward expansion.
Current Conditions	• The foundation is in good condition. • The exhibit shelter is in good condition, but the roof leaks during heavy precipitation.
Trends	• Harsh winters will quickly degrade the exhibit shelter's wooden frame and siding. • The exhibit shelter's roof will need to be replaced in 3–5 years.
Threats	• Severe winter weather events may damage the exhibit shelter. • Underground mines may affect the archeological foundation and exhibit shelter. • The site is easily accessible from Admiral Peary Highway to the south, which increases the risk of vandalism.
Opportunities	• Interpretive displays could be improved to better accommodate physically impaired visitors.

Fundamental Resource or Value	Historic Archeological Foundation of Engine House 6 (including exhibit shelter)
Existing Information	Archeological reports • Archeological Ruins. Engine House 6 Reconstruction. Ca. 1990. • Appendices; ALPO 104-42A Stabilize/Rehab Engine House 6 Foundations. Ca. 1990. • Engine House 6 Exhibit Shelter Project Briefing Pamphlet. Ca. 1990. • Archeological Mitigation. Management Report: Engine House 6 Exhibit Structure. September 1992. • Archeological Testing Engine House 6. Orrence. April 1993. Other sources • Long-range interpretive plan, 2006. • Law enforcement and maintenance reports. • Historic resources study. • General management plan, 1980.
Stakeholders	• Fred Connacher – local historian who designed and helped build Exhibit Shelter 6 and its interpretive displays.
Identified Data Needs	• None identified.
Identified Planning Needs	• Cultural landscape report for the summit area to include Engine House 6, Incline 6 and Level 6, Skew Arch Bridge, Lemon House, the orchard and its surrounding fields. The report is the primary guide to treatment and use of a cultural landscape and should include Part 1: Site History, Existing Conditions, Analysis, and Evaluation and Part II: Treatment Plan.
Management Actions to Protect and Maintain FRV	• Law enforcement patrols and preventive maintenance. • Install fire and intrusion alarms. • Replace roof in 3 to 5 years.
Laws and Policies That Apply to the FRV, and NPS Policy-level Guidance	**Park-specific Laws or Policies** • Superintendent's compendium • General management plan, 1980 **NPS Policy-level Guidance** • Director's Order 28: *Cultural Resource Management* • Executive Order 11593, "Protection and Enhancement of the Cultural Environment"

Fundamental Resource or Value	Lemon House
Description of the Fundamental Resource or Value	A stone structure at the head of Incline 6. The house was operated as a tavern by Sam and Jean Lemon to serve travelers and workers on the Allegheny Portage Railroad.
Importance	The house's location at the summit of the portage railroad made it a focal point for social activity. Portage railroad workers and travelers frequented the tavern.
Relationship to Significance Statements	Related to the following significance statements: • The Allegheny Portage Railroad and Pennsylvania Mainline Canal shaped patterns of regional economic and social development and were catalysts for industrial development in western Pennsylvania. • The Allegheny Portage Railroad conquered the Allegheny Mountains, established a major transportation corridor across Pennsylvania, and paved the way for the iconic Pennsylvania Railroad and westward expansion.
Current Conditions	• The Lemon House is in good condition. • The first floor of the house is used for interpretation. Both self-guided and guided tours of the house are available to visitors. The second floor and basement serve as administrative and office space. • The house has a new geothermal HVAC system. • Ice penetrated the front elevation during the winter of 2012–2013 causing internal damage to plaster and wall board from the second floor to the first floor. A wet stain is visible externally indicating an ongoing threat to the building. • Water frequently accumulates on the path that leads to the main entrance of the house. This presents a safety concern during freezing weather. • There is no formal or cohesive cultural documentation of the social activity that occurred along the main sections of the portage railroad.
Trends	• The Lemon House is the most visited site at the park. • Although necessary for pedestrian safety, the closing of the vehicular entrance to the park from Admiral Peary Highway has led some local community members to think the park is closed.
Threats	• Underground mines beneath the house could lead to subsidence and damage to the foundation. • Acid deposition may threaten the stonework.
Opportunities	• The park could increase its efforts to promote the house as a place for community and celebratory events.

Fundamental Resource or Value	Lemon House
Existing Information	Archeological reports • Archeological Investigation around Lemon House. Aivazian. 1978. • Excavations at Lemon House. Parrington. Dec 1980. • Abstract Sewer Line, Entrance Road; see 1982. Fiero Guda.1981. • Utility Lines Testing and Monitoring; see 1982. Fiero Acuff.1982. • Archeological Data Section, 1980s HSR. Fiero. 1982. • Archeological Investigation at Lemon House. Orrence. Dec 1987. • Archeological Management Report. Summit Level. Zitzler. Dec 1989. • LH Archeological Testing. LeeDecker. June 1991. • Mgmt. Report Archeological Data Recovery for Rehab and Emergency Stabilization at Lemon House. Resnick. Nov. 1995; Nov. 1996; and Final 1997. • Phase II Archeological Survey. Install Lemon House HVAC. IUP. Nov 2008. Furnishings reports • Historic Furnishings Report: Historical Data. Toogood.1980. • Historic Furnishings Report Extension—Administrative and Historical Data; Furnishing Plan. Brown. 1994. Historic structure reports • Lemon House and Coal Mine. Historical Data Section. Jan. 1968. • Lemon House. Historical (Toogood) and Architectural (Souder). Data Sections. 1972. • Lemon House. Architectural (Batcheler - 1982) and Archeological Data Section (Fiero - 1984). • Lemon House, HSR Addendum. Draft,1993, and Final,1996. Other sources • Revised Design Analysis, Lemon House Restoration and Rehab. ALPO 226-06. 1995. • Abandoned mines report. • Maps of mines under the Lemon House and main visitor areas.
Stakeholders	• Pennsylvania Historical and Museum Commission
Identified Data Needs	• National Register of Historic Places nomination data.
Identified Planning Needs	• Cultural landscape report for the summit area to include Engine House 6, Incline 6 and Level 6, Skew Arch Bridge, Lemon House, the orchard and its surrounding fields. The report is the primary guide to treatment and use of a cultural landscape and should include Part 1: Site History, Existing Conditions, Analysis, and Evaluation and Part II: Treatment Plan.
Management Actions to Protect and Maintain FRV	• There is a PMIS project for roof shingle replacement. • PMIS project 167719 requests funding to complete National Register of Historic Places nominations for Staple Bend Tunnel, summit area, and eastern slope of the Old Portage Trace.
Laws and Policies That Apply to the FRV, and NPS Policy-level Guidance	**Park-specific Laws or Policies** • Superintendent's compendium • General management plan, 1980 **NPS Policy-level Guidance** • Director's Order 28: *Cultural Resource Management* • Executive Order 11593, "Protection and Enhancement of the Cultural Environment"

Fundamental Resource or Value	Skew Arch Bridge
Description of the Fundamental Resource or Value	A 60-foot-long stone bridge that was constructed by hand and without mortar to carry the Huntingdon-Cambria-Indiana Turnpike over Incline 6 at an obtuse angle. The bridge builders made use of a rare form of masonry to accommodate the angle of the turnpike as it intersected with the portage.
Importance	The Skew Arch Bridge was the only road bridge purposely built along the portage. The bridge is also a symbol of remarkable craftsmanship.
Relationship to Significance Statements	Related to the following significance statements: • The challenges presented by the terrain in the Allegheny Mountains led to a number of transportation and engineering innovations that advanced industrial development in the United States, including wire rope, containerized cargo, mechanized incline planes, locomotive technology, steam engines, and tunnel construction. • Rising more than 1,400 feet and stretching for 36 miles, the Allegheny Portage Railroad was the first and largest system of inclined planes and levels in the United States.



Fundamental Resource or Value	Skew Arch Bridge
Current Conditions	• The Skew Arch Bridge is in good condition.
Trends	• Abandoned mine drainage and groundwater seepage under the arch may be undermining the foundation and leading to the deterioration of the sandstones from the bottom up.
Threats	• Abandoned mine drainage, groundwater seepage, and erosion could eventually cause structural damage to the bridge. The extent and seriousness of these threats are in need of further study. • The arch is not protected by barriers from high speed vehicular traffic on Admiral Peary Highway, which has a steep grade and is frequently used by semi trucks. This poses a risk of a vehicle striking the bridge.
Opportunities	• None identified.
Existing Information	• Annual condition assessment. • The 1978 ENP and MA Excavation of Stringers Below Skew Arch Bridge at ALPO. Biermann. 1978. • General Management Plan, 1980; List of Classified Structures. The Huntingdon-Cambria-Indiana Turnpike is referenced as the "Northern Turnpike Trace" in the park's List of Classified Structures. Historic Resource Study: Inclines and Levels 6 through 10. Administrative, Historical, Architectural, and Engineering Data Sections. September 1993. • Archaeological Investigation of the Skew Arch Bridge. IUP. 2001. • Record of Treatment: Repointing and Stabilization of the Skew Arch Bridge with Photos. FY 2006.
Stakeholders	• Pennsylvania Historical and Museum Commission • Pennsylvania Department of Transportation
Identified Data Needs	• Source of abandoned mine drainage and/or groundwater seepage at the bridge and the risk it presents. • Hydrology study to address erosion and drainage problems at the site.
Identified Planning Needs	• Cultural landscape report for the summit area to include Engine House 6, Incline 6 and Level 6, Skew Arch Bridge, Lemon House, the orchard and its surrounding fields. The report is the primary guide to treatment and use of a cultural landscape and should include Part 1: Site History, Existing Conditions, Analysis, and Evaluation and Part II: Treatment Plan.
Laws and Policies That Apply to the FRV, and NPS Policy-level Guidance	**Park-specific Laws or Policies** • Superintendent's compendium • General management plan, 1980 **NPS Policy-level Guidance** • Director's Order 28: *Cultural Resource Management* • Executive Order 11593, "Protection and Enhancement of the Cultural Environment"

Fundamental Resource or Value	Portage Trace
Description of the Fundamental Resource or Value	• Remnants of sleepers, culverts, and inclined planes and levels, as well as historic archeological remnants of the other engine houses and supporting structures.
Importance	• The trace preserves the route and infrastructure of the portage railroad.
Relationship to Significance Statements	Related to the following significance statements: • The challenges presented by the terrain in the Allegheny Mountains led to a number of transportation and engineering innovations that advanced industrial development in the United States, including wire rope, containerized cargo, mechanized incline planes, locomotive technology, steam engines, and tunnel construction. • Rising more than 1,400 feet and stretching for 36 miles, the Allegheny Portage Railroad was the first and largest system of inclined planes and levels in the United States. • The Allegheny Portage Railroad conquered the Allegheny Mountains, established a major transportation corridor across Pennsylvania, and paved the way for the iconic Pennsylvania Railroad and westward expansion. • Completed in 1840 at a cost of $12 million ($280 million in 2012 dollars), the Pennsylvania Mainline Canal was the largest, most complex, and costliest single public works project in the United States.
Current Conditions	• The List of Classified Structures assesses the condition of the portage trace on a resource-by-resource basis. The latest condition ranking across the inclines and levels ranges from fair to good. • A number of historic resources, including the original engine house foundations for Incline 1 and Level 2 in the Staple Bend Tunnel unit and Inclines and Levels 6–10 in the main unit, remain buried. • Some culverts are structurally unstable and need to be restored. • The trace runs through heavily wooded areas, creating a constant need for mowing, as well as debris, brush, and large tree removal.
Trends	• Erosion is an issue throughout the trace, especially at Incline 8 of the main unit and Incline 1 of the Staple Bend Tunnel unit.
Threats	• Hunting in the surrounding area can pose a safety risk to hikers along the trace. Some sections contain natural barriers from the surrounding lands. • Invasive plants have been found along the trace. • Wind turbines have degraded the viewshed along some segments of the portage trace. • Increasing development and use of recreation trails in the areas bordering the trace could negatively impact the trace.
Opportunities	• Additional sleepers and foundations could be excavated to enhance visitor understanding of the portage railroad. • The 6 to 10 Trail could be expanded into the Hollidaysburg basin to attract more visitors. The trail could also be linked to existing community and regional trails to increase visitation to the park. • Partnerships could be cultivated with Canal Basin Park, Blair County Genealogy Society, Blair County Historical Society, and Borough of Hollidaysburg.

Fundamental Resource or Value	Portage Trace
Existing Information	Archeological reports • Interim Report of Preliminary Archeological Survey. Larrabee. June 1967. • Preliminary Archeological Survey of the Allegheny Portage Railroad NHS. November 1967. • The APRR Cresson, PA Legislative Compliance. Gruber. Temple. 1970. • Archeological Data Section Eastern Slope (6-10) HSR. Zitzler. 1990. • Phase I and II Investigations - Planned Continuous Trail Corridor (Levels 6 to 10). Volumes 1 and 2. IUP. May 2008. Records of Treatment • Stabilization of Culverts 1532 and 1635. FY 1994. • Preservation and Stabilization of Various Culverts Phase II. FY 1996. • Preservation and Stabilization of Various Culverts Phase III. FY 1997. • Preservation and Stabilization of Culverts 1532 and 1635, Phase IV. FY 1999. • Preservation and Stabilization of Culvert 1532. FY 2000. • Record of Treatment- Culverts 299 and 306. • Others including 1656, 1624, 1586, etc. Other sources • General management plan, 1980. • Historic Structure Report: APRR. Historical Data Section. Plane 6, 8, 10. Heydinger. June 1965. • Historic Resource Study: Allegheny Portage Railroad. Toogood. May 1973. • Historic Resource Study: Inclines and Levels 6 through 10. Administrative, Historical, Architectural, and Engineering Data Sections. September 1993. • List of Classified Structures Records. • Portage Trace Corridor Plan and Environmental Assessment. July 1996. • Portage Trace Corridor Final Plan. January 1997.

Fundamental Resource or Value	Portage Trace
Stakeholders	• Hikers and other trail user groups • Local and national utility companies hold rights-of-way for oil and gas lines • Pennsylvania Game Commission • Hollidaysburg Water Authority
Identified Data Needs	• Cultural landscape report. • Research/ethnographies on the people in communities along the portage and the local economic impact of the portage. • Research on the travelers who used the portage, including a scan of first-hand sources such as diaries and letters.
Identified Planning Needs	• Cultural landscape report. • Research/ethnographies on the people in communities along the portage and the local economic impact of the portage • Research on the travelers who used the portage, including a scan of first-hand sources such as diaries and letters. • Cultural resources base map. • Archeological overview and assessment. • Archeological identification/evaluation studies. • GIS data collection.
Management Actions to Protect and Maintain FRV	• Eradication of invasive plants. • Tree removal.
Laws and Policies That Apply to the FRV, and NPS Policy-level Guidance	**Park-specific Laws or Policies** • Superintendent's compendium • General management plan, 1980 **NPS Policy-level Guidance** • Director's Order 28: *Cultural Resource Management* • Executive Order 11593, "Protection and Enhancement of the Cultural Environment"

Fundamental Resource or Value	Opportunity to understand and appreciate early American engineering accomplishments
Description of the Fundamental Resource or Value	Engineering feats and innovations used to raise and lower railcars and canal boats over 36 miles and 1,400 feet that were marvels in their time because of their scale and precision.
Importance	The portage trace was one of the great engineering feats in early American history.
Relationship to Significance Statements	Related to the following significance statements: • The challenges presented by the terrain in the Allegheny Mountains led to a number of transportation and engineering innovations that advanced industrial development in the United States, including wire rope, containerized cargo, mechanized inclined planes, locomotive technology, steam engines, and tunnel construction. • The Staple Bend Tunnel was the first railroad tunnel in the United States. • Rising more than 1,400 feet and stretching for 36 miles, the Allegheny Portage Railroad was the first and largest system of inclined planes and levels in the United States. • John Roebling solved the technical dilemmas associated with the Allegheny Portage Railroad's use of hemp rope to raise rail cars and canal boats by inventing wire rope. Wire rope later allowed internationally significant advancements in a variety of industrial fields, including bridge building, mining, and elevators.
Current Conditions	• Most of the exhibit panels in the visitor center are out of date. • Small scale models are currently being used to interpret how the system functioned and how rail cars and canal boats moved along the portage. • The models of the engine house machinery (contained in Exhibit Shelter 6) are in good condition. • The park film's primary focus is on the engineering accomplishments that made the portage railroad possible. • Steam cycle exhibits have recently been completed.
Trends	• The portage railroad's social impact is not well addressed by the park's current interpretive programs. • Exhibits are not accessible to vision and hearing impaired visitors.
Threats	• Wind turbines have degraded the viewshed in some areas of the park.
Opportunities	• Additional wayside exhibits could be installed along the trace to better tell the story to visitors who do not enter the visitor center. • A full-size canal boat could enhance interpretation. • A partnership could be cultivated with Canal Basin Park in order to increase visit use of the 6 to 10 Trail and to interpretively link park resources to portage-related sites in the surrounding communities. • Additional interpretation of the railroad's social impact, including its use as part of the Underground Railroad and its use by famous figures in American history, could draw a wider constituency of visitors.

Fundamental Resource or Value	Opportunity to understand and appreciate early American engineering accomplishments
Existing Information	• General management plan, 1980. • Long-range interpretive plan, 2006. • Exhibit plan that guided the reconstruction of the exhibits inside Engine House 6.
Stakeholders	• The model of the "Lafayette" steam locomotive on exhibit in the visitor center is on loan from the B&O Railroad Museum
Identified Data Needs	• Research sectional canal boats to inform the construction of a full-size interpretive model. • Research the feasibility of storing and maintaining a full-size canal boat.
Identified Planning Needs	• Update the long-range interpretive plan.
Management Actions to Protect and Maintain FRV	• Build a full-size model of a canal boat that could be placed on tracks outside the Lemon House (pending funding). • There are existing PMIS proposals for updating exhibits in the visitor center.
Laws and Policies That Apply to the FRV, and NPS Policy-level Guidance	**Park-specific Laws or Policies** • Superintendent's compendium • General management plan **NPS Policy-level Guidance** • Director's Order 28: *Cultural Resource Management* • Executive Order 11593, "Protection and Enhancement of the Cultural Environment" • Director's Order 24: *NPS Museum Collections Management*

Fundamental Resource or Value	Sense of Discovery
Description of the Fundamental Resource or Value	Forests and hills surrounding many of the resources associated with the portage that still exemplify the remote and rugged nature of the Allegheny Mountains in the early 19th century. The juxtaposition of human accomplishment within a rugged natural setting gives the visitor a sense of discovery and is important for providing a context for the incredible challenges that were overcome during the construction and operation of the portage railroad.
Importance	The visitor's experience of the park is greatly enhanced by a sense of having "found" a unique part of American history hidden away in the area's forested hills.
Relationship to Significance Statements	Related to the following significance statements: • The Staple Bend Tunnel was the first railroad tunnel in the United States. • Rising more than 1,400 feet and stretching for 36 miles, the Allegheny Portage Railroad was the first and largest system of inclined planes and levels in the United States. • The Allegheny Portage Railroad conquered the Allegheny Mountains, established a major transportation corridor across Pennsylvania, and paved the way for the iconic Pennsylvania Railroad and westward expansion.
Current Conditions	• Wind turbines detract from the sense of discovery and the park's remote feel and compromise the historic setting at the summit of Incline 6. • Noise from the highway (especially jake brakes from coal trucks) detracts from the sense of discovery and remote feel of the portage trace. • The natural setting and quiet at Staple Bend Tunnel and along certain sections of the 6 to 10 Trail (those that are geographically removed from the highway) are the most conducive to creating the sense of discovery for visitors. • There is insufficient signage directing visitors to remote sites. • Visitors cannot easily access the culverts (due to terrain and limited side trails) along the 6 to 10 and Staple Bend Tunnel trails.
Trends	• An increasing number of social trails have been created by hikers and equestrians along the 6 to 10 Trail.
Threats	• Wind turbine encroachment detracts from the historic scene. • Social trails (leading to the portage trace from nearby properties) detract from the remote feel of the trace. • Repair and refurbishment of the nearby reservoir results in construction noise that impacts visitor experience.
Opportunities	• Signage could be improved along existing roads to better direct visitors to outlying areas such as the Staple Bend Tunnel. • Additional waysides could be installed to better interpret the function of the numerous sleepers and culverts along the portage trace. • Additional historic structures, including engine house foundations and sleepers, could be excavated to allow interpretation and display. • Short side trails providing access to culverts could be created.
Existing Information	• General management plan, 1980. • Long-range interpretive plan, 2006.

Fundamental Resource or Value	Sense of Discovery
Stakeholders	• Pennsylvania Department of Transportation
Identified Data Needs	• Visitor use surveys around Staple Bend Tunnel to determine the number of visitors using the trail. • Traffic counts at additional access points to the 6 to 10 Trail could provide a more accurate picture of visitation and recreational use. • Viewshed analysis on future turbine development.
Identified Planning Needs	• Update the long-range interpretive plan. • Visitor use management plan
Management Actions to Protect and Maintain FRV	• Install signage along public roads to direct visitors to resources and sites not contained within the main park unit. • Two formal pedestrian counts have been completed for the 6 to 10 Trail and the Staple Bend Tunnel Trail.
Laws and Policies That Apply to the FRV, and NPS Policy-level Guidance	**Park-specific Laws or Policies** • Superintendent's compendium • General management plan, 1980 **NPS Policy-level Guidance** • Director's Order 28: *Cultural Resource Management* • Executive Order 11593, "Protection and Enhancement of the Cultural Environment"

Fundamental Resource or Value	Allegheny Portage Railroad Museum Collection
Description of the Fundamental Resource or Value	Books, articles, photographs, archeological and architectural objects related to the Allegheny Portage Railroad component of the Pennsylvania Mainline Canal, and transportation in the region.
Importance	The museum collection is a central part of the interpretation of the Allegheny Portage Railroad story.
Relationship to Significance Statements	Related to the following significance statements: • The challenges presented by the terrain in the Allegheny Mountains led to a number of transportation and engineering innovations that advanced industrial development in the United States, including wire rope, containerized cargo, mechanized inclined planes, locomotive technology, steam engines, and tunnel construction. • Completed in 1840 at a cost of $12 million ($280 million in 2012 dollars), the Pennsylvania Mainline Canal was the largest, most complex, and costliest single public works project in the United States. • The Allegheny Portage Railroad conquered the Allegheny Mountains, established a major transportation corridor across Pennsylvania, and paved the way for the iconic Pennsylvania Railroad and westward expansion.
Current Conditions	• The condition of the thousands of objects in the collection ranges from complete/good to fragmented/poor. • Collection objects are either on exhibit in the visitor center or stored in the artifact storage facility. • Many catalog records are lacking detailed information.
Trends	• The collection continues to grow through donations, field collection, and section 106 archeology. The collection could conceivably outgrow its current facility.
Threats	• Inadequate climate control causes unacceptable fluctuations in temperature and humidity in the storage facility and visitor center.
Opportunities	• Park staff could display more collection items in exhibits. • More photographs and catalog records could be added to the online web catalog.
Existing Information	• Collection management plan, 2005.
Stakeholders	Various repositories in the area, including (but not limited to): • Cambria County Historical Society • Blair County Historical Society • Pennsylvania Canal Society • Altoona Rail Roaders Memorial Museum • Portage Historical Society • Cresson Historical Society • Blairsville Historical Society • Pennsylvania State Museum and Archives

Fundamental Resource or Value	Allegheny Portage Railroad Museum Collection
Identified Data Needs	• Conservation assessment of the archival collection to identify specific treatment needs beyond protective housing. • Detailed research on certain objects and classes of objects in the collection to inform interpretive programs and revolving exhibits.
Identified Planning Needs	• Integrated pest management plan.
Management Actions to Protect and Maintain FRV	• Investigate installation of a more efficient heating, ventilation, and air-conditioning system. • Law enforcement patrols and preventive maintenance. • Fire and intrusion alarms.
Laws and Policies That Apply to the FRV, and NPS Policy-level Guidance	**Park-specific Laws or Policies** • Superintendent's compendium • General management plan, 1980 **NPS Policy-level Guidance** • Director's Order 28: *Cultural Resource Management* • Executive Order 11593, "Protection and Enhancement of the Cultural Environment"

Analysis of Other Important Resources and Values

Other Important Resource or Value	The 6 to 10 Trail System
Description	Multiuse trail system that follows the remnants of the old portage and new portage trace on the eastern slope of the Allegheny Mountains. The trail includes segments that follow the alignment of the new portage railroad with interpretive loops on the old portage railroad trace providing exceptional interpretive and recreational value.
Importance	The trail follows the remnants of the hold portage railroad. This gives the trail interpretive and recreational value.
Current Conditions	• The 6 to 10 Trail is in good condition. The trail follows the original portage trace in some sections. The trail surface is mainly dirt and gravel. • Hikers are the main users of the trail. Biking is permitted along some sections. • Highway noise detracts from the visitor experience along some of the most popular trail segments, including the segment between Exhibit Shelter 6 and the Skew Arch Bridge. • Mowing and debris/tree/brush removal are conducted regularly.
Trends	• Use of the trail has increased steadily over time. • Equestrians frequently cross the trail to access other local and state owned lands. • Wind turbines have degraded the viewshed along some segments of the trail.

Other Important Resource or Value	The 6 to 10 Trail System
Threats	• Hunting on the surrounding lands poses a risk to trail users. • Invasive plants have been discovered along the trail. • Sewer overflows have damaged the trail surface. • Horses and other unauthorized uses, such as all-terrain vehicles, can damage the trail surface. • The trail corridor is contained within a narrow park boundary. The viewshed and soundscape for the trail are especially vulnerable to development on the surrounding lands.
Opportunities	• The trail could be connected to the regional trails system on the west side of Hollidaysburg or to local parks in Hollidaysburg or Duncanville. • Partnerships could be developed with local and regional hiking and running organizations. • Increasing the types of approved uses, including equestrians and mountain bikers, could increase visitation to the park from surrounding communities. • Federal Safe, Accountable, Flexible, Efficient Transportation Equity Act (SAFETEA-LU) funds can be used to pay for improvements to or extensions of recreational trails.
Existing Information	• *Portage Trace Corridor Plan and Environmental Assessment,* 1996–1997.
Stakeholders	• Runners, hikers, bikers • Local community trail managers • Allegheny Ridge Heritage Trail Development Corporation • Pennsylvania Mainline Canal Greenway supporters
Identified Data Needs	• Visitor use surveys to identify who is using the trail, whether they are local or regional residents, and the value of the trail system to local communities. This information could enhance park marketing and promotion efforts with local community partners. • The trail has several access points. Pedestrian counts at each of these access points could help to identify which trail segments are the most frequently used.
Identified Planning Needs	• No planning needs were identified.
Management Actions to Protect OIRV	• Continue to participate in regional trail planning efforts.
Laws and Policies That Apply to the OIRV, and NPS Policy-level Guidance	**Park-specific Laws or Policies** • General management plan, 1980

Other Important Resource or Value	Path of the Flood Trail
Description	Multiuse trail that runs from Franklin to Ehrenfeld and is a combination of the old portage trace and Southern Cambria trolley line. The Staple Bend Tunnel Trail is an important segment of the Path of the Flood Trail.
Importance	Completion of the Path of the Flood Trail will create a direct recreational link to the park from the Johnstown community, and will probably increase visitation to the Staple Bend Tunnel unit.
Current Conditions	• A portion of the trail falls within park boundaries; roughly two miles where the trail overlaps with the Staple Bend Tunnel Trail. • The four miles of trail (approximate) that connect the Staple Bend Tunnel to Johnstown are managed by a local agency and friends groups.
Trends	• The trail is part of the envisioned Pennsylvania Mainline Canal Greenway, which is a proposed regional trail. The completion of the greenway might link the park unit into a larger, high-profile greenway system.
Threats	• Large gaps currently exist in the trail corridor.
Opportunities	• Technical assistance could be provided to Path of the Flood Trail managers and supporters to facilitate continued development of the trail. • The 125th anniversary of the Johnstown Flood (May 31, 2014) could be used as a target date for completing the trail between the park and Johnstown.
Existing Information	• Information concerning development and maintenance of the trail is available online through the Pennsylvania Environmental Council's website at: http://www.pecpa.org/PathOfFlood
Stakeholders	• Pennsylvania Environmental Council • Cambria County Conservation & Recreation Authority • Johnstown Area Heritage Association • Recreational users of the trail, including hikers and bikers
Identified Data Needs	• No data needs identified.
Identified Planning Needs	• No planning needs were identified.
Management Actions to Protect OIRV	• Continue to participate in local and regional trail development and planning processes.
Laws and Policies That Apply to the OIRV, and NPS Policy-level Guidance	**Park-specific Laws or Policies** • General management plan, 1980

Other Important Resource or Value	New Portage Trace
Description	A section that includes modern grading and engineering techniques as an advanced alternative to the system of inclines and levels. Most of the trace within the park includes the 6 to 10 Trail.
Importance	The new portage trace highlights the evolution in industrial technology that the Allegheny Portage Railroad helped to usher in.
Current Conditions	• The vast majority of the new portage trace is in private ownership and not within park boundaries.
Trends	• Modern development has fragmented the new portage trace into noncontinuous sections.
Threats	• None identified.
Opportunities	• Interpretive panels could be installed on the new portage trace to show how industrial technology evolved during the era, and to show the link between the portage trace and the Pennsylvania Railroad.
Existing Information	• General management plan, 1980.
Stakeholders	• Rights-of-way with the Pennsylvania Game Commission • Rights-of-way with local utility companies
Identified Data Needs	• No data needs were identified.
Identified Planning Needs	• No planning needs were identified.
Management Actions to Protect OIRV	• Routine maintenance and law enforcement patrols.
Laws and Policies That Apply to the OIRV, and NPS Policy-level Guidance	**Park-specific Laws or Policies** • General management plan, 1980

Other Important Resource or Value	Other historic features that illustrate the role of the Allegheny Portage Railroad and the Pennsylvania Canal in the nation's history
Description	Historic remnants related to transportation, engineering, and commerce within the Allegheny Portage Railroad corridor include coal mines, manufacturing plants, mills, roads, and trails. These remains exemplify the railroad's impact on the early development of the nation.
Importance	While contractors built the railroad, residents along the right-of-way and other entrepreneurs built businesses that took advantage of the new opportunities it brought. These endeavors attest to the opportunities and economic changes that the Allegheny Portage Railroad created on the local, regional, and national levels.
Current Conditions	• Many of these features are on the List of Classified Structures and their conditions are mainly listed as poor.
Trends	• These resources are not highly visible to the public because they are not currently developed or interpreted.
Threats	• Erosion and encroaching vegetation are ongoing issues due to the footprint of the portage railroad corridor and the terrain it traverses.
Opportunities	• Interpretive panels could be installed showing how local communities interacted with the portage railroad and responded to opportunities.
Existing Information	• General management plan, 1980. • List of Classified Structures.
Stakeholders	• Pennsylvania Historical and Museum Commission • Hikers and other trail users
Identified Data Needs	• No data needs were identified.
Identified Planning Needs	• Archeological identification study. • Archeological overview and assessment. • Cultural resources base map.
Management Actions to Protect OIRV	• Law enforcement patrols and routine maintenance.
Laws and Policies That Apply to the OIRV, and NPS Policy-level Guidance	**Park-specific Laws or Policies** • General management plan, 1980

Identification of Key Parkwide or Major Issues and Associated Planning and Data Needs

All park staff face a variety of issues that must be addressed now or through future planning. A key parkwide or major issue may raise questions regarding park purpose and significance. Or there may be other questions of importance that, in the judgment of NPS staff, need to be addressed in future planning.

Following are key or major issues and associated planning and data needs for Allegheny Portage Railroad National Historic Site:

- **Abandoned mine drainage.** Mining has been one of the dominant industries in southwest Pennsylvania for many decades. Subsurface and surface mines dot the lands surrounding the park and, in some cases, run directly beneath park resources. The drainage that seeps out of these mines is sometimes acidic, which affects the health of the area's ecosystem. Abandoned mine drainage (AMD) can also have a negative impact on the integrity and stability of structures. The Skew Arch Bridge is one of the park's fundamental resources and abandoned mine drainage has been detected around it. Additional research is needed to determine the severity of the threat posed by abandoned mine drainage at Skew Arch Bridge, and potential mitigation measures the park can take to protect its cultural and natural resources.

- **Interpretation that accounts for the full scope of the Allegheny Portage Railroad National Historic Site's significance.** The park's interpretive planning documents are dated. The plans do not sufficiently address some of the park's most popular resources, including the Staple Bend Tunnel and the 6 to 10 Trail. The themes addressed are also limited in scope and focus mainly on the engineering side of the portage railroad story. The long-range interpretive plan does not address other important themes related to the portage railroad's purpose and significance, especially the influence of the portage on social and economic development in the region. Updating the long-range interpretive plan to reflect the significance of these additional resources and stories will help the park develop stronger partnerships with the local community. New research and interpretation of the social history of the Allegheny Portage Railroad is also crucial to attracting new audiences. A social historian familiar with using local sources could provide a basis for a new interpretive program.

- **Wind turbine development.** Wind turbines have proliferated in number over the last decade in the area surrounding Allegheny Portage Railroad National Historic Site. Turbines have been erected in close proximity to the park and are easily visible from the most highly visited sites at the park, including Exhibit Shelter 6 and the Lemon House. This detracts from the historic setting and the sense of discovery that the park seeks to create for visitors. A viewshed analysis would allow the park to better understand the potential impacts of wind turbine development around the park and better coordinate with developers and landowners to mitigate potential negative impacts.

- **Administrative History.** The park has never developed a comprehensive administrative history in order to better understand how past management decisions have shaped the current management direction.

- **GIS data gaps.** The park does not have consolidated GIS data on the exact location of rights-of-way within the park or of significant natural and cultural features.

Prioritization of Planning and Data Needs

This section prioritizes the need for future plans and studies or research for Allegheny Portage Railroad National Historic Site. It provides a comprehensive review and prioritization of plans and data needed to maintain and protect the park's fundamental (and other important) resources and values, as well as address key parkwide and other major issues. Plans and studies were grouped into categories of high, medium, and low priority projects. This information will be used by staff from the park, NPS Northeast Regional Office, and the NPS Washington office to determine priorities and consider the future funding needs of Allegheny Portage Railroad National Historic Site.

Related to an FRV?	Planning and/or Data Needs	Priority (H, M, L)	Notes
Y	Long-range interpretive plan *(planning need)*	H	The park does not have a recent interpretive planning document to address current interpretive needs. The social effects and larger regional influence of the portage are not addressed in previous long-range interpretive plans. The 6 to 10 Trail and Staple Bend Tunnel were not included in old long-range interpretive plans.
Y	Cultural landscape report for the Lemon House and surrounding grounds, Engine House 6, Skew Arch Bridge, Staple Bend Tunnel, and Old Portage Trace *(planning need)*	H	No cultural landscape report exists for these areas. This report would establish desired conditions and a baseline for their future management and treatment.
Y	Structure study for Skew Arch Bridge *(data need)*	H	This should include hydrology and AMD studies as one large process with the Historic Preservation Training Center. Need to determine if structure is stable and if AMD / groundwater seepage / erosion issues are undermining the bridge. Skew Arch Bridge AMD study needs: (1) where is abandoned mine drainage coming from, (2) how big a risk is AMD to the foundation/structure, and (3) what are the mitigation measures? Hydrology study at Skew Arch Bridge (also relates to AMD): Groundwater seepage is a problem upslope from and under the bridge. There are erosion issues around the bridge. The park needs a hydrology study to inform decisions about draining the site.
Y	GIS data collection *(data need)*	H	The park needs consolidated GIS data on the exact location of rights-of-way within the park and for significant natural and cultural features. This data will inform preparation of other planning efforts including the cultural resources base map, archeological overview and assessment, and archeological identification studies that will aid management in preserving and protecting important park resources.

Related to an FRV?	Planning and/or Data Needs	Priority (H, M, L)	Notes
Y	Cultural resources base map *(planning need)*	H	This map will depict all known historic sites and structures, cultural landscapes, long-distance trails and roads, and archeological and ethnographic resources. This will assist managers not only in protecting cultural resources but in planning for enhancements to visitor experience.
Y	Archeological overview and assessment *(planning need)*	H	The park's existing archeological overview and assessment is out of date. This report describes and assesses known and potential archeological resources. A new report should assess and summarize past work and existing data and help determine the need for and design of future studies.
Y	Archeological identification/evaluation studies	H	These studies identify locations and characteristics of archeological resources in a particular area of the park. An archeological identification and evaluation study is needed near the foot of 8, where brick works are known to have been operating, and at the foot of 10, where a mill was in service. Information about the locations of all known archeological resources, the areas surveyed, and the level of intensity of the survey, are then shown on the cultural resource base map. These studies are frequently linked with an archeological overview and assessment to resolve management and interpretive concerns.
Y	Integrated pest management plan *(planning need)*	M	This is a requirement for the collections management plan.
Y	Preservation treatment plan for the Old Portage Trace *(planning need)*	M	The Old Portage Trace may be adversely affected by increasing development and use of trails in the surrounding area. A preservation treatment plan for the trace will provide part 2 of a cultural landscape report. It will address maintaining the trace's "character defining" features while enhancing facilities so that the condition of the resource will be improved and the visitor experience further enhanced.
Y	Canal boat feasibility study *(data need)*	M	Need to determine the cost, storage, and maintenance needs for constructing a full-size canal boat for the visitors center or Exhibit Shelter 6. A full-size canal boat would enhance the visitor experience at the park. It would allow visitors to better grasp how the portage worked and its connection to the larger Mainline Canal system. The park has an existing relationship with a local expert capable of constructing a canal boat, but is unsure as to whether its construction would be feasible in terms of cost and maintenance.

Related to an FRV?	Planning and/or Data Needs	Priority (H, M, L)	Notes
N	Visitor use surveys at Staple Bend Tunnel Trail and the 6 to 10 Trail *(data need)*	M	Information needs: (1) where are visitors coming from, (2) frequency of use, and (3) value of amenity to users. This information could enhance park marketing and promotion efforts with local community partners.
Y	Systematic study of bats' use of the Staple Bend Tunnel *(data need)*	L	This study could result in changes to use of Staple Bend Tunnel (based on guidance from regional wildlife coordinator). The tunnel was being used by bats for hibernation.
Y	Pedestrian counts at trailhead for Staple Bend Tunnel and 6 to 10 Trail *(data need)*	L	Both trails are becoming more popular. The parking lot counter does not provide an accurate read on all forms of use and access.
Y	National Register of Historic Places nomination *(data need)*	L	Documentation exists for the Staple Bend Tunnel. Documentation also exists for the summit and eastern slope in a draft multiple properties National Register of Historic Places nomination dated 1991 and an updated draft National Historic Landmark nomination dated 2001. PMIS Project 167719 requests funding to enable the park to have these nominations completed.
Y	Research/ethnographies on the town's people in communities along the portage and the local economic impact of the portage *(data need)*	L	This would enhance the long-range interpretive plan. There is limited existing research.
Y	Research on the travelers who used the portage, including a scan of first-hand sources such as diaries and letters *(data need)*	L	This would enhance the long-range interpretive plan. There is limited existing research on this topic.
Y	Conservation assessment of the museum collection *(data need)*	L	Identify specific treatment needs, beyond protective housing, for objects in collection.

Related to an FRV?	Planning and/or Data Needs	Priority (H, M, L)	Notes
Y	Detailed documentation of Staple Bend Tunnel's stone façade through measured drawings, color and black and white photography, and notation of tool markings (Historic American Buildings Survey/Historic American Engineering Record) *(data need)*	L	The tunnel's stone façade was constructed with great detail and intricacy. The façade continues to be worn down by exposure to the natural elements.
Y	Detailed research on certain objects and classes of objects in the museum collection *(data need)*	L	There are large gaps in the information on the collection. Detailed research could provide new information for interpretive programs and revolving exhibits.
Y	Administrative history *(data need)*	L	This history would describe how the park was conceived and established and how it has been managed to the present day. The park's legislative history and important issues in planning, land acquisition, development, public relations, and other topics of ongoing management concern would be emphasized. The administrative history would document early efforts to identify resources and develop the park including reporting on problems, controversies, and successes in a way that is valuable to managers, planners, and researchers.
Y	Vegetation management plan *(planning need)*	L	This plan is a requirement to receive funding for invasive plant control and is also needed for vegetation management to protect and preserve the culverts and other cultural resources.
Y	Visitor use management plan *(planning need)*	L	This plan would integrate data collected via visitor surveys and pedestrian counts into a comprehensive plan for managing visitor use and visitor interaction with park resources. This integration would help define acceptable levels of impact to resources and social conditions, as well as identify areas where impacts to resources and social conditions may be occurring. With base maps, a social carrying capacity visitor survey, and monitoring protocols in place, this plan would help managers address ongoing threats to park resources.

Part 3: Preparers, Consultants, and Meeting Attendees

Preparers

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Consultants

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Pam Holtman, Quality Assurance Coordinator,
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Meeting Attendees

Jeff Reinbold, Group Superintendent

Keith Newlin, Deputy Superintendent

Kathy Penrod, Natural Resources

Megan O'Malley, Chief of Interpretation

Nancy Smith, Cultural Resources Program Manager/Curator

Tom Stinedurf, Unit Manager / Chief Ranger

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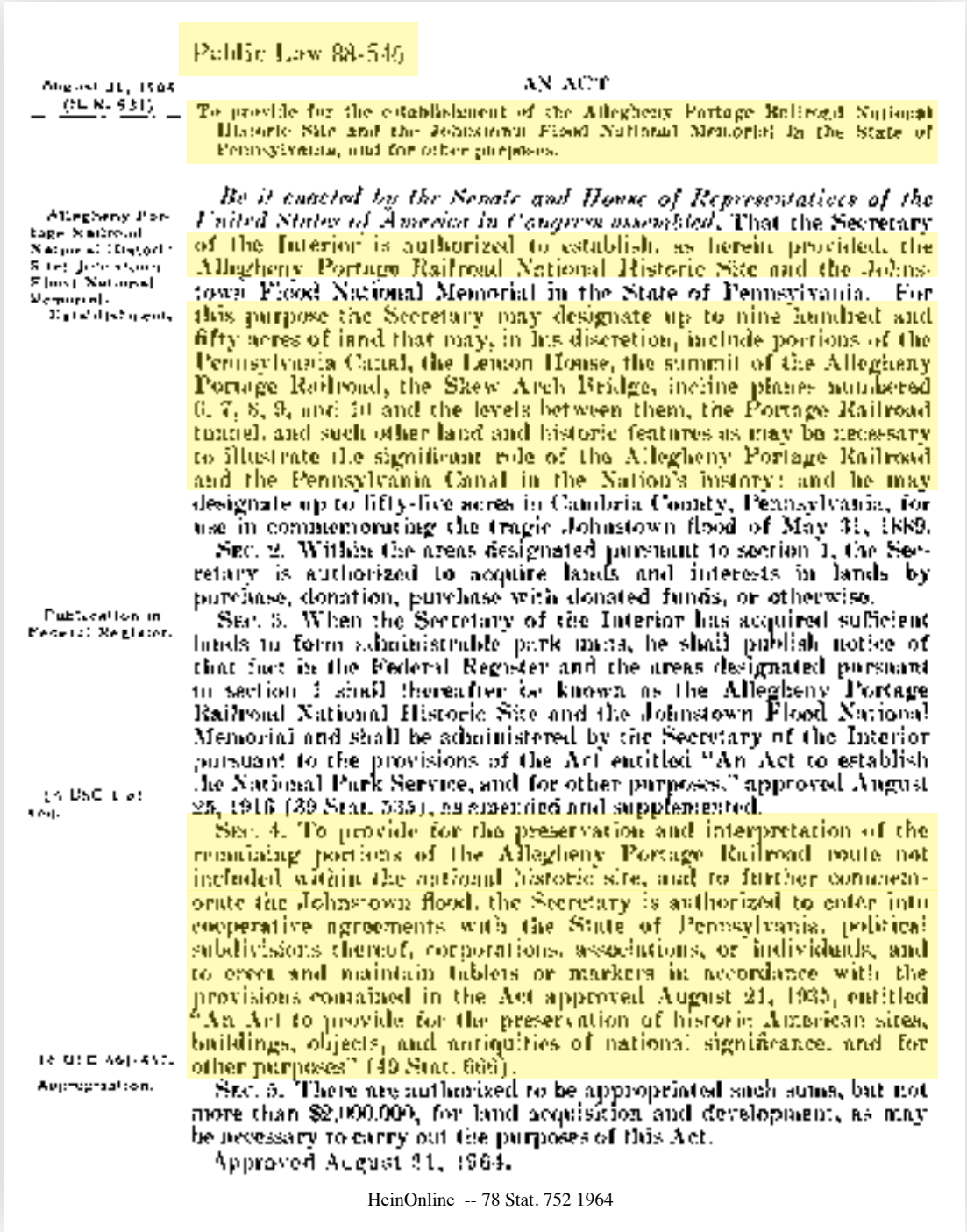
Tokey Boswell, Program Analyst,
WASO Park Planning and Special Studies

Appendix A: Enabling Legislation and Legislative Acts for Allegheny Portage Railroad National Historic Site



Public Law 88-543

August 21, 1964
[S. 531]

AN ACT

To provide for the establishment of the Allegheny Portage Railroad National Historic Site and the Johnstown Flood National Memorial in the State of Pennsylvania, and for other purposes.

Allegheny Portage Railroad National Historic Site and Johnstown Flood National Memorial. Establishment.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of the Interior is authorized to establish, as herein provided, the Allegheny Portage Railroad National Historic Site and the Johnstown Flood National Memorial in the State of Pennsylvania. For this purpose the Secretary may designate up to nine hundred and fifty acres of land that may, in his discretion, include portions of the Pennsylvania Canal, the Lemon House, the summit of the Allegheny Portage Railroad, the Skew Arch Bridge, incline planes numbered 6, 7, 8, 9, and 10 and the levels between them, the Portage Railroad tunnel, and such other land and historic features as may be necessary to illustrate the significant role of the Allegheny Portage Railroad and the Pennsylvania Canal in the Nation's history; and he may designate up to fifty-five acres in Cambria County, Pennsylvania, for use in commemorating the tragic Johnstown flood of May 31, 1889.

Sec. 2. Within the areas designated pursuant to section 1, the Secretary is authorized to acquire lands and interests in lands by purchase, donation, purchase with donated funds, or otherwise.

Publication in Federal Register.

Sec. 3. When the Secretary of the Interior has acquired sufficient lands to form administrable park units, he shall publish notice of that fact in the Federal Register and the areas designated pursuant to section 1 shall thereafter be known as the Allegheny Portage Railroad National Historic Site and the Johnstown Flood National Memorial and shall be administered by the Secretary of the Interior pursuant to the provisions of the Act entitled "An Act to establish the National Park Service, and for other purposes," approved August 25, 1916 (39 Stat. 535), as amended and supplemented.

16 USC 1 et seq.

Sec. 4. To provide for the preservation and interpretation of the remaining portions of the Allegheny Portage Railroad route not included within the national historic site, and to further commemorate the Johnstown flood, the Secretary is authorized to enter into cooperative agreements with the State of Pennsylvania, political subdivisions thereof, corporations, associations, or individuals, and to erect and maintain tablets or markers in accordance with the provisions contained in the Act approved August 21, 1935, entitled "An Act to provide for the preservation of historic American sites, buildings, objects, and antiquities of national significance, and for other purposes" (49 Stat. 666).

16 USC 461-467.

Appropriation.

Sec. 5. There are authorized to be appropriated such sums, but not more than $2,000,000, for land acquisition and development, as may be necessary to carry out the purposes of this Act.

Approved August 21, 1964.

Appendix B: Related Federal Legislation, Regulations, and Executive Orders

Legislation and Acts

Archeological and Historical Preservation Act – 1974
Archaeological Resources Protection Act – 1979
Clean Air Act – 1977
Clean Water Act – 1972
Comprehensive Environmental Response and compensation and Liability Act of 1984, as amended (CERCLA)
Department of Transportation Act – 1966
Endangered Species Act – 1973
Historic Sites Act – 1935
National Environmental Policy Act – 1969
National Historic Preservation Act – 1966, as amended
National Parks Omnibus Management Act – 1998
National Park Service Organic Act – 1916
National Trust Act – 1949
Native American Graves Protection and Repatriation Act – 1990
Redwood Act, Amending the NPS Organic Act – 1978
Resource Conservation and Recovery Act – 1976, as amended

Code of Federal Regulations

Title 36, Chapter 1, Part 1, General Provisions
Title 36, Chapter 1, Part 2, Resource Protection, Public Use and Recreation
Title 36, Chapter 1, Part 4, Vehicles and Traffic Safety
Title 36, Chapter 1, Part 5, Commercial and Private Operations
Title 36, Chapter 4, American Battle Monuments Commission

Executive Orders

Executive Order 11514, "Protection and Enhancement of Environmental Quality"
Executive Order 11593, "Protection and Enhancement of the Cultural Environment"
Executive Order 11988, "Floodplain Management"
Executive Order 11990, "Protection of Wetlands"
Executive Order 12003, "Energy Policy and Conservation"
Executive Order 12088, "Federal Compliance with Pollution Control Standards"
Executive Order 12372, "Intergovernmental Review of Federal Programs"
Executive Order 12898, "General Actions to Address Environmental Justice in Minority Populations and Low-Income Populations"
Executive Order 13112, "Invasive Species"
Executive Order 13186, "Responsibilities of Federal Agencies to Protect Migratory Birds"
Executive Order 13352, "Facilitation of Cooperative Conservation"
Executive Order 13423, "Strengthening Federal Environmental, Energy, and Transportation Management"

NPS *Management Polices 2006*

NPS Director's Orders

Order 2-1: *Resource Stewardship Planning*
Order 6: *Interpretation and Education*
Order 12: *Conservation Planning, Environmental Impact Analysis, and Decision-making* and *Handbook*
Order 18: *Wildland Fire Management*
Order 24: *NPS Museum Collections Management*
Order 28: *Cultural Resource Management*
Order 28A: *Archeology*
Order 28B: *Ethnography*
Order 42: *Accessibility for Visitors with Disabilities in National Park Service Programs and Services*
Order 47: *Soundscape Preservation and Noise Management*
Order 64: *Commemorative Works and Plaques*
Order 75: *Civic Engagement and Public Involvement*
Order 77: *Natural Resource Protection*
Order 77-1: *Wetland Protection*
Order 77-2: *Floodplain Management*
Order 77-7: *Integrated Pest Management*
Order 77-8: *Endangered Species*

Appendix C: Inventory of Special Mandates and Administrative Commitments

Name	Agreement Type	Stakeholders	Purpose	Notes
Penelec	Easements and rights-of-way	Penelec	High voltage electric transmission lines	Several areas of the park including summit area and Foot of Ten area
Penelec/First Energy	Easements and rights-of-way	Penelec/First Energy	Electric distribution lines	Various areas of the park
Valley Rural Electric Cooperative, Inc.	Easements and rights-of-way	Valley Rural Electric Cooperative, Inc.	Electric distribution lines	Various locations around Foot of Ten area
Peoples Natural Gas	Easements and rights-of-way	Peoples Natural Gas	Natural gas pipeline	Summit area, main unit
Sunoco	Easements and rights-of-way	Sunoco	Gas pipeline	Summit area, main unit; now or formerly Sunoco pipeline
Three Rivers Pipeline	Easements and rights-of-way	Three Rivers Pipeline	Pipeline	Summit area; unsure of present owner; now or formerly Three Rivers pipeline
Enterprise TE Products Pipeline, LLC	Easements and rights-of-way	Enterprise TE Products Pipeline, LLC	Pipeline	Foot of Ten area
Pennsylvania Game Commission	Easements and rights-of-way	Pennsylvania Game Commission	Enforcement of Pennsylvania game laws	Various locations
Cambria-Somerset Authority	Easements and rights-of-way	Cambria-Somerset Authority	Water pipeline under Staple Bend Tunnel Trail	Staple Bend Tunnel unit
Air Monitoring – Pennsylvania Department of Environmental Protection and cooperators at Penn State	Partnership	Pennsylvania Department of Environmental Protection and cooperators at Penn State	Operate air monitoring station PA-13	Located at summit maintenance area
National Oceanic and Atmospheric Administration agreement	Memorandum of agreement	National Oceanic and Atmospheric Administration	Mercury speciation research	Air Monitoring station PA-13 located at summit maintenance area
Cambria County Conservation and Recreation Authority	Partnership	Cambria County Conservation and Recreation Authority	Various projects, including work concerning the Path of the Flood Trail	Recreation trail projects

Northeast Region Foundation Document Recommendation
Allegheny Portage Railroad National Historic Site

October 2013

This Foundation Document has been prepared as a collaborative effort between park and regional staff and is recommended for approval by the Northeast Regional Director.

RECOMMENDED
Superintendent, Western Pennsylvania Parks **Date** 18, 2013

Dennis R. Reidenbach 10/31/2013

APPROVED
Regional Director, Northeast Region **Date**

As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes 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 interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

ALPO 423/120948
October 2013

Foundation Document
Allegheny Portage Railroad National Historic Site

NATIONAL PARK SERVICE • U.S. DEPARTMENT OF THE INTERIOR

Staple Bend Tunnel
American Engineering Accomplishments
Lemon House