



Appendix F: Further Compliance for Preferred Alternative

Appendix F: Further NEPA and Section 106 Compliance for the Preferred Alternative

The following table provides a select list of potential actions that may result if the NPS Preferred Alternative (Alternative C) were selected and implemented. This list only includes those actions that would require further compliance with the National Environmental Policy Act of 1969, as amended and/or Section 106 of the National Historic Preservation Act of 1966, as amended.

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Table F-1 Alternative C Actions that May Require Further NEPA and Section 106 Compliance

Action	NEPA Compliance	Section 106 Compliance
Mission Goal #1: Preserve Park Resources		
Management Objective 1		
Prepare historic resource studies, archeological studies, implementation plans, and other work as foundations for preservation and rehabilitation of park resources.		X
Management Objective 5		
Remove the ranger station from the Mordecai Moore House.	X	X
Management Objectives 5 and 7		
Rehabilitate historic structures, such as the Maurice Stephens House (the site of Huntingdon's Quarters) to interpret activities on the Grand Parade.	X	X
Stabilize suitable buildings in preparation for adaptive reuse.	X	X
Demolish post-encampment era historic structures for which there is no feasible use.	X	X
Management Objective 12		
Develop and implement a vegetation management plan.	X	X
Develop and implement a formal invasive species management plan.	X	
Develop and implement a deer management plan.	X	X
Remove remaining coal silt from within the Siltation basins and plant native trees and shrubs in disturbed areas or create additional wetlands.	X	
Reforest Fuller field and Schwoebel field.	X	X
Management Objective 14		
Implement long-term stream bank stabilization solutions for Valley Creek.	X	X
Restore critical riparian buffers.	X	X
Management Objective 15		
Consider removal of the Valley Creek dam based on study recommendations.	X	X
Remove the Meyer's Run, Fatlands, and Colonial Springs dams.	X	X
Management Objective 16		
Develop and implement a cave and karst management plan.	X	
Management Objective 18		
Improve vegetative or other buffers adjacent to the PA Turnpike and US 422 as they are widened.	X	X
Management Objective 20 (see 12 above)		
Develop and implement a vegetation management plan and invasive species management plan, with respect to meadow management.	X	X
Management Objective 21		
Fill the quarries within the Grand Parade (except Cave Quarry) to their historic contour.	X	X
Management Objectives 22, 23, 24, and 25		
Develop a park-wide cultural landscape treatment plan.	X	X
Complete a cultural landscape history and treatment plan for the newly acquired Schwoebel property north of US 422.	X	X

Table F-1 Alternative C Actions that May Require Further NEPA and Section 106 Compliance (Continued)

Action	NEPA Compliance	Section 106 Compliance
<i>Mission Goal #2: Public Use, Enjoyment, and Experience of the Park</i>		
Management Objectives 29, 31, and 37		
Expand the Welcome Center or construct a new facility to house the park's collections.	X	X
Management Objective 31		
Rehabilitate Muhlenberg's Brigade and the Grand Parade to 18th century conditions.	X	X
Re-establish historic views at Redoubts 1, 2, 3, and 4 and from Star Fort to Stony Battery.	X	X
Management Objective 38		
Work with PECO to bury remaining overhead electrical lines.	X	X
Add vegetative buffers to screen existing and new visual intrusions along the perimeter of and within the park.	X	X
Management Objective 40		
Continue to work with Mill Grove Audubon Center on potential for rehabilitating north side structures as educational facilities.	X	X
Management Objective 41		
Complete the implementation plan/engineering study that sets priorities and methods for asbestos remediation.	X	X
Fully mitigate the asbestos so public and environmental health is protected, and there is full public use of the park.	X	X
Management Objective 44		
Enhance the trail system within the park by connecting to regional trails and creating loops.	X	X
Management Objectives 49, 50, and 51		
Work with PennDOT, the counties, FHWA, and DVRPC to implement findings of VFATPS.	X	X
Implement VFATPS park option 5 by installing a single-point west-bound fly over at Pawlings Road and US 422.	X	X
Reopen link between Outer Line and Inner Line Drives for shuttle use only.	X	X
Management Objectives 53 and 54		
Work with PennDOT to establish a pedestrian/bicycle crossing over or under US 422 from the Schuylkill River Trail to the Fatlands/Schwoebel's area.	X	X
Establish water trail landings.	X	
<i>Mission Goal #4: Ensure Organizational Effectiveness</i>		
Management Objective 63		
Demolish non-contributing buildings in the park for which there is no feasible use.	X	
Management Objective 65		
Construct a maintenance facility at Cinder Lane or adjacent to the County Line Road/PA Route 23 intersection in the Park Support Zone.	X	X
Management Objective 66		
Relocate the ranger station to a location that provides good access to the park, and adequate and secure space for operations.	X	X



Appendix G: Draft Programmatic Agreement

**PROGRAMMATIC AGREEMENT AMONG THE
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION,
PENNSYLVANIA STATE HISTORIC PRESERVATION OFFICE
AND
VALLEY FORGE NATIONAL HISTORICAL PARK,
NATIONAL PARK SERVICE
FOR IMPLEMENTATION OF THE VALLEY FORGE NATIONAL HISTORICAL PARK
GENERAL MANAGEMENT PLAN/ENVIRONMENTAL IMPACT STATEMENT**

WHEREAS, the National Park Service (“NPS”) manages and administers the Valley Forge National Historical Park (hereafter, “the park”) as a unit of the National Park System and is responsible for preserving, restoring, maintaining, and interpreting the cultural resources of the park unimpaired for the enjoyment of future generations; and

WHEREAS, the NPS has entered into a Nationwide Programmatic Agreement with the Advisory Council on Historic Preservation (“Council”) and the National Conference of State and Historic Preservation Officers, dated October 1995, to carry out its Section 106 responsibilities with respect to the management of park areas; and

WHEREAS, the Nationwide Programmatic Agreement encourages development of park specific programmatic agreements to supplement the provisions of the Nationwide Programmatic Agreement; and

WHEREAS, the park is nationally significant as the site of the 1777-78 encampment of the Continental Army, and the commemoration of the event; and

WHEREAS, the purpose of the park is to educate and inform present and future generations about the sacrifices and achievements of General George Washington and the Continental Army at Valley Forge, and the people, events, and legacy of the American Revolution; preserve the cultural and natural resources that embody and commemorate the Valley Forge experience and the American Revolution; and provide opportunities for enhanced understanding; and

WHEREAS, the mission of the park is to educate the American people about one of the most defining events in our nation’s history and preserve the natural and cultural resources that commemorate the encampment of the Continental Army at Valley Forge in 1777-78; and

WHEREAS, in 2006, after conducting new research and analysis and following public review and comment, the National Park Service will adopt a new *General Management Plan* (“GMP”) in accordance with NPS *Directors Order # 2: Park Planning* Section 3.3.1.0 General Management Planning; and

WHEREAS, the NPS in consultation with the Pennsylvania State Historic Preservation Officer (“SHPO”) and Council has determined that the undertaking described in the GMP may have an effect upon properties either listed on or eligible for listing on the National Register of Historic Places (“National Register”); and

WHEREAS, as part of the GMP process, the NPS has identified various parties that were invited to participate in the development of this Programmatic Agreement; and

WHEREAS, the National Historic Preservation Act of 1966, as amended (“NHPA”) governs the treatment of archeological and historic properties; that NPS recognizes its responsibilities in executing provisions of Sections 106 and 110 of that Act; and that *Director’s Order 2: Cultural Resource Management Guidelines* outlines NPS policy in regard to the preservation and treatment of archeological, cultural, and historic properties within the park; and

NOW, THEREFORE, the park, Council, and the Commonwealth of Pennsylvania acting through the Pennsylvania SHPO mutually agree that the NPS will carry out its Section 106 responsibilities with respect to management of the park and implementation of the GMP in accordance with the following guidelines:

STIPULATIONS

The NPS will ensure that the following measures are carried out:

I. POLICY

- A. In General:** NPS will continue to preserve and foster appreciation of the cultural resources in its custody through appropriate programs of protection, research, treatment, and interpretation. At the park, NPS will adhere to relevant provisions of the NHPA, National Environmental Policy Act (“NEPA”) and other such laws, regulations, and policy guidelines cited in Section I of the Nationwide Programmatic Agreement for Compliance with Section 106 of the NHPA (effective October 1 1995).

II. IDENTIFYING CULTURAL RESOURCES

- A. SHPO Coordination:** NPS will coordinate with the SHPO activities for research related to resource management needs and identification, evaluation, and registration of park historic and prehistoric properties. NPS fulfills these responsibilities under Sections 106 and 110 of the NHPA; and the Nationwide Programmatic Agreement with respect to such properties and sites located within the legislative boundary of the park.
- B. Inventory of Cultural Resources:** To this end and in conformance with other NPS policy and practices, NPS will maintain a current inventory of prehistoric and historic properties and resources known to exist within the park’s legislative boundary.
- C. National Register/National Historic Landmark Documentation:** Consistent with the NPS Management Policies, NPS will complete an update of the National Register or National Historic Landmark documentation for the park, including its nationally significant cultural landscapes. Among other things, the documentation will identify component landscape features, buildings, sites, structures, and objects that contribute to the national significance of the park.

III. DELEGATION OF AUTHORITY

- A. Park Superintendent:** Consistent with the Nationwide Programmatic Agreement, the park Superintendent is the “responsible agency official” as defined in 36 CFR Section 800.2(a) for purposes of Section 106 compliance. The Superintendent is accountable for the performance of Section 106 compliance through standardized NPS performance and program evaluation procedures at the park.

- B. 106/NEPA Committee:** In conformance with Stipulation VIII of the Nationwide Programmatic Agreement, subject matter specialists will provide the Superintendent with advice and technical services for cultural resource issues relating to Section 106 compliance. To this end, the responsible entity within the park to perform this function is the park 106/NEPA Committee (hereafter the Committee) chaired by a professional staff coordinator appointed by the Superintendent. The Section 106 Coordinator will be responsible to coordinate and monitor the park's Section 106 compliance process and to prepare such periodic reports as deemed necessary and appropriate.
- C. Consulting Parties:** It is hereby agreed that, irrespective of the programmatic exclusions in this agreement, the SHPO and/or Council may at any time request consultation on programmatic and project matters where they wish to participate as a "consulting party" within the scope and meaning of their respective roles, as defined in NHPA and Council regulations.

IV. PROJECT/PROGRAM AND PROGRAMMATIC EXCLUSIONS

- A. Standard Programmatic Exclusions pursuant to the Nationwide Programmatic Agreement:** Undertakings consistent with the GMP for the park will be reviewed for Section 106 purposes within the NPS, without further review by the Council of the SHPO, provided:
- That these undertakings are based upon information adequate to identify and evaluate affected cultural resources (except for IV.B.(5), acquisition of park lands);
 - That the NPS finds that their effects on cultural resources listed on or eligible for listing on the National Register will not be adverse based on criteria in 36 CFR Section 800.5;
 - That the decisions regarding these undertakings are made and carried out in conformity with applicable policies, guidelines, and standards as identified in Stipulation I of the Nationwide Programmatic Agreement, as well as the Commonwealth of Pennsylvania's *Guidelines for Archeological Survey* and other applicable policies, guidelines and standards, and are documented by NPS using the form for "Assessment of Actions Having and Effect on Cultural Resources" or another appropriate format;
 - That NPS provides 36 CFR (Part 61-Appendix A) qualified subject matter experts who provide advice and consultation to the Superintendent regarding these matters;
 - That all actions are subject to the additional stipulations included in IV.B. and IV.C. of this agreement.

The standard stipulations and park specific addenda include:

1. **Preservation Maintenance**, including housekeeping, routine and cyclic maintenance, and stabilization as defined in *Directors Order #28*. At the park, those activities include housekeeping, routine and cyclic maintenance, and stabilization of the park's historic structures or features, such as historic houses and outbuildings, fences and stone walls, and cannons and cannon carriages. In addition, routine preservation and restoration of monuments, tablets, statues, and memorials may be reviewed under the terms of this section. Section IV.C.(1)(j) includes stipulations regarding more complex preservation and restoration.

2. **Routine Grounds Maintenance**, such as grass cutting and tree trimming. At the park, this includes activities such as grass replanting, management of commemorative trees (replacement and maintenance), woodland and woodlot management (including tree trimming and hazard tree removal, woodlot thinning, routine removal of exotic or non-historic introduced species) and maintenance or replacement in kind of existing and contributing natural historic landscape components and features.
3. **Environmental Monitoring**, such as installation of environmental monitoring units for monitoring water, air, or other environmental quality.
4. **Archeological Monitoring and Testing**, investigations of historic structures and elements of the park's component cultural landscapes identified in the park's GMP that involve ground disturbing activities or intrusion into historic fabric for research, resource management, or inventory purposes.
5. **Land Acquisition or Disposition**, including acquisitions of lands or interests in lands for park purposes, including easements or additions
6. **Roads and Trails**, including rehabilitation of existing trails, walks, paths, and sidewalks within previously disturbed areas, or repaving of existing roads or existing parking areas within previously disturbed areas.
7. **Utility Lines**, including placement, maintenance, or replacement (including burying) of utility or transmission lines and fences within utility easement corridors, in documented archeological sites, and/or previously disturbed areas.
8. **Cultural Landscape Rehabilitation**, including rehabilitation and preservation work limited to actions for retaining and preserving, protecting, maintaining, restoring, repairing, and replacing in kind materials and features, consistent with the *Secretary of the Interior's Standards for Rehabilitation* and accompanying guidelines. At the park, this would include actions that are consistent with the management prescriptions identified in the approved GMP and subsequent cultural landscape treatment plan for preserving and maintaining the park and its component landscapes. In addition, actions to preserve features that contribute to the battlefield landscape may be reviewed under the terms of this section.
9. **Health and Safety**, including activities such as radon mitigation, removal of asbestos, lead paint, buried oil tanks, and removal of HAZMAT materials within previously disturbed areas.
10. **Detection/Suppression Systems**, including installation of fire detection and suppression systems, security alarms systems and upgrading (or installation) of HVAC systems in historic structures.
11. **Interpretive Media**, including erection of signs, wayside exhibits, plaques, and other interpretive media that facilitates greater understanding by the visiting public of the park and its resources.
12. **Use of Historic Properties for Park Administrative Purposes, Leasing and Employee Housing**, provided proposed treatments are limited to and consistent with IV.A 1, 8, 9, and 10 and other activities excluded under IV A and B.

B. Park Specific Stipulations – Consultation Requirements: In addition to the stipulations listed above and consistent with Stipulation IV.D., V.B., and VI.C. of the Nationwide Programmatic Agreement, NPS and SHPO hereby further stipulate the following Cultural Resource Consultation Requirements and Programmatic Exclusions with respect to the park:

1. **In general:** Parties to this agreement recognize that the purpose of this section is to continue an active program of consultation with the Council and the SHPO with respect to major programs and projects that implement aspects of the approved GMP. NPS will submit major contemplated actions to the Council and the SHPO for review.
2. **Specifically:** It is further recognized that it is mutually beneficial to avoid repetitive consultation, especially for routine or reoccurring preservation maintenance or restoration efforts that incrementally fall within the scope of the approved GMP. To this end, the parties agree to the following consultation requirements described in the following chart. Specific consultation requirements, stipulations, or exclusions are described in Section IV.C. of this agreement:

ITEM	CONSULTATION REQUIREMENT
Prepare historic resource studies, archeological studies, implementation plans, and others as foundations for preservation or rehabilitation of park resources	SHPO review
Develop a forest restoration plan	SHPO review
Remove Valley Creek dam and dams in other creeks	SHPO review
Ground disturbing activities to restore Valley Creek and other creeks	SHPO review
Develop a park-wide cultural landscape treatment plan	SHPO review
Rehabilitate cultural landscape at Muhlenberg’s Brigade and the Grand Parade	SHPO review
Archeological investigations	SHPO review (as stipulated below)
Preserve and rehabilitate historic structures	SHPO review of historic structure reports (HSRs) and actions (as stipulated below)
Demolish historic structures	SHPO review
Establish new trail segments; establish pedestrian bridges over Valley Creek and the Schuylkill River	SHPO review
Design and implement a new park gateway at the intersection of US 422 and PA Route 23	SHPO review
Design and implement traffic elements identified in the GMP	SHPO review (as stipulated below)
Siting and design of a relocated maintenance facility and ranger station, unless sited in adaptively reused modern structure	SHPO review

C. Park Specific Stipulations -- Programmatic Exclusions:

1. **Conformance with GMP:** All cultural resource management proposed actions in the proposal adopted by NPS in the approved GMP will be treated as Programmatic Exclusions subject to the following conditions and/or stipulations:
 - a. **Clearing and/or Thinning of trees:** Clearing and/or thinning of trees to restore viewsheds among Redoubts 1, 2, 3, 4, the Star Fort, and Stony Battery for interpretive purposes will not require additional SHPO review. Clearing and/or thinning of trees to preserve earthworks will not require additional SHPO review. Clearing of trees surrounding the quarries on the Grand Parade will not require further SHPO review. It is mutually understood that tree clearing that is not described in the GMP and that totals over 20 acres in any location will trigger SHPO review.
 - b. **Planting of Trees:** Replacement of trees that contribute to the commemorative landscape will not require SHPO review. Adding or augmenting tree screens along the Pennsylvania Turnpike or US 422 will not require further SHPO review. Implementation of the future cultural landscape treatment plan will not require further SHPO review.
 - c. **Archeological Investigations:** In general, NPS studies (funded or sanctioned) archeological inventory surveys, site reports, and SAIP maps, archeological investigations of historic or prehistoric archeological sites within the park's legislative boundary including routine salvage activities, investigations of a short duration (two weeks or less) or archeological testing/mitigation resulting from routine "compliance" testing associated with maintenance or resource management activities, will not be subject to further SHPO review. Section 106/NEPA compliance-driven archeological investigations of historic resources (historic structures and archeological sites) designed to maintain or rehabilitate these will not be subject to further SHPO review, provided a research design has been prepared and approved by the Superintendent. Stabilization and preservation of archeological sites will not be subject to SHPO review.
 - d. **Curation and Storage of Archeological Remains:** NPS may enter into cooperative agreements with private museums, educational organizations, or other nonprofit or governmental entities to de-accession, warehouse, or otherwise provide for the long-term storage of both prehistoric and historic archeological collections with such cooperating or regional repositories. Agreements and plans consistent with the goals and objectives of the park GMP will not be subject to SHPO review.
 - e. **Collections and Artifacts:** Relocation implementation plans for the park collections and archives will not be subject to SHPO review.
 - f. **Historic Trails and Roads:** Restoration or rehabilitation of historic trails and roads will not require SHPO review. The closing of park tour roads to vehicular traffic will not require SHPO review. Traffic calming measures as described in the GMP will not require further SHPO review. Removal of County Line Road will not require further SHPO review.

- g. **Monuments:** Unless contemplated monument restoration treatment extends significantly beyond that of routine cleaning or repairing (i.e. restoration requires the advice of a professional monument conservator or non-Service consultant for treatment recommendations) restoration or rehabilitation of individual monuments will not be subject to further SHPO review.
- h. **Partner Agreements:** Cooperative agreements partners for GMP-sanctioned programs and activities including agreements for the adaptive reuse of historic structures for non-profit undertakings such as employee housing, visitor contact, or museum/educational facilities will not be subject to SHPO review.
- i. **Historic Structures:** In general, rehabilitation of exteriors/interiors of historic buildings to provide a better means of interpretation or facilitate park management goals will not be subject to further SHPO review.
- j. **Historic Buildings/Features/Landscapes:** Preservation, restoration, or rehabilitation for adaptive reuse of cultural resources for interpretive or administrative purposes and that are consistent with the GMP are not subject to SHPO review. With the exception of the Hospital Hut, huts are not historic structures, and maintenance or removal of huts will not be subject to SHPO review. The filling of quarries on the Grand Parade to their historic contour will not be subject to further SHPO review.
- k. **Leasing/Employee Housing:** The use of historic structures on the List of Classified Structures and currently used or identified in the GMP to be used for leasing and/or employee housing will not be subject to further SHPO review.
- l. **Historic Preservation Agreements:** Historic preservation agreements (including deed restrictions where appropriate) with individual owners of historic buildings or improved properties to support historic preservation and limit inappropriate development will not be subject to further SHPO review.

V. DOCUMENTATION OF ACTIONS:

- A. **Documenting “Undertakings”:** Park related “undertakings” that may have an effect on cultural resources will be appropriately documented in accordance with section VII of the Nationwide Programmatic Agreement. The park 106/NEPA Coordinator will maintain active files and the park archives will retain archived copies of all review documents.

VI. COOPERATION AND COMMUNICATIONS:

- A. **106/NEPA Committee:** Subject to oversight by the park Superintendent, the chair of the park Committee (or other designated individual) may function as the park Section 106 Coordinator and may be empowered to: 1) decide when and what specialists should review a given undertaking; 2) work with CRM advisors to provide Section 106 training to park staff; 3) initiate the identification of projects as undertakings, coordinate review of potential undertakings to allow sufficient time for Section 106 compliance to be completed in a timely manner and ensure involvement of appropriate cultural resource management specialists, interested persons and the public as appropriate; 4) decide whether an undertaking is a programmatic exclusion and document this for the Superintendent’s approval; 5) log and track Section 106 activities

and documentation and maintain park files on Section 106 documentation including all “Assessment of Effect” forms; 6) maintain close coordination with the SHPO in executing provisions of this agreement; and 7) submit appropriate Section 106 documentation to the SHPO and Council as required in 36 CFR Part 800 for all undertakings (except programmatic exclusions stipulated above and those in the Nationwide Programmatic Agreement).

- B. Park /SHPO:** In an effort to expand and facilitate cooperation, coordination, and communication between NPS and the SHPO, it is mutually agreed to meet annually to discuss the compliance process, receive briefings on the status of various ongoing or pending projects, review the list of subject matter specialists sitting on the park 106/NEPA Review Committee, and discuss projects and activities that may require notification/consultation with the Council.
- C. Park/SHPO/Council:** Council may monitor activities carried out pursuant to this Agreement, and Council will review such activities upon request. Upon request, the park Superintendent will be considered an “interested party” under 36 CFR Part 800 for purposes of undertakings by other Federal and state agencies and Indian tribes that may affect the park, including planned state or federal undertaking in areas in and around parks, in conformance with the “Programmatic Agreement Between the National Park Service and the Pennsylvania State Historic Preservation Officer Regarding the Implementation of Federal Consistency Under Public Law 101-377” dated July 21, 1994.
- D. Native American Consultation/Discovery of Human Remains:** NPS will adhere to relevant provisions of the Native American Graves Protection and Repatriation Act (P.L. 101-601) and will follow consultation/implementation guidelines established in “Appendix R: NAGPRA Compliance” of *Director’s Order #28* (dated 11 June 1998).
- E. Public Participation:** Through such other means as NPS may consider appropriate, the park will notify the public of undertakings subject to SHPO and/or SHPO/Council review. For such projects, NPS will make available to the public any documentation about such projects or programs, including information on the identification and evaluation of cultural resources and the proposed treatments of these resources. Council and/or SHPO may elect to participate in consultation for highly controversial projects.

VII. RELATIONSHIP TO OTHER EXISTING AGREEMENTS:

- A.** Except as stipulated above, nothing in this agreement supercedes provisions of the Nationwide Programmatic Agreement (as amended) or any other implementation agreement between Council, the SHPO, or the NPS. Signature and implementation of this Agreement does not invalidate park-specific Memoranda of Agreement negotiated for Section 106 purposes prior to the effective date of this agreement.

VIII. POST REVIEW DISCOVERIES:

- A. In General:** In the event that a previously unidentified archeological resource is discovered during ground disturbing activities, NPS shall immediately notify SHPO. All construction work involving subsurface disturbance will be halted in the area of the resource and in the surrounding area where further subsurface remains can be reasonably expected to occur. The NPS and the SHPO, or an archeologist approved by both agencies, immediately will inspect the work site and determine the area and nature

of the affected archeological property. Construction work may then continue in the project areas outside the site area. Within two (2) working days of the original notification of discovery, NPS, in consultation with the SHPO, will determine the National Register eligibility of the resource. If the resource is determined to meet the National Register criteria (36 CFR Part 60.6), the NPS will ensure compliance with Section 800.13 of Council regulations. Work in the affected area shall not proceed until either (a) the development or implementation of appropriate data recovery or other recommended mitigation procedures, or (b) the determination is made that the located remains are not eligible for listing on the National Register. In addition, human remains and associated funerary objects encountered during the course of actions taken because of this agreement shall be treated in a manner consistent with the provisions set forth in the Native American Graves Protection and Repatriation Act.

IX. DISPUTE RESOLUTION:

- A. In General:** Parties to this Agreement agree to resolve disputes in strict conformance with provisions set forth in Section XI (Dispute Resolution) of the Nationwide Programmatic Agreement.

X. MONITORING, DURATION, TERMINATION, AND EXPIRATION:

- A. In General:** At any time, parties to this Agreement may determine whether revisions or amendments to this Agreement are needed. If parties to this Agreement determine that revisions or amendments are needed, the parties will consult in accordance with 36 CFR Part 800.13 to consider such amendment, and upon the unanimous decision of all parties, such amendments will be implemented.
- B. Duration of the Programmatic Agreement:** This Programmatic Agreement will continue in full force and effect until ten (10) years after the date of the last signature. At any time in the six-month period prior to such date, the NPS may request the signatory parties to consider an extension or modification of this Programmatic Agreement. No extension or modification will be effective unless all parties to the Programmatic Agreement have agreed with it in writing.
- C. Failure to Carry Out Terms of this Agreement:** In the event that NPS does not carry out the terms of this Agreement, the National Park Service will comply with the terms of the Nationwide Programmatic Agreement, or 36 CFR Section 800.4 through 800.6 as applicable with regard to individual undertakings that otherwise would be covered by the terms and provisions of this Programmatic Agreement.
- D. Termination:** Termination of this agreement will follow the procedures laid out in Section XII (B) of Nationwide Programmatic Agreement.
- E. Execution and Implementation:** Execution and implementation of this Programmatic Agreement evidences that the park has satisfied its Section 106 responsibilities for all individual undertakings of the program.

ADVISORY COUNCIL ON HISTORIC PRESERVATION

BY: _____ **Date:** _____

PENNSYLVANIA STATE HISTORIC PRESERVATION OFFICER

By: _____ **Date:** _____

NATIONAL PARK SERVICE, Valley Forge National Historical Park

By: _____ **Date:** _____

Incorporated by Reference: Nationwide Programmatic Agreement



Appendix H: Capital Costs Details

TABLE H-1: SUMMARY OF COST

	Alternative A: No-Action	Alternative B	Alternative C: NPS Preferred Alternative
Range of Annual Recurring Costs	\$5,734,000 >>FY06 Operations Costs (\$5,660,000). >>Includes personnel services for 71 FTE and non-labor costs such as utilities, vehicles, travel, and supplies.	\$5,882,000 to \$6,208,000 >>Includes personnel services for 73 FTE and non-labor costs such as utilities, vehicles, travel, and supplies.	\$5,808,000 to \$6,130,000 >>Includes personnel services for 72 FTE and non-labor costs such as utilities, vehicles, travel, and supplies.
Range of Initial One-Time Costs	\$54,527,000 >>Includes construction, exhibits, research, and planning.	\$85,745,000 to \$97,822,000 >>Some projects have the potential to be funded through partnerships or through shared funding with other governmental agencies. Full costs are indicated on this chart; however, full costs would not be borne by the NPS.	\$115,849,000 to \$139,571,000 >>Some projects have the potential to be funded through partnerships or through shared funding with other governmental agencies. Full costs are indicated on this chart; however, full costs would not be borne by the NPS.
Total Life-Cycle Costs over the Life of the Plan (per year)	\$10,413,000 >>Includes total maintenance operations, personnel, and capital costs over 25 years, expressed in present worth.	\$13,240,000 to \$14,602,000 >>Includes total maintenance operations, personnel, and capital costs over 25 years, expressed in present worth.	\$15,749,000 to \$18,106,000 >>Includes total maintenance operations, personnel, and capital costs over 25 years, expressed in present worth.
<p>Notes:</p> <ol style="list-style-type: none"> 1. These costs were developed in May 2006 and represent contemporary dollars rounded to the nearest thousand. 2. Annual recurring costs were developed using annualized labor, non-labor, and other cyclic expenses adjusted for the instant locality. 3. One-time initial costs are based on the DSC "Class C" estimating guide, and include factors of 18%-40% for overhead and profit, 15%-30% for design contingency, 4% - 20% for general conditions, a regional location factor of 1.0, and a park location factor of 1.0. 4. One-time costs include information from the NPS asset management system about the deferred maintenance for facilities and assets in the park. These costs are included in all proposed alternatives, including Alternative A (No-Action). 5. Life-cycle costs were developed using the NPS Construction Management LLC template, which assumes a discount rate of 7% and a project life cycle of 25 years. 6. These cost estimates are very general and are intended to be utilized for a comparison of alternatives. They are not intended to be utilized for budget formulation. 7. Approval of the GMP does not authorize funding for the proposals. Funding must be sought through NPS budget processes and potential outside sources such as grants and partnerships. 8. Actions directed by GMPs or in subsequent implementation plans are accomplished over time. Budget restrictions, requirements for additional data or regulatory compliance, and competing national park system priorities prevent the immediate implementation of many actions. Major or especially costly actions could be implemented 10 or more years into the future, or may not be realized. 			

TABLE H-2: RECURRING COST CALCULATOR

Division	Alternative A (No-Action)	Alternative B Low Est.	Alternative B High Est.	Alternative C Low Est.	Alternative C High Est.
Superintendent's Office					
<i>Enter FTE -----></i>	3	3	3	3	3
<i>Cost per FTE</i>	\$ 74,163	\$ 74,163	\$ 78,265	\$ 74,163	\$ 78,265
Total: Labor	\$ 222,489	\$ 222,489	\$ 234,795	\$ 222,489	\$ 234,795
Total: Non-Labor	\$ 19,800	\$ 19,257	\$ 20,322	\$ 19,525	\$ 20,605
Division Total	\$ 242,289	\$ 241,746	\$ 255,117	\$ 242,014	\$ 255,400
Administration					
<i>Enter FTE -----></i>	9	10	10	10	10
<i>Cost per FTE</i>	\$ 74,163	\$ 74,163	\$ 78,265	\$ 74,163	\$ 78,265
Total: Labor	\$ 667,467	\$ 741,630	\$ 782,650	\$ 741,630	\$ 782,650
Total: Non-Labor	\$ 59,399	\$ 64,191	\$ 67,741	\$ 65,082	\$ 68,682
Division Total	\$ 726,866	\$ 805,821	\$ 850,391	\$ 806,712	\$ 851,332
Ranger Activities					
<i>Enter FTE -----></i>	25	26	26	25	25
<i>Cost per FTE</i>	\$ 74,163	\$ 74,163	\$ 78,265	\$ 74,163	\$ 78,265
Total: Labor	\$ 1,854,075	\$ 1,928,238	\$ 2,034,890	\$ 1,854,075	\$ 1,956,625
Total: Non-Labor	\$ 164,996	\$ 166,895	\$ 176,127	\$ 162,706	\$ 171,705
Division Total	\$ 2,019,071	\$ 2,095,133	\$ 2,211,017	\$ 2,016,781	\$ 2,128,330
Maintenance					
<i>Enter FTE -----></i>	26	26	26	26	26
<i>Cost per FTE</i>	\$ 74,163	\$ 74,163	\$ 78,265	\$ 74,163	\$ 78,265
Total: Labor	\$ 1,928,238	\$ 1,928,238	\$ 2,034,890	\$ 1,928,238	\$ 2,034,890
Total: Non-Labor	\$ 171,596	\$ 166,895	\$ 176,127	\$ 169,213.7778	\$ 178,573
Division Total	\$ 2,099,834	\$ 2,095,133	\$ 2,211,017	\$ 2,097,452	\$ 2,213,463
Planning & Resource Management					
<i>Enter FTE -----></i>	8	8	8	8	8
<i>Cost per FTE</i>	\$ 74,163	\$ 74,163	\$ 78,265	\$ 74,163	\$ 78,265
Total: Labor	\$ 593,304	\$ 593,304	\$ 626,120	\$ 593,304	\$ 626,120
Total: Non-Labor	\$ 52,799	\$ 51,352	\$ 54,193	\$ 52,066	\$ 54,946
Division Total	\$ 646,103	\$ 644,656	\$ 680,313	\$ 645,370	\$ 681,066
TOTAL: FTE	71	73	73	72	72
TOTAL: LABOR	\$ 5,265,573	\$ 5,413,899	\$ 5,713,345	\$ 5,339,736	\$ 5,635,080
TOTAL: NON-LABOR	\$ 468,590	\$ 468,591	\$ 494,509	\$ 468,592	\$ 494,510
SUBTOTAL: ANNUAL COSTS	\$ 5,734,163	\$ 5,882,490	\$ 6,207,854	\$ 5,808,328	\$ 6,129,590
<i>Add-on % for recurring, non-annual costs (if any)-----></i>	0%	0%	0%	0%	0%
PARK-WIDE TOTAL	\$ 5,734,163	\$ 5,882,490	\$ 6,207,854	\$ 5,808,328	\$ 6,129,590

Actions directed by GMPs or in subsequent implementation plans are accomplished over time. Budget restrictions, requirements for additional data or regulatory compliance, and competing national park system priorities prevent the immediate implementation of many actions. Major or especially costly actions could be implemented 10 or more years into the future, or may not be realized.

TABLE H-3: ONE-TIME COST CALCULATOR

Direct Construction	Alternative A (No-Action)				Alternative B				Alternative C (NPS Preferred)			
	Qty	Unit	Cost/Unit	Net Cost	Qty	Unit	Cost/Unit	Net Cost	Qty	Unit	Cost/Unit	Net Cost
New Facility: Maintenance / Ranger Station	0	lump	\$1,810,080	\$0	0	lump	\$1,810,080	\$0	1	lump	\$1,810,080	\$1,810,080
New Facility: Collections Storage*	0	lump	\$4,852,210	\$0	0	lump	\$4,852,210	\$0	1	lump	\$4,852,210	\$4,852,210
New Facility: Administration Building	0	lump	\$942,520	\$0	0	lump	\$942,520	\$0	1	lump	\$942,520	\$942,520
New/Rehabilitated Facility: Welcome Center	0	lump	\$6,350,746	\$0	1	lump	\$6,350,746	\$6,350,746	1	lump	\$6,350,746	\$6,350,746
Fill quarries to historic topography*	0	lump	\$10,441,200	\$0	0	lump	\$10,441,200	\$0	1	lump	\$10,441,200	\$10,441,200
Enhance habitat within impounding basins*	0	lump	\$2,545,200	\$0	1	lump	\$2,545,200	\$2,545,200	1	lump	\$2,545,200	\$2,545,200
Forest rehabilitation*	0	lump	\$2,668,800	\$0	1	lump	\$2,668,800	\$2,668,800	1	lump	\$2,668,800	\$2,668,800
Meadow rehabilitation*	0	lump	\$5,779,200	\$0	1	lump	\$5,779,200	\$5,779,200	1	lump	\$5,779,200	\$5,779,200
Improve vegetative buffers on Turnpike and US 422*	0	lump	\$177,600	\$0	1	lump	\$177,600	\$177,600	1	lump	\$177,600	\$177,600
Re-establish views through trees	0	lump	\$2,718,000	\$0	0	lump	\$2,718,000	\$0	1	lump	\$2,718,000	\$2,718,000
New interpretive features and waysides	0	lump	\$0	\$0	1	lump	\$1,958,000	\$1,958,000	1	lump	\$2,650,000	\$2,650,000
Remove Gulph Road pavement and leave trace	0	lump	\$457,200	\$0	0	lump	\$457,200	\$0	1	lump	\$457,200	\$457,200
Shuttle system stops	0	lump	\$60,000	\$0	0	lump	\$60,000	\$0	1	lump	\$60,000	\$60,000
Bike/ped bridge over Valley Creek	0	lump	\$600,000	\$0	1	lump	\$600,000	\$600,000	1	lump	\$600,000	\$600,000
Bike/ped bridge over Schuylkill	0	lump	\$1,267,200	\$0	1	lump	\$1,267,200	\$1,267,200	1	lump	\$1,267,200	\$1,267,200
Gateway improvements	0	lump	\$240,000	\$0	1	lump	\$240,000	\$240,000	1	lump	\$240,000	\$240,000
US 422 bike/ped bridge tunnel*	0	lump	\$1,200,000	\$0	1	lump	\$1,200,000	\$1,200,000	1	lump	\$1,200,000	\$1,200,000
SUBTOTAL: Direct Construction				\$0				\$22,786,746				\$44,759,956
Direct Construction Add-Ons						<i>Low Estimate</i>	<i>High Estimate</i>			<i>Low Estimate</i>	<i>High Estimate</i>	
Overhead and profit (18% - 40%)			\$0			\$4,101,614	\$9,114,698			\$8,056,792	\$17,903,982	
Design Contingency (15% - 30%)			\$0			\$3,418,012	\$6,836,024			\$6,713,993	\$13,427,987	
General Conditions/Requirements (4% - 20%)			\$0			\$911,470	\$4,557,349			\$1,790,398	\$8,951,991	
SUBTOTAL: Direct Construction Add-Ons			\$0			\$8,431,096	\$20,508,071			\$16,561,184	\$40,283,960	
Other Investments												
FY2006 Funded Projects			\$722,363			\$722,363	\$722,363			\$722,363	\$722,363	
Deferred Maintenance			\$53,805,076			\$53,805,076	\$53,805,076			\$53,805,076	\$53,805,076	
[insert other investments...]												
SUBTOTAL: Other Investments			\$54,527,439			\$54,527,439	\$54,527,439			\$54,527,439	\$54,527,439	
GRAND TOTAL			\$54,527,439			\$85,745,281	\$97,822,256			\$115,848,579	\$139,571,355	
COST DIFFERENCE FROM ALTERNATIVE A						\$31,217,842	\$43,294,817			\$61,321,140	\$85,043,916	

*Some projects have the potential to be funded through partnerships or through shared funding with other governmental agencies. Full costs are indicated on this chart; however, full costs would not be borne by the NPS.

Actions directed by GMPs or in subsequent implementation plans are accomplished over time.

Budget restrictions, requirements for additional data or regulatory compliance, and competing national park system priorities prevent the immediate implementation of many actions.

Major or especially costly actions could be implemented 10 or more years into the future, or may not be realized.

TABLE H-4: LIFE-CYCLE COST CALCULATOR

			Alternative A (No-Action)		Alternative B				Alternative C			
Project Life Cycle = 25 Years					<i>Low Estimate</i>		<i>High Estimate</i>		<i>Low Estimate</i>		<i>High Estimate</i>	
Discount Rate = 7.00%												
Present Time = Current Date												
<u>One-Time Costs</u>			Est.	PW	Est.	PW	Est.	PW	Est.	PW	Est.	PW
Live update from "One-Time Cost Worksheet"			\$ 54,527,439	\$ 54,527,439	\$ 85,745,281	\$ 85,745,281	\$ 97,822,256	\$ 97,822,256	\$ 115,848,579	\$ 115,848,579	\$ 139,571,355	\$ 139,571,355
Total Initial Cost				\$ 54,527,439		\$ 85,745,281		\$ 97,822,256		\$ 115,848,579		\$ 139,571,355
Initial Cost PW Savings (Compared to Alt. 1)						\$ (31,217,842)				\$ (18,026,322)		\$ (41,749,099)
<u>Recurring Costs</u>			Est.	PW	Est.	PW	Est.	PW	Est.	PW	Est.	PW
Live update from "Recurring Cost Worksheet"			\$ 5,734,163	\$ 66,823,545	\$ 5,882,490	\$ 68,552,087	\$ 6,207,854	\$ 72,343,744	\$ 5,808,328	\$ 67,687,833	\$ 6,129,590	\$ 71,431,688
Total Recurring Costs (Present Worth)				\$ 66,823,545		\$ 68,552,087		\$ 72,343,744		\$ 67,687,833		\$ 71,431,688
Total Life Cycle Costs (Present Worth)				\$ 121,350,984		\$ 154,297,368		\$ 170,166,000		\$ 183,536,412		\$ 211,003,044
Life Cycle Savings (Compared to Alt. A)						\$ (32,946,383)		\$ (48,815,015)		\$ (62,185,428)		\$ (89,652,059)
Discounted Payback (Compared to Alt. A)			PP Factor		-210.47 Years		-10.34 Years		-16.18 Years		-20.69 Years	
Total Life Cycle Costs (Annualized)			0.0858	\$ 10,413,191 Per Year	\$ 13,240,337 Per Year	\$ 13,240,337 Per Year	\$ 14,602,032 Per Year	\$ 14,602,032 Per Year	\$ 15,749,354 Per Year	\$ 15,749,354 Per Year	\$ 18,106,280 Per Year	\$ 18,106,280 Per Year

Actions directed by GMPs or in subsequent implementation plans are accomplished over time. Budget restrictions, requirements for additional data or regulatory compliance, and competing national park system priorities prevent the immediate implementation of many actions. Major or especially costly actions could be implemented 10 or more years into the future, or may not be realized.



Appendix I: Vegetation and Wildlife

Appendix I: Vegetation and Wildlife

Table I-1: Latin Names for Vegetation Referenced in Chapter 3

Common Name	Latin Name
Beech	<i>Fagus grandifolia</i>
Black Gum	<i>Nyssa sylvatica</i>
Black Haw	<i>Viburnum pruniflorum</i>
Black Locust	<i>Robinia pseudoaccia</i>
Black Oak	<i>Quercus velutina</i>
Black Walnut	<i>Juglans nigra</i>
Box Elder	<i>Acer negundo</i>
Broom Sedge	<i>Andropogon virginicus</i>
Cattails	<i>Typha latifolia</i>
Chestnut Oak	<i>Quercus prinus</i>
Common Milkweed	<i>Asclepias syriaca</i>
Eastern Mannagrass	<i>Glyceria septentrionalis</i>
Eastern Red Cedar	<i>Juniperus virginiana</i>
False Nettle	<i>Beohmeria cylindrical</i>
Flowering Dogwood	<i>Cornus florida</i>
Garlic Mustard	<i>Alliaria petiolata</i>
Green Ash	<i>Fraxinus pennsylvanica</i>
Hackberry	<i>Celtis occidentalis</i>
Hazel	<i>Hamamelis virginiana</i>
Indian Hemp	<i>Apocynum cannabinum</i>
Jack-In-The-Pulpit	<i>Arisaema triphyllum</i>
Lesser Celandine	<i>Ranunculus ficaria</i>
Mountain Laurel	<i>Kalmia latifolia</i>
Multiflora Rose	<i>Rosa multiflora</i>
Nettles	<i>Urtica dioica</i>
Orchard Grass	<i>Dactylis glomerata</i>
Oriental Bittersweet	<i>Celastrus reticulate</i>
Panic Grass	<i>Panicum anceps</i>
Purple Top	<i>Tridens flavus</i>
Raspberries	<i>Rubus sp.</i>
Red Fescue	<i>Festuca rubra</i>
Red Maple	<i>Acer rubrum</i>
Red Oak	<i>Quercus rubra</i>
Redtop	<i>Agrostis gigantean</i>
River Birch	<i>Betula nigra</i>
Rushes	<i>Juncus sp.</i>
Sassafras	<i>Sassafras albidum</i>
Scarlet Oak	<i>Quercus coccinea</i>

Table I-1: Latin Names for Vegetation Referenced in Chapter 3 (Continued)

Common Name	Latin Name
Sedge	<i>Carex grayi</i> , <i>Andropogon virginicus</i> , <i>Craex</i> sp., <i>Cyperus</i> sp, <i>Scirpus</i> sp., <i>Eleocharis</i> sp.
Silver Maple	<i>Acer saccharinum</i>
Skunk Cabbage	<i>Symplocarpus foetidus</i>
Slippery Elm	<i>Ulmus rubra</i>
Smartweed	<i>Polygonum pennsylvanicum</i>
Spice Bush	<i>Lindera benzoin</i>
Spike Rush	<i>Eleocharis tenuis</i>
Stilt Grass	<i>Microstegium vimineum</i>
Sweet Birch	<i>Betula lenta</i>
Sweet Vernal Grass	<i>Anthoxanthum odoratum</i>
Sycamore	<i>Plantanus occidentalis</i>
Tall Fescue	<i>Festuca elatior</i>
Tree-of-Heaven	<i>Ailanthus altissima</i>
Tulip Poplar	<i>Liriodendron tulipifera</i>
Watercress	<i>Nasturtium officinalis</i>
White Ash	<i>Fraxinus Americana</i>
White Oak	<i>Quercus alba</i>
Wild Black Cherry	<i>Prunus serotina</i>

Table I-2: Wildlife

Common Name	Latin Name
Birds	
no common name available*	<i>Nyctanassa violacea</i>
no common name available*	<i>Nycticorax violaceus</i>
unknown*	<i>unknown*</i>
Acadian Flycatcher	<i>Empidonax virescens</i>
Alder Flycatcher	<i>Empidonax alnorum</i>
American Bittern	<i>Botaurus lentiginosus</i>
American Black Duck	<i>Anas rubripes</i>
American Coot	<i>Fulica americana</i>
American Crow	<i>Corvus brachyrhynchos</i>
American Goldfinch	<i>Carduelis tristis</i>
American Kestrel	<i>Falco sparverius</i>
American Pipit	<i>Anthus rubescens</i>
American Redstart	<i>Setophaga ruticilla</i>
American Robin	<i>Turdus migratorius</i>
American Tree Sparrow	<i>Spizella arborea</i>
American Wigeon	<i>Anas americana</i>
American Woodcock	<i>Scolopax minor</i>
Bald Eagle	<i>Haliaeetus leucocephalus</i>
Bank Swallow	<i>Riparia riparia</i>
Barn Owl	<i>Tyto alba</i>
Barn Swallow	<i>Hirundo rustica</i>
Barred Owl	<i>Strix varia</i>
Bay-breasted Warbler	<i>Dendroica castanea</i>
Belted Kingfisher	<i>Ceryle alcyon</i>
Bewick's Wren	<i>Thryomanes bewickii</i>
Black Scoter	<i>Melanitta nigra</i>
Black Tern	<i>Chlidonias niger</i>
Black Vulture	<i>Coragyps atratus</i>
Black-and-White Warbler	<i>Mniotilta varia</i>
Black-bellied Plover	<i>Pluvialis squatarola</i>
Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>
Blackburnian Warbler	<i>Dendroica fusca</i>
Black-capped Chickadee	<i>Parus atricapillus</i>
Black-crowned Night-Heron	<i>Nycticorax nycticorax</i>
Blackpoll Warbler	<i>Dendroica striata</i>
Black-throated Blue Warbler	<i>Dendroica caerulescens</i>
Black-throated Green Warbler	<i>Dendroica virens</i>
Blue Grosbeak	<i>Guiraca caerulea</i>
Blue Jay	<i>Cyanocitta cristata</i>
Blue-gray Gnatcatcher	<i>Poliophtila caerulea</i>
Blue-winged Teal	<i>Anas discors</i>

Table I-2: Wildlife (Continued)

Common Name	Latin Name
Birds (Continued)	
Blue-winged Warbler	<i>Vermivora pinus</i>
Bobolink	<i>Dolichonyx oryzivorus</i>
Bonaparte's Gull	<i>Larus philadelphia</i>
Brant	<i>Branta bernicla</i>
Broad-winged Hawk	<i>Buteo platypterus</i>
Brown Creeper	<i>Certhia americana</i>
Brown Thrasher	<i>Toxostoma rufum</i>
Brown-headed Cowbird	<i>Molothrus ater</i>
Bufflehead	<i>Bucephala albeola</i>
Canada Goose	<i>Branta canadensis</i>
Canada Warbler	<i>Wilsonia canadensis</i>
Canvasback	<i>Aythya valisineria</i>
Cape May Warbler	<i>Dendroica tigrina</i>
Carolina Chickadee	<i>Poecile carolinensis</i>
Carolina Wren	<i>Thryothorus ludovicianus</i>
Caspian Tern	<i>Sterna caspia</i>
Cattle Egret	<i>Bubulcus ibis</i>
Cedar Waxwing	<i>Bombycilla cedrorum</i>
Cerulean Warbler	<i>Dendroica cerulea</i>
Chestnut-sided Warbler	<i>Dendroica pensylvanica</i>
Chimney Swift	<i>Chaetura pelagica</i>
Chipping Sparrow	<i>Spizella passerina</i>
Cliff Swallow	<i>Hirundo pyrrhonota</i>
Common Goldeneye	<i>Bucephala clangula</i>
Common Grackle	<i>Quiscalus quiscula</i>
Common Loon	<i>Gavia immer</i>
Common Merganser	<i>Mergus merganser</i>
Common Moorhen	<i>Gallinula chloropus</i>
Common Nighthawk	<i>Chordeiles minor</i>
Common Raven	<i>Corvus corax</i>
Common Redpoll	<i>Carduelis flammea</i>
Common Snipe	<i>Gallinago gallinago</i>
Common Tern	<i>Sterna hirundo</i>
Common Yellowthroat	<i>Geothlypis trichas</i>
Connecticut Warbler	<i>Oporornis agilis</i>
Cooper's Hawk	<i>Accipiter cooperii</i>
Dark-eyed Junco	<i>Junco hyemalis</i>
Dickcissel	<i>Spiza americana</i>
Double-crested Cormorant	<i>Phalacrocorax auritus</i>
Downy Woodpecker	<i>Picoides pubescens</i>
Dunlin	<i>Calidris alpina</i>

Table I-2: Wildlife (Continued)

Common Name	Latin Name
Birds (Continued)	
Eastern Bluebird	<i>Sialia sialis</i>
Eastern Kingbird	<i>Tyrannus tyrannus</i>
Eastern Meadowlark	<i>Sturnella magna</i>
Eastern Phoebe	<i>Sayornis phoebe</i>
Eastern Screech-Owl	<i>Otus asio</i>
Eastern Wood-Pewee	<i>Contopus virens</i>
European Starling	<i>Sturnus vulgaris</i>
Evening Grosbeak	<i>Coccothraustes vespertinus</i>
Field Sparrow	<i>Spizella pusilla</i>
Fish Crow	<i>Corvus ossifragus</i>
Fox Sparrow	<i>Passerella iliaca</i>
Gadwall	<i>Anas strepera</i>
Glossy Ibis	<i>Plegadis falcinellus</i>
Golden Eagle	<i>Aquila chrysaetos</i>
Golden-crowned Kinglet	<i>Regulus satrapa</i>
Golden-winged Warbler	<i>Vermivora chrysoptera</i>
Grasshopper Sparrow	<i>Ammodramus savannarum</i>
Gray Catbird	<i>Dumetella carolinensis</i>
Gray-cheeked Thrush	<i>Catharus minimus</i>
Great Black-Backed Gull	<i>Larus marinus</i>
Great Blue Heron	<i>Ardea herodias</i>
Great Crested Flycatcher	<i>Myiarchus crinitus</i>
Great Egret	<i>Casmerodius albus</i>
Great Horned Owl	<i>Bubo virginianus</i>
Greater Scaup Duck	<i>Aythya marila</i>
Greater White-fronted Goose	<i>Anser albifrons</i>
Greater Yellowlegs	<i>Tringa melanoleuca</i>
Green Heron	<i>Butorides virescens</i>
Green-backed Heron	<i>Butorides striatus</i>
Green-winged Teal	<i>Anas crecca</i>
Hairy Woodpecker	<i>Picoides villosus</i>
Henslow's Sparrow	<i>Ammodramus henslowii</i>
Hermit Thrush	<i>Catharus guttatus</i>
Herring Gull	<i>Larus argentatus</i>
Hooded Merganser	<i>Lophodytes cucullatus</i>
Hooded Warbler	<i>Wilsonia citrina</i>
Horned Grebe	<i>Podiceps auritus</i>
Horned Lark	<i>Eremophila alpestris</i>
House Finch	<i>Carpodacus mexicanus</i>
House Sparrow	<i>Passer domesticus</i>
House Wren	<i>Troglodytes aedon</i>
Indigo Bunting	<i>Passerina cyanea</i>

Table I-2: Wildlife (Continued)

Common Name	Latin Name
Birds (Continued)	
Kentucky Warbler	<i>Oporornis formosus</i>
Killdeer	<i>Charadrius vociferus</i>
King Rail	<i>Rallus elegans</i>
Lapland Longspur	<i>Calcarius lapponicus</i>
Laughing Gull	<i>Larus atricilla</i>
Least Bittern	<i>Ixobrychus exilis</i>
Least Flycatcher	<i>Empidonax minimus</i>
Least Sandpiper	<i>Calidris minutilla</i>
Lesser Scaup	<i>Aythya affinis</i>
Lesser Yellowlegs	<i>Tringa flavipes</i>
Lincoln's Sparrow	<i>Melospiza lincolni</i>
Little Blue Heron	<i>Egretta caerulea</i>
Loggerhead Shrike	<i>Lanius ludovicianus</i>
Long-eared Owl	<i>Asio otus</i>
Louisiana Waterthrush	<i>Seiurus motacilla</i>
Magnolia Warbler	<i>Dendroica magnolia</i>
Mallard	<i>Anas platyrhynchos</i>
Marsh Wren	<i>Cistothorus palustris</i>
Merlin	<i>Falco columbarius</i>
Mourning Dove	<i>Zenaida macroura</i>
Mourning Warbler	<i>Oporornis philadelphia</i>
Mute Swan	<i>Cygnus olor</i>
Nashville Warbler	<i>Vermivora ruficapilla</i>
Northern Bobwhite	<i>Colinus virginianus</i>
Northern Cardinal	<i>Cardinalis cardinalis</i>
Northern Flicker	<i>Colaptes auratus</i>
Northern Goshawk	<i>Accipiter gentilis</i>
Northern Harrier	<i>Circus cyaneus</i>
Northern Mockingbird	<i>Mimus polyglottos</i>
Northern Oriole	<i>Icterus galbula</i>
Northern Parula	<i>Parula americana</i>
Northern Pintail	<i>Anas acuta</i>
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>
Northern Saw-Whet Owl	<i>Aegolius acadicus</i>
Northern Shoveler	<i>Anas clypeata</i>
Northern Waterthrush	<i>Seiurus noveboracensis</i>
Oldsquaw	<i>Clangula hyemalis</i>
Olive-sided Flycatcher	<i>Contopus borealis</i>
Olive-sided Flycatcher	<i>Contopus cooperi</i>
Orange-crowned Warbler	<i>Vermivora celata</i>
Orchard Oriole	<i>Icterus spurius</i>

Table I-2: Wildlife (Continued)

Common Name	Latin Name
Birds (Continued)	
Osprey	<i>Pandion haliaetus</i>
Ovenbird	<i>Seiurus aurocapillus</i>
Palm Warbler	<i>Dendroica palmarum</i>
Pectoral Sandpiper	<i>Calidris melanotos</i>
Peregrine Falcon	<i>Falco peregrinus</i>
Philadelphia Vireo	<i>Vireo philadelphicus</i>
Pied-billed Grebe	<i>Podilymbus podiceps</i>
Pileated Woodpecker	<i>Dryocopus pileatus</i>
Pine Grosbeak	<i>Pinicola enucleator</i>
Pine Siskin	<i>Carduelis pinus</i>
Pine Warbler	<i>Dendroica pinus</i>
Prairie Warbler	<i>Dendroica discolor</i>
Prothonotary Warbler	<i>Protonotaria citrea</i>
Purple Finch	<i>Carpodacus purpureus</i>
Purple Martin	<i>Progne subis</i>
Red-bellied Woodpecker	<i>Melanerpes carolinus</i>
Red-breasted Merganser	<i>Mergus serrator</i>
Red-breasted Nuthatch	<i>Sitta canadensis</i>
Red-eyed Vireo	<i>Vireo olivaceus</i>
Redhead	<i>Aythya americana</i>
Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>
Red-necked Grebe	<i>Podiceps grisegena</i>
Red-shouldered Hawk	<i>Buteo lineatus</i>
Red-tailed Hawk	<i>Buteo jamaicensis</i>
Red-winged Blackbird	<i>Agelaius phoeniceus</i>
Ring-billed Gull	<i>Larus delawarensis</i>
Ring-necked Duck	<i>Aythya collaris</i>
Ring-necked Pheasant	<i>Phasianus colchicus</i>
Rock Dove	<i>Columba livia</i>
Rose-breasted Grosbeak	<i>Pheucticus ludovicianus</i>
Rough-legged Hawk	<i>Buteo lagopus</i>
Ruby-crowned Kinglet	<i>Regulus calendula</i>
Ruby-throated Hummingbird	<i>Archilochus colubris</i>
Ruddy Duck	<i>Oxyura jamaicensis</i>
Ruddy Turnstone	<i>Arenaria interpres</i>
Ruffed Grouse	<i>Bonasa umbellus</i>
Rufous-sided Towhee	<i>Pipilo erythrophthalmus</i>
Rusty Blackbird	<i>Euphagus carolinus</i>
Savannah Sparrow	<i>Passerculus sandwichensis</i>
Scarlet Tanager	<i>Piranga olivacea</i>
Sedge Wren	<i>Cistothorus platensis</i>
Semipalmated Plover	<i>Charadrius semipalmatus</i>

Table I-2: Wildlife (Continued)

Common Name	Latin Name
Birds (Continued)	
Semipalmated Sandpiper	<i>Calidris pusilla</i>
Sharp-shinned Hawk	<i>Accipiter striatus</i>
Short-billed Dowitcher	<i>Limnodromus griseus</i>
Short-eared Owl	<i>Asio flammeus</i>
Snow Bunting	<i>Plectrophenax nivalis</i>
Snow Goose	<i>Chen caerulescens</i>
Snowy Egret	<i>Egretta thula</i>
Snowy Owl	<i>Nyctea scandiaca</i>
Solitary Sandpiper	<i>Tringa solitaria</i>
Solitary Vireo	<i>Vireo solitarius</i>
Song Sparrow	<i>Melospiza melodia</i>
Sora	<i>Porzana carolina</i>
Spotted Sandpiper	<i>Actitis macularia</i>
Summer Tanager	<i>Piranga rubra</i>
Swainson's Thrush	<i>Catharus ustulatus</i>
Swamp Sparrow	<i>Melospiza georgiana</i>
SYN: Carolina Chickadee	<i>Parus carolinensis</i>
SYN: Tufted Titmouse	<i>Parus bicolor</i>
Tennessee Warbler	<i>Vermivora peregrina</i>
Tree Swallow	<i>Tachycineta bicolor</i>
Tufted Titmouse	<i>Baeolophus bicolor</i>
Tundra Swan	<i>Cygnus columbianus</i>
Turkey Vulture	<i>Cathartes aura</i>
Upland Sandpiper	<i>Bartramia longicauda</i>
Veery	<i>Catharus fuscescens</i>
Vesper Sparrow	<i>Pooecetes gramineus</i>
Virginia Rail	<i>Rallus limicola</i>
Warbling Vireo	<i>Vireo gilvus</i>
Water Pipit	<i>Anthus spinoletta</i>
Whip-poor-Will	<i>Caprimulgus vociferus</i>
White-breasted Nuthatch	<i>Sitta carolinensis</i>
White-crowned Sparrow	<i>Zonotrichia leucophrys</i>
White-eyed Vireo	<i>Vireo griseus</i>
White-throated Sparrow	<i>Zonotrichia albicollis</i>
White-winged Scoter	<i>Melanitta fusca</i>
Wild Turkey	<i>Meleagris gallopavo</i>
Willow Flycatcher	<i>Empidonax traillii</i>
Wilson's Warbler	<i>Wilsonia pusilla</i>
Winter Wren	<i>Troglodytes troglodytes</i>
Wood Duck	<i>Aix sponsa</i>
Wood Thrush	<i>Hylocichla mustelina</i>

Table I-2: Wildlife (Continued)

Common Name	Latin Name
Birds (Continued)	
Worm-eating Warbler	<i>Helmitheros vermivorus</i>
Yellow Warbler	<i>Dendroica petechia</i>
Yellow-bellied Flycatcher	<i>Empidonax flaviventris</i>
Yellow-bellied Sapsucker	<i>Sphyrapicus varius</i>
Yellow-billed Cuckoo	<i>Coccyzus americanus</i>
Yellow-breasted Chat	<i>Icteria virens</i>
Yellow-rumped Warbler	<i>Dendroica coronata</i>
Yellow-throated Vireo	<i>Vireo flavifrons</i>
Yellow-throated Warbler	<i>Dendroica dominica</i>
Amphibians and Reptiles	
Bull frog	<i>Rana catesbeiana</i>
Common Garter Snake	<i>Thamnophis sirtalis sirtalis</i>
Common Map Turtle	<i>Graptemys geographica</i>
Common Musk Turtle	<i>Sternotherus odoratus</i>
Common Snapping Turtle	<i>Chelydra serpentine serpentine</i>
Eastern American Toad	<i>Bufo americanus americanus</i>
Eastern Box Turtle	<i>Terrapene carolina carolina</i>
Eastern Gray Treefrog	<i>Hyla versicolor</i>
Eastern Milk Snake	<i>Lampropeltis triangulum triangulum</i>
Eastern Newt	<i>Notophthalmus viridescens viridescens</i>
Eastern Painted Turtle	<i>Chrysemys picta picta</i>
Fowler's Toad	<i>Bufo fowleri</i>
Longtail Salamander	<i>Eurycea longicauda longicauda</i>
Northern Black Racer	<i>Coluber constrictor constrictor</i>
Northern Brown Snake	<i>Storeria dekayi dekayi</i>
Northern Copperhead	<i>Agkistrodon contortrix mokasen</i>
Northern Dusky Salamander	<i>Desmognathus fuscus fuscus</i>
Northern Green Frog	<i>Rana clamitans melanota</i>
Northern Red Salamander	<i>Pseudotriton ruber ruber</i>
Northern Red Salamander	<i>Pseudotriton rubber rubber</i>
Northern Ringneck Snake	<i>Diadophis punctatus edwardsii</i>
Northern Spring Peeper	<i>Pseudacris crucifer crucifer</i>
Northern Two-lined Salamander	<i>Eurycea bislineata</i>
Northern Water Snake	<i>Nerodia sipedon sipedon</i>
Pickerel Frog	<i>Rana palustris</i>
Queen Snake	<i>Regina septemvittata</i>
Red-backed Salamander	<i>Plethodon cinereus</i>
Red-eared Slider	<i>Trachemys scripta elegans</i>
Slimy Salamander	<i>Plethodon glutinosus</i>
Wood Frog	<i>Rana sylvatica</i>

Table I-2: Wildlife (Continued)

Common Name	Latin Name
Mammals	
Big Brown Bat	<i>Eptesicus fuscus</i>
Black Bear	<i>Ursus americanus</i>
Coyote	<i>Canis latrans</i>
Deer Mouse	<i>Peromyscus maniculatus bairdii</i>
Domestic Cat	<i>Felis catus</i>
Eastern Chipmunk	<i>Tamias striatus</i>
Eastern Cottontail	<i>Sylvilagus floridanus</i>
Gray Squirrel	<i>Sciurus carolinensis</i>
House Mouse	<i>Mus musculus</i>
Little Brown Bat	<i>Myotis lucifugus</i>
Long-eared Bat	<i>Myotis septentrionalis</i>
Masked Shrew	<i>Sorex cinereus</i>
Meadow Jumping Mouse	<i>Zapus hudsonius</i>
Meadow Vole	<i>Microtus pennsylvanicus</i>
Mink	<i>Mustela vison</i>
Muskrat	<i>Ondatra zibethicus</i>
Northern Short-tailed Shrew	<i>Blarina brevicauda kirtlandi</i>
Norway Rat	<i>Rattus norvegicus</i>
Raccoon	<i>Procyon locor</i>
Red Bat	<i>Lasiurus borealis</i>
Red Fox	<i>Vulpes vulpes</i>
Red Squirrel	<i>Tamiasciurus hudsonicus</i>
Southern Flying Squirrel	<i>Glaucomys volans</i>
Star-nosed Mole	<i>Condylura cristata</i>
Striped Skunk	<i>Mephitis mephitis</i>
Virginia Opossum	<i>Didelphis virginiana</i>
Weasel (Ermine or Long-tailed)	<i>Mustela erminea</i> or <i>M. frenata</i>
White-footed Mouse	<i>Peromyscus leucopus</i>
White-tailed Deer	<i>Odocoileus virginianus</i>
Woodchuck	<i>Marmota monax</i>
Fish	
American Eel	<i>Anguilla rostrata</i>
Blacknose Dace	<i>Rhinichthys atratulus</i>
Bluegill	<i>Lepomis macrochirus</i>
Bluntnose Minnow	<i>Pimephales notatus</i>
Brook Trout	<i>Salvelinus fontinalis</i>
Brown Bullhead	<i>Ameiurus nebulosus</i>
Brown Trout	<i>Salmo trutta</i>
Common Shiner	<i>Notropis cornutus</i> (synonym for <i>Luxilus cornutus</i>)
Creek Chubsucker	<i>Erimyzon oblongus</i>
Cutlips Minnow	<i>Exoglossum maxillingua</i>
Fathead Minnow	<i>Pimephales promelas</i>

Table I-2: Wildlife (Continued)

Common Name	Latin Name
Fish (Continued)	
Goldfish	<i>Carassius auratus</i>
Green Sunfish	<i>Lepomis cyanellus</i>
Johnny Darter	<i>Etheostoma nigrum</i>
Largemouth Bass	<i>Micropterus salmoides</i>
Longnose Dace	<i>Rhinichthys cataractae</i>
Pumpkinseed	<i>Lepomis gibbosus</i>
Rainbow Trout	<i>Oncorhynchus mykiss</i>
Redbreast Sunfish	<i>Lepomis auritus</i>
Rock Bass	<i>Ambloplites rupestris</i>
Satinfin Shiner	<i>Cyprinella analostana</i>
Shield Darter	<i>Percina peltata</i>
Smallmouth Bass	<i>Micropterus dolomieu</i>
Spotfin Shiner	<i>Cyprinella spiloptera</i>
Spottail Shiner	<i>Notropis hudsonius</i>
Striped Shiner	<i>Luxilus chrysocephalus</i>
Tessellated Darter	<i>Etheostoma olmstedii</i>
White Sucker	<i>Catostomus commersoni</i>
Yellow Bullhead	<i>Ameiurus natalis</i>
Butterflies	
American Copper	<i>Lycaena phlaeas</i>
American Lady	<i>Vanessa virginiensis</i>
American Snout	<i>Libytheana carinenta</i>
Appalachian Brown	<i>Satyrodes appalachia</i>
Banded Hairstreak	<i>Satyrium calanus</i>
Black Swallowtail	<i>Papilio polyxenes</i>
Cabbage White	<i>Pieris rapae</i>
Clouded Sulphur	<i>Colias philodice</i>
Cloudless Sulphur	<i>Phoebis sennae</i>
Comma	<i>Polygonia comma</i>
Common Buckeye	<i>Junonia coenia</i>
Common Checkered Skipper	<i>Pyrgus communis</i>
Common Sootywing	<i>Pholisora catullus</i>
Compton Tortoiseshell	<i>Nymphalis vau-album</i>
Common Wood Nymph	<i>Cercyonis pegala</i>
Coral Hairstreak	<i>Satyrium titus</i>
Crossline Skipper	<i>Polites origenes</i>
Delaware Skipper	<i>Atrytone logan</i>
Dreamy Duskywing	<i>Erynnis icelus</i>
Eastern Pine Elfin	<i>Callophrys niphon</i>
Eastern Tailed Blue	<i>Everes comyntas</i>
European Skipper	<i>Thymelicus lineola</i>
Fiery Skipper	<i>Hylephila phyleus</i>
Gray Hairstreak	<i>Strymon melinus</i>

Table I-2: Wildlife (Continued)

Common Name	Latin Name
Butterflies (Continued)	
Great Spangled Fritillary	<i>Speyeria cybele</i>
Hackberry Empror	<i>Asterocampa celtis</i>
Harvester	<i>Feniseca tarquinius</i>
Hickory Hairstreak	<i>Satyrium caryaevorus</i>
Hoary Edge	<i>Achalarus lyciades</i>
Hobomock	<i>Poanes hobomok</i>
Horace's Duskywing	<i>Erynnis horatius</i>
Juvenals Duskywing	<i>Erynnis juvenalis</i>
Least Skipper	<i>Ancyloxypha numitor</i>
Little Glassywing	<i>Pompeius verna</i>
Little Wood Satyr	<i>Megisto cymela</i>
Long-tailed Skipper	<i>Urbanus proteus</i>
Meadow Fritillary	<i>Boloria bellona</i>
Monarch	<i>Danaus plexippus</i>
Mourning Cloak	<i>Nymphalis antiopa</i>
Northern Cloudywing	<i>Thorybes pylades</i>
Olive Juniper Hairstreak	<i>Callophrys gryneus</i>
Orange Sulphur	<i>Colias eurytheme</i>
Painted Lady	<i>Vanessa cardui</i>
Pearl Crescent	<i>Phyciodes tharos</i>
Pipevine Swallowtail	<i>Battus philenor</i>
Question Mark	<i>Polygonia interrogationis</i>
Red Admiral	<i>Vanessa atalanta</i>
Red-banded Hairstreak	<i>Calycopis cecrops</i>
Red-spotted Purple	<i>Limenitis arthemis</i>
Peck's Skipper	<i>Polites peckius</i>
Sachem	<i>Atalopedes campestris</i>
Silver-spotted Skipper	<i>Epargyreus clarus</i>
Southern Cloudywing	<i>Thorybes bathyllus</i>
Spicebush Swallowtail	<i>Papilio troilus</i>
Spring Azure Marginata	<i>Celastrina ladon</i>
Spring (Summer) Azure	<i>Celastrina ladon</i>
Striped Hairstreak	<i>Satyrium caryaevorus</i>
Swarthy Skipper	<i>Nastra lherminier</i>
Tawny Emperor	<i>Asterocampa clyton</i>
Tawny-edged Skipper	<i>Polites themistocles</i>
Tiger Swallowtail	<i>Papilio glaucus</i>
Variigated Fritillary	<i>Euptoieta claudia</i>
Viceroy	<i>Limenitis archippus</i>
White M Hairstreak	<i>Parrhasius m-album</i>
Wild Indigo Duskywing	<i>Erynnis baptisiae</i>
Zabulon	<i>Poanes zabulon</i>



**Appendix J: Supporting Data for Impact Analysis:
Visitor Use and Experience/
Socioeconomic Environment**

Appendix J: Supporting Data for Impact Analysis: Visitor Use and Experience / Socioeconomic Environment

Table J-1 Visitation Impact

	Alternative A No-Action	Alternative B	Alternative C NPS Preferred
Recreation Visitors			
Base	750,000	750,000	750,000
New ¹	100,000	200,000	200,000
Subtotal	850,000	950,000	950,000
History Visitors			
Base	350,000	350,000	350,000
New	0	35,000	35,000
Subtotal	350,000	385,000	385,000
Total	1,200,000	1,335,000	1,335,000

Figures Rounded

¹ Based on population growth 2005-2010

Source: Economics Research Associates

Table J-2 On-site Visitor Spending

	Alternative A No-Action	Alternative B	Alternative C NPS Preferred
Valley Forge NHP Visitation	1,200,000	1,335,000	1,756,000
Welcome Center Spending Total	\$600,000 ¹	\$660,000 ²	\$660,000 ²
Washington's Headquarters	\$67,340	\$67,340	\$67,340
Spending Total	\$667,340	\$727,340	\$727,340

Figures Rounded

¹ Estimated visitor center retail sales

² Based on 10% increase in history visitation

Source: Economics Research Associates

Table J-3 Off-site Expenditures by Valley Forge NHP Visitors

	Alternative A No-Action	Alternative B	Alternative C NPS Preferred
Day Trip			
Number	144,875	159,363	159,363
Expenditures			
Non-air transportation	\$17.83	\$17.83	\$17.83
Lodging	--	--	--
Food	\$25.42	\$25.42	\$25.42
Retail	\$9.76	\$9.76	\$9.76
Entertainment	\$9.40	\$9.40	\$9.40
Total	\$62.41	\$62.41	\$62.41
Expenditures			
Non-air transportation	\$2,583,121	\$2,841,433	\$2,841,433
Lodging	--	--	--
Food	\$3,682,723	\$4,050,995	\$4,050,995
Retail	\$1,413,980	\$1,555,378	\$1,555,378
Entertainment	\$1,361,825	\$1,498,008	\$1,498,008
Day Trip Total	\$9,041,649	\$9,945,814	\$9,945,814
History, overnight			
Number	175,500	193,050	193,050
Expenditures			
Non-air transportation	\$20.37	\$20.37	\$20.37
Lodging	\$37.17	\$37.17	\$37.17
Food	\$29.05	\$29.05	\$29.05
Retail	\$11.15	\$11.15	\$11.15
Entertainment	\$10.74	\$10.74	\$10.74
Total	\$108.48	\$108.48	\$108.48
Expenditures			
Non-air transportation	\$3,574,935	\$3,932,429	\$3,932,429
Lodging	\$6,523,335	\$7,175,669	\$7,175,669
Food	\$5,098,275	\$5,608,103	\$5,608,103
Retail	\$1,956,825	\$2,152,508	\$2,152,508
Entertainment	\$1,884,870	\$2,073,357	\$2,073,357
Overnight Total	\$19,038,240	\$20,942,064	\$20,942,064
Total (Rounded)	\$28,100,000	\$30,900,000	\$30,900,000

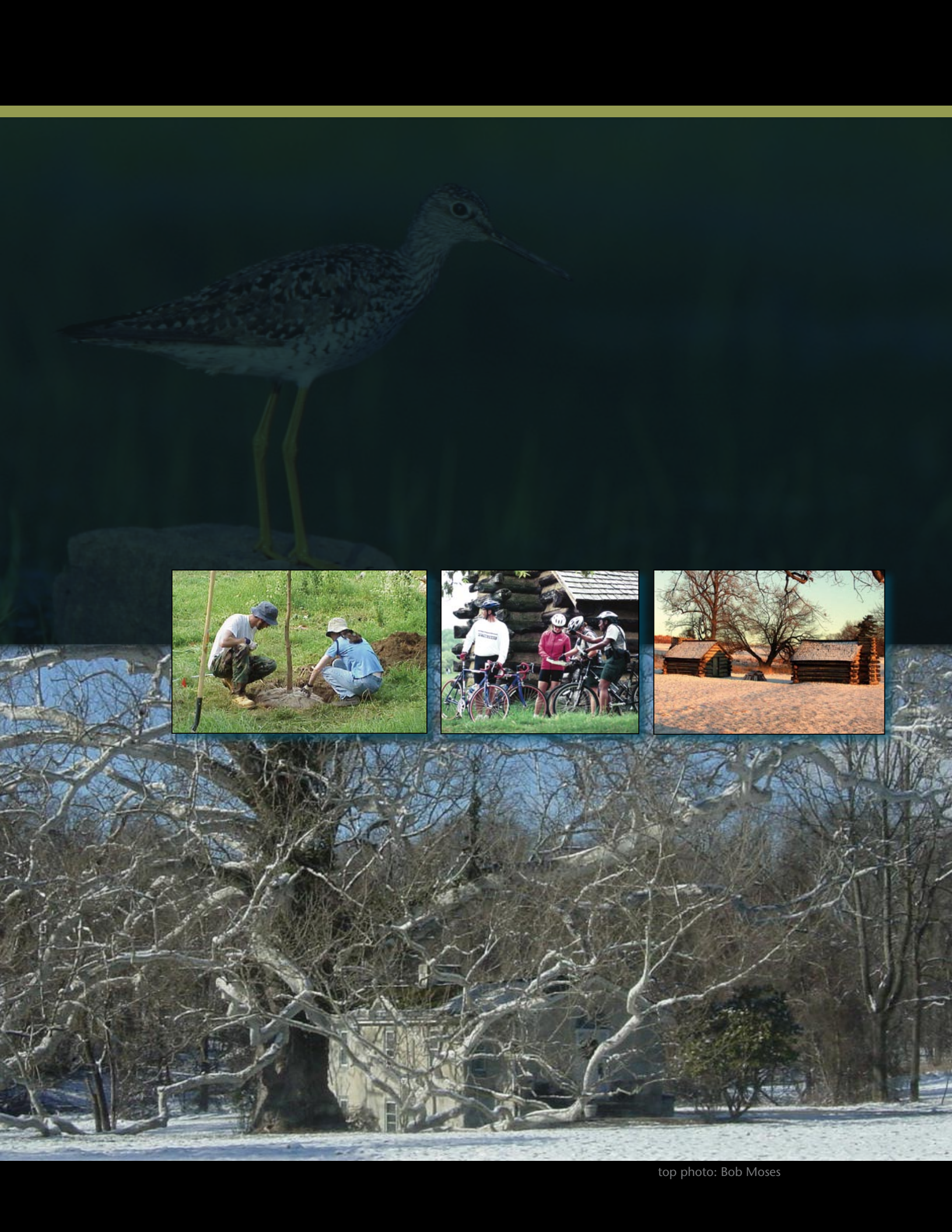
Sources: ESRI Business Solutions, Greater Philadelphia Tourism Marketing Association, ERA

Table J-4 Visitor Origin

	%	Alternative A (No-Action)	Alternative B	Alternative C NPS Preferred
Recreation				
Local	100%	850,000	950,000	950,000
History				
Local	8.42%	29,481	32,430	32,430
Non-local day trip	41.39%	144,875	159,363	159,363
Overnight trip	50.14%	175,500	193,050	193,050
History Total	100%	350,000	385,000	385,000
Total		1,200,000	1,335,000	1,335,000

Source: ESRI Business Solutions, Greater Philadelphia Tourism Marketing Association, ERA.

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top photo: Bob Moses