



4.0 ENVIRONMENTAL CONSEQUENCES



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4.1 METHODOLOGY FOR ASSESSING IMPACTS

This chapter assesses the potential environmental impacts of each of the four alternatives described in Chapter 2.0 on five categories of resources:

- Natural
- Cultural
- Recreational
- Land Use
- Socio-economic Conditions

These categories, each of which encompasses a range of more specific resources, correspond to the major sections of Chapter 3.0 (Heritage Area Environment).

The Schuylkill River Valley National Heritage Area Management Plan is programmatic in scope. Therefore, the Environmental Consequences chapter discusses the types of impacts that could be associated with the strategies and action items emphasized by each of the alternatives (see Table 2-1 for the strategies and their degree of emphasis). The Environmental Consequences chapter does not discuss impacts at the site-specific project level. (Future actions may be required to undergo additional project level environmental assessment prior to implementation as required by the National Environmental Policy Act [NEPA].) Ultimately, implementation of the Plan will depend upon voluntary actions by and partnerships among numerous public and private sector agencies, organizations, and citizens. Hence the impacts on natural resources, cultural resources, recreational resources, and land use are qualitatively discussed below. This discussion is based upon the anticipated effects of each of the four alternatives resulting from factors such as the commitment of funding and other resources, formation of partnerships, level of public recognition, and the actions and strategies that are likely to be emphasized by each alternative.

Quantitative visitation estimates for the four alternatives were developed to provide a basis for determining the potential socioeconomic impacts of the Plan as well as the potential for impacts on resources that may result from increased visitation and use. The methodology used to develop these estimates was as follows (see Appendix D):

1. Baseline annual visitation figures were developed for heritage attractions and events within the Schuylkill River Valley.
2. Reasonable estimates of the percentage increases in visitation to these heritage attractions and events that might occur after five years as a result of each alternative were made.

Because this document is a programmatic Management Plan and Environmental Impact Statement, it addresses the general environmental impacts that could be expected to result from the plan strategies and action items. It does *not* address impacts at the project-specific level.



3. The percentage increases were applied to the baseline visitation figures.

Using this methodology, the baseline estimated visitation and projected visitation for each of the four alternatives after five years are as follows:

Projected increases in visitation range from 1.3% under the No Action Alternative to 16.2% under the Layers Alternative.

- The current baseline annual visitation to the Schuylkill River Valley National Heritage Area is estimated at 5,873,100
- Visitation under Alternative A (No Action) is projected to increase by 76,980 annually over the baseline, to a total of 5,950,080
- Visitation under Alternative B (Places) is projected to increase by 455,620 annually over the baseline, to a total of 6,328,720
- Visitation under Alternative C (Experiences) is projected to increase by 368,460 annually over the baseline, to a total of 6,241,560
- Visitation under Alternative D (Layers) is projected to increase by 952,270 annually over the baseline, to a total of 6,825,370

It should be noted that the majority of the impacts on environmental resources resulting from implementation of the Management Plan are expected to be positive because of the Plan's resource preservation and enhancement goals. There may be the potential for impacts due to increased visitation and certain types of development that may be generated as a secondary effect of programs and actions taken to implement the Plan. However, the Plan's emphasis on sustainable land use and community revitalization implies that most development will likely be positive and intended. In addition, any adverse impacts due to visitation will likely be minimal and outweighed by the positive effects of improved economic vitality and natural, cultural, and recreational resource preservation and enhancement. The increased annual visitation of 952,270 projected under Alternative D equates to an average of approximately 2,600 visitors per day distributed over a 1,740-square mile region with a current population of roughly 3.2 million people.



4.2 IMPACTS ON NATURAL RESOURCES

This section discusses potential impacts on the following types of natural resources:

Water Resources

- Floodplains
- Wetlands
- Water quality
- Aquatic habitat
- Aquatic threatened and endangered species
- Scenic rivers
- High quality streams

Land Resources

- Geology
- Soils
- Prime farmland
- Terrestrial habitat
- Terrestrial threatened and endangered species
- Unique natural features

Air Quality and Noise

4.2.1 Impacts on Water Resources

A. Alternative A: No Action

The potential for the most direct physical impacts to water resources under Alternative A will result from the continued implementation of trail segments and water landings as part of the Schuylkill River Trail and Water Trail. Measures will continue to be taken in the planning and construction of these projects to ensure that impacts on water quality and riparian vegetation from construction and use are minimal. Examples of these measures include:

- Use of existing disturbed areas (e.g., pre-existing water access points for water landings and abandoned rail beds for trails) and preservation of existing natural vegetation
- Erosion control measures during construction
- Revegetation and other stabilization measures to limit erosion and sedimentation as a result of use
- Stormwater control measures such as detention basins
- Establishment of stabilized vehicle access and parking areas to prevent impacts from vehicles on streambanks and riparian vegetation

Trails will be surfaced and clearly delineated so as to minimize the potential for users to leave the trail and impact sensitive streambank vegetation. The scale of the water landings will promote use of non-motorized and small motorized craft, minimizing the potential for impacts from pollutants such as oil and grease.

Measures currently used to protect water resources from construction and use impacts associated with the Schuylkill River Trail System will continue to be used for all alternatives.



B. Alternative B: Places

Alternative B will direct more resources and partnerships towards the preservation and restoration of water resources than the No Action Alternative (Alternative A). However, since it focuses on places where clusters of heritage resources are located and the preservation of historic resources, it will not have as great a positive impact on the preservation and enhancement of water resources throughout the heritage area as will Alternatives C and D.

The positive impacts of this alternative are likely to be the preservation and targeted restoration of some wetlands, floodplains, high quality streams, and scenic rivers near the main stem of the Schuylkill River where most heritage resource clusters are located. Many of these targeted restoration activities are likely to take place along with the redevelopment of traditional activity centers and the enhancement of associated waterfront parks. Water resources along the main tributaries could also be preserved as several potential clusters of heritage resources are located within tributary watersheds.

The development of boat landings and segments of trails could have physical impacts on water resources. These impacts are likely to be minimal due to the limited focus of this alternative on the enhancement of recreational resources and the limited geographic area it is expected to affect. In addition the following measures will continue to be taken to mitigate these impacts:

- Boat landings and trails will be developed in existing disturbed areas (e.g., pre-existing water access points and abandoned rail beds) in order to preserve existing natural vegetation.
- Erosion control measures will be implemented during construction.
- Revegetation and other stabilization measures will limit erosion and sedimentation.
- Detention basins and other stormwater control measures will reduce runoff from trails and boat landings.
- Establishment of stabilized vehicle access and parking areas will prevent impacts from vehicles on streambanks and riparian vegetation.

Encouraging development to occur in developed areas with existing infrastructure and buildings will minimize the potential for new water quality impacts.

Development of historic sites (Strategy 1A), promotion of entrepreneurial activity (Strategy 4B), and marketing of historic centers (Strategies 1A, 4A, and 5A) will likely result in increased visitation and associated development in traditional centers. Because most of the heritage area's traditional centers are located along the Schuylkill River or one of the major tributaries, such development could potentially affect water quality and water resources. However, the types of development encouraged under Alternative B will be concentrated in established



developed areas and will involve use or redevelopment of existing buildings and parking areas. Thus any impacts to water resources resulting from the quantity and quality of stormwater runoff will be negligible compared to existing conditions.

C. Alternative C: Experiences

Alternative C emphasizes area-wide strategies, resources, and linkages related to experiential topics. This alternative will likely have a greater impact on the preservation and enhancement of water resources than Alternatives A and B. Alternative C will leverage more resources and partnerships and emphasize water resource issues more than Alternative A, which does not have a significant natural resource focus. Alternative C will also likely have a more positive impact on water resources than Alternative B. While Alternative B emphasizes preservation of heritage resources in specific places, Alternative C is directed more towards preserving and promoting regional linkages and topics of special interest to visitors. Because the Schuylkill River, its tributaries, and other water resources within its watershed are important regional linkages, Alternative C is more likely to positively impact entire aquatic systems within the heritage area, instead of aquatic resources near clusters of heritage resources as in Alternative B. For example, because most high quality streams are located outside of potential heritage resource clusters, Alternative C has the potential to positively impact more miles of high quality streams through preservation and restoration activities than Alternative B. Similarly, more scenic stream miles have the potential to be preserved and enhanced under Alternative C than Alternative B.

Potential types of positive impacts include streambank restoration, water quality improvement projects, riparian area conservation, and water quality monitoring. The development of a regional greenway strategy (Strategy 1B) will provide buffers along heritage area water resources and reduce flow and quality of stormwater runoff. The development of regional partnerships (Strategy 2B) will foster coordination among restoration activities. This alternative is also likely to raise public consciousness of water quality and riparian preservation issues due to its regional and environmental focus. In addition, the implementation of a water quality monitoring program (Strategy 1B) will aid in creating a baseline for future water quality surveys and can be used to target areas for enhancement or restoration. Alternative C is likely to result in the development of additional boat landings and more trail connections to the Schuylkill River Trail than will be developed under Alternatives A and B. Impacts to water resources from these actions will be mitigated by measures similar to those discussed in Alternatives A and B. These include the use and stabilization of existing disturbed areas, erosion and stormwater control techniques, revegetation, and established vehicle access areas.

Development of a regional greenway strategy and conservation of riparian lands will contribute to reducing stormwater flows and cleansing runoff entering the Schuylkill River and its tributaries.



Development of regional thematic connections (Strategies 2B and 5B), enhancement of recreational resources (Strategies 3A and 3B), and conservation and restoration of natural resources (Strategy 1B) will likely result in increased visitation throughout the heritage area. However, visitation increases are projected to be smaller than the other action alternatives. In addition, associated heritage tourism development is likely to be minimal and spread throughout the heritage area. Development will also be encouraged to use existing infrastructure and buildings. Project evaluation criteria will minimize the impacts of secondary development. Therefore, any impacts to water resources associated with increased stormwater runoff from development are expected to be minimal.

D. Alternative D: Layers

Alternative D is likely to have the greatest impact on preservation and enhancement of water resources throughout the heritage area. It will likely leverage the most resources and partnerships of all of the alternatives. In addition, addressing both clusters of heritage resources and area-wide linkages will impact water resources in both established centers of heritage activity and throughout the heritage area. Water resources near traditional centers along the Schuylkill River and its main tributaries are likely to be enhanced through place-based water quality restoration activities. Water resources in more rural parts of the heritage area are also likely to be preserved and restored. This alternative is more likely to impact high quality streams and scenic rivers than either Alternatives A and B and is expected to have at least as positive an impact on these resources as Alternative C. Alternative D has the potential to positively impact the most stream miles and wetland acreage of all of the alternatives.

Potential positive impacts include wetland and streambank restoration, aquatic habitat enhancement, partnerships among watershed organizations, and a regional water quality monitoring program. The effects of a water quality monitoring program in this alternative are similar to those in Alternative C. However, it is likely to more extensively cover the heritage area's waterways, providing future researchers with a baseline of water quality data to measure the progress of water quality improvement initiatives and to provide guidance on areas to target for restoration.

Alternative D is likely to result in the establishment of more boat landings and segments of the Schuylkill River and tributary trails than the other alternatives. As a result, there is the potential for these actions to impact water resources. A number of measures will continue to be implemented to ensure that these impacts are minimal. Currently used for similar projects for the Schuylkill Heritage Corridor under the

The proposed monitoring program will provide a baseline from which water quality can be measured in the future and can be used to target areas for restoration and water quality improvements.



Pennsylvania Heritage Parks program, these mitigation measures are similar to those discussed in the previous alternatives. They include use of existing disturbed areas to preserve riparian vegetation, erosion and stormwater control measures, revegetation and stabilization of trail sides and streambanks, and establishment of vehicle access areas for trailheads and boat landings. Trails will also be clearly marked to minimize the potential for trailside impacts. Boat landings will be sized to accommodate non-motorized and smaller motorized craft, minimizing the potential for impacts from oil and grease. This alternative's focus on revitalizing traditional centers (Strategies 4A and 4B), restoring and enhancing historic sites (Strategy 1A), providing regional connections (Strategies 2B and 5B), and developing recreational resources (Strategies 3A and 3B) is projected to result in more visitation to the heritage area than the other plan alternatives. Revitalization of traditional centers, marketing of recreational resources, and increased visitation is likely to promote the development of additional heritage tourist businesses. This development will be encouraged to locate in established areas using existing infrastructure and buildings. In addition, the project evaluation process specified in Section 2.2.2 of the Plan will be used to minimize the possibility that projects will exceed natural carrying capacity or generate undesirable secondary development. As a result, impacts on water resources from the quality and quantity of stormwater runoff will be minor.

4.2.2 Air Quality and Noise Impacts

A. Alternative A: No Action

Because Alternative A will continue current levels of resources and partnerships under the Pennsylvania Heritage Parks program, it is expected to result in the smallest visitation increase of the four alternatives. Therefore, potential adverse impacts to air quality caused by persons travelling by automobile to access heritage resources and attractions are likely to be minimal. Noise increases are also likely to be minimal. Potential impacts include a slight increase in noise, traffic, and airborne pollutants from automobiles near established heritage resource sites and access points to the Schuylkill River Trail and the Schuylkill River Water Trail. This alternative's focus on the development of the Schuylkill River Trail will help to mitigate these impacts by causing a minor reduction in the number of automobile trips with accompanying air quality improvements.

B. Alternative B: Places

Alternative B is likely to have little impact on air quality and noise levels in the heritage area. This alternative's focus on preserving and enhancing historical and cultural sites in heritage resource clusters (Strategy 1A),



stimulating economic and entrepreneurial activity in traditional activity centers (Strategy 4B), and marketing the heritage area to heritage tourists (Strategy 5A) is likely to cause minor increases in visitation and vehicular activity in the heritage area. Traditional activity centers and areas where heritage resources are clustered are most likely to be affected. Potential impacts such as slight increases in noise and air pollution from vehicular use and noise due to increased vitality of traditional centers will be offset by measures such as:

- Development of segments of the Schuylkill River Trail to connect heritage resources
- Development of walking tours to reduce automobile usage in downtown districts
- Preservation of green space in the vicinity of heritage resource clusters

Potential impacts associated with the rehabilitation of historic and cultural resources and the development of tourist infrastructure include increased noise and dust. However, these impacts will be temporary, localized, and minimal as major construction operations are not expected to result from this alternative.

C. Alternative C: Experiences

Like Alternative B, Alternative C is likely to have little effect on air quality and noise levels in the heritage area. This alternative's focus on the development of regional thematic linkages, regional historic sites, and recreational opportunities is projected to result in the smallest increase in visitation and resulting vehicular use of the three action alternatives. In addition, visitation will be distributed more widely throughout the heritage area than in Alternative B. Therefore, potential air quality and noise impacts will likely affect a larger area but will be even less significant than in Alternative B. Rural areas outside of village centers will likely experience somewhat greater impacts of vehicular use due to the alternative's focus on visitor experiences that are dispersed throughout the heritage area.

A number of Plan strategies will help to mitigate the effects of increased vehicular use and visitation. The development of the Schuylkill River Trail and the Schuylkill River Water Trail (Strategy 3A) will provide an alternative to driving to or between heritage resource sites. The development of a regional greenway strategy (Strategy 1B) will help to mitigate increased vehicular use and potential secondary development. The development of additional recreational resources (Strategy 3B) will decrease the distance some heritage area residents will have to travel to access recreational opportunities. Revitalization of urban centers (Strategies 4A and 4B) will promote development patterns



that favor pedestrian and transit as opposed to automobile-dependent suburban development.

Additional types of impacts that could occur include increased noise and dust associated with the development or rehabilitation of historic sites, recreational resources, and gateway facilities. However, these projects will be dispersed throughout the heritage area. In addition, these impacts will be temporary, localized, and minimal as major construction operations are not expected to result from this alternative.

D. Alternative D: Layers

Alternative D has the highest projected increase in visitation and thus has greater potential than the three previous alternatives to impact air quality and noise levels. Strategies to revitalize traditional activity centers (Strategies 4A and 4B) and rehabilitate historic sites (Strategy 1A) will likely increase visitation to downtown commercial and historic districts. In addition, actions that provide regional linkages via the development of land trails (Strategies 3A and 3B), driving tours (Strategy 5B), gateway facilities (Strategy 5B), and additional recreational opportunities (Strategy 3B) will increase visitation and vehicular activity to more rural parts of the heritage area.

The Management Plan incorporates a number of measures to minimize the impacts of increased visitation and vehicular use on air quality. In addition, several actions of the plan will help to improve air quality in the heritage area. The development of the Schuylkill River Trail, tributary trails, and the Schuylkill River Water Trail (Strategy 3A) will reduce dependency on vehicles for access to and between heritage sites. The development of walking tours (Strategy 5B) for historic and commercial districts will make sites more accessible for pedestrians, reducing traffic and vehicle emissions in downtown areas. The development of a regional greenway strategy (Strategy 1B), revitalization of traditional centers (Strategies 4A and 4B), and use of existing infrastructure for heritage tourism related businesses will preserve open space, reduce “sprawl” development, and contribute to maintaining air quality in rural areas.

Some minor temporary impacts may occur during the development of trails, recreational resources, gateway facilities, and rehabilitation of heritage sites. These impacts include increased noise and dust in localized areas and will be mitigated by preserving existing vegetation and quickly stabilizing affected areas.

Development of the Schuylkill River Trail system and walking tours will provide visitors with an alternative to automobile use, thus helping to reduce automobile related air quality and noise impacts.



4.2.3 Impacts on Land Resources

A. Alternative A: No Action

Because of its limited geographic extent, programmatic scope, and limited resource levels, the present Heritage Parks program does not focus on protecting and enhancing land resources in the Schuylkill River Valley. Therefore, Alternative A will have the least positive impact on the protection of species, habitat, and important natural areas. This alternative will also likely have the fewest impacts on land resources resulting from increased visitation. Land resources are most likely to be impacted in areas where the Schuylkill River Trail is being developed. Several measures will continue to be implemented to ensure that these impacts are minimized. These include:

- Preservation of existing vegetation and removal of invasive species
- Revegetation and grading to reduce soil erosion
- Stabilization of abandoned railroad embankments to prevent erosion
- Establishment of parking areas near trailheads and boat landings to prevent impacts from vehicles
- Clear delineation of trails to deter users from leaving the trail and impacting habitat

This alternative is not likely to result in secondary development that would consume farmland, open space, habitat, or natural areas

B. Alternative B: Places

Alternative B will likely have a greater positive impact on the preservation and enhancement of land resources in the heritage area than Alternative A, but is unlikely to have as significant an impact as Alternatives C and D. This alternative will have its greatest impact near heritage resource centers and along the main stem of the Schuylkill River and its major tributaries.

Alternative B will likely result in preservation of habitat, farmland, and open space around traditional activity centers to contribute to making more attractive destinations. In addition, use of existing infrastructure and revitalization of abandoned buildings for new business activities (Strategies 4A and 4B) will ensure that rural lands and lands on the suburban fringe are not converted for development. The Plan also recommends protecting existing green space around heritage resource sites. Other potential impacts include the acquisition of access rights to land for the completion of segments of the Schuylkill River Trail and the Schuylkill River Water Trail. Watershed conservation plans focusing on areas near heritage clusters will promote additional action to protect land



resources in activity centers. However, these plans are not likely to be as effective in protecting land resources as watershed conservation plans developed under Alternatives C and D because of the greater geographic coverage of those alternatives.

Under Alternative B, land resources could potentially be impacted in areas where segments of the Schuylkill River Trail and/or boat landings for the Schuylkill River Water Trail are developed. These impacts are likely to be minimal due to this alternative's focus on preservation and enhancement of historic resources and heritage resource clusters instead of recreational resources. In addition, these impacts will be minimized by a continuation of the following control measures:

- Boat landings will be developed in existing parks or disturbed areas so that vegetation and modification of the riparian area is minimal
- Trails will be located along previously disturbed areas such as abandoned railroad beds
- Existing vegetation will be preserved and invasive species will be removed
- Sites will be graded and revegetated to reduce soil erosion
- Clearly delineated trails and parking areas will reduce impacts on habitat due to users leaving the trail

Alternative B could result in additional impacts to land resources due to its focus on the revitalization and increased economic vitality of traditional centers and heritage resource clusters. These strategies are likely to increase visitation to downtown commercial and historic districts. They are also likely to have a resultant increase in development of businesses that serve heritage tourism. Measures to address potential impacts to land resources as a result of increased economic activity in traditional centers include the reuse of abandoned buildings and use of existing infrastructure (Strategies 4A and 4B). In addition, the project evaluation process specified in Section 2.2.2 will minimize the possibility that projects will generate undesirable secondary development.

C. Alternative C: Experiences

Alternative C is likely to have a greater impact on the preservation of habitat, farmland, and species than Alternatives A and B. This alternative's emphasis on regional thematic linkages will contribute to protecting land resources that comprise regional systems, such as habitat, farmland, and open space. This regional focus makes it likely that more acreage of land resources will be protected and more watershed conservation plans will be developed than in Alternative B. Watersheds

Impacts to land resources resulting from development of the Schuylkill River Trail will be minimized through the continuation of proven control measures during design and construction.



Several plan strategies will contribute to preservation and enhancement of land resources such as natural habitat, open space, and farmland.

in the heritage area that help to link heritage resources and topics are the most likely candidates for the development of conservation plans.

Alternative C is likely to preserve habitat, open space, and farmland in the heritage area through a number of actions. The development of a regional greenway strategy (Strategy 1B) will preserve important habitat and reduce the threat and impacts of “sprawl” development. In addition, it will provide opportunities to restore native habitat and remove invasive species. The establishment of a network of birding areas (Strategy 1B) will protect important migratory flyways and potential bird habitat. Restoration of the de-silting basins will create additional bird habitat (Strategy 1B). Protection of regionally significant open space areas, such as large intact agricultural tracts, will preserve habitat and heritage area character.

Impacts associated with the development of the Schuylkill River Trail, tributary trails, connection trails, and boat landings for the Schuylkill River Water Trail are likely to be slightly greater than in Alternatives A and B due to the alternative’s focus on the regional linkages and increased recreational opportunities. Impacts due to the development of these resources will be mitigated through a continuation of similar measures mentioned in Alternatives A and B. They include the use of existing and previously disturbed sites, preservation of existing vegetation and habitat, grading and revegetation to stabilize and prevent soil erosion, and establishment of clearly marked trails and parking areas to prevent disturbance of habitat. The effects of increased visitation and related increases in heritage tourism business development associated with this alternative are likely to be minimal. Because of its regional focus there is somewhat greater potential for impacts on land resources in more rural areas than in Alternative B. However, visitation is estimated to increase the least of the three action alternatives and will be distributed throughout the heritage area rather than concentrated in specific places as in Alternative B. In addition, the emphasis of Plan strategies on use of existing infrastructure and buildings for heritage tourism related businesses will reduce the need for new development and conversion of open space.

Development of a regional greenway strategy will contribute to protecting important farmland, woodlands, and other important open space areas while reducing the effects of “sprawl” development.

D. Alternative D: Layers

Alternative D is the alternative most likely to preserve, enhance, and restore habitat areas and other sensitive land resources in the heritage area. This alternative’s focus on preserving green space associated with heritage resource sites; developing a regional greenway strategy, restoring de-silting basins, and establishing a network of birding areas (Strategy 1B); and revitalizing traditional centers (Strategies 4A and 4B) will protect and enhance land resources within heritage resource clusters as well as in more rural parts of the heritage area. In addition,



this alternative is likely to leverage more resources and partnerships than the other alternatives and, as a result, direct the most efforts towards preservation of significant natural/habitat areas. Important land resources outside of the heritage resource clusters that are potentially affected by this alternative include public gamelands, forests, and parks; privately owned habitat areas; the de-silting basins; and riparian and stream buffers. Land resources and habitat along the Schuylkill River and its main tributaries in the vicinity of heritage resource clusters are also likely to be positively impacted by this alternative. In addition, Alternative D is likely to result in development of the greatest number of watershed conservation plans due to its focus on both regional resources and heritage area clusters. Watershed areas located near population centers that support concentrations of heritage resources and create regional linkages will most likely be affected.

This alternative is also likely to result in the greatest amount of trail and boat landing development due to its focus on creating regional linkages, developing recreational resources, and incorporating heritage sites into trail networks. Impacts to land resources resulting from the development of the Schuylkill River Water Trail, Schuylkill River Trail, and tributary and connecting trails will be minimized by a continuation of the following practices:

- Boat landings will be developed in existing parks or disturbed areas so that disturbance to existing vegetation and modifications to land resources are minimal.
- Trails will be located along previously disturbed areas such as abandoned railroad beds.
- Existing vegetation will be preserved and invasive species will be removed.
- Sites will be graded and revegetated or otherwise stabilized to reduce soil erosion.
- Clearly delineated trails and parking areas will reduce impacts on habitat due to users leaving the trail.

Because Alternative D is projected to result in the greatest increase in visitation of the three action alternatives, use-related impacts to land resources are potentially the highest among all the alternatives, but will still likely be minimal. The evaluation criteria will help ensure that heritage projects do not stress natural resources beyond their carrying capacity. The plan strategies and criteria will also help ensure that heritage area projects make use of existing infrastructure, thus limiting impacts to land resources by new development.

However, some minor impacts due to use by the increased number of visitors at local sites may be inevitable. Impacts to land resources, such



The project evaluation criteria require that 1) infrastructure be available or easily developable to accommodate increased visitation and 2) the project not have significant adverse impacts on or exceed the carrying capacity of environmental resources.

as erosion and trampling of vegetation, are most likely to be experienced along trails, parking areas, and public areas near natural and recreational attractions. As noted, measures will continue to be taken during construction of the Schuylkill River Trail and connecting trails that will have a positive impact on land resources through the stabilization of abandoned railroad embankments to prevent erosion, removal of invasive vegetation, and the replanting of areas disturbed during construction. Land resources in heritage resource centers could be affected by increased economic vitality and more demand for parking, but the plan strategies and project evaluation criteria will help to mitigate the effects of these impacts. Some new development may occur in areas that are revitalized as a result of Management Plan strategies. However, most of this development will be concentrated in existing developed areas.

4.3 IMPACTS ON HISTORIC AND CULTURAL RESOURCES

This section discusses the potential impacts of the alternatives on the following cultural and historic resources:

- Archeological resources
- Historic resources
- Scenic roads

Included are the potential positive impacts that will result from identifying, preserving, and enhancing cultural resources, as well as the potential effects on these resources resulting from increased visitation. However, it is likely that any adverse effects that could result from increased use and visitation will be outweighed by the increased impetus for preservation created by heightened awareness of the significance of cultural resources among citizens, community leaders, and preservation groups.

4.3.1 Alternative A: No Action

Alternative A will likely have the least impact on the identification, preservation, and enhancement of historic and archeological resources in the heritage area. This alternative will commit the least amount of resources and partnerships towards cultural resource preservation. Cultural resources most affected by this alternative are likely to be in communities along the Schuylkill River. The Pennsylvania Heritage Parks program has had an impact on the development or nomination of three historic districts plus an additional one currently in progress within the Schuylkill Heritage Corridor since its inception. This rate is less than would be likely under the action alternatives. It is possible that



this alternative will result in the enhancement of cultural resources in existing historic districts.

Under Alternative A, visitation and use of historic sites is projected to show modest increases. Therefore, this alternative will have the least amount of impact on cultural resources due to visitation and use. Potential impacts due to increased visitation include increased maintenance costs, increased need for and cost of staffing cultural sites, and increased potential for sensitive sites to be damaged by visitors. Any potential impacts are likely to be greatest in communities along the main stem of the Schuylkill River and at major cultural sites such as Valley Forge National Historical Park and Hopewell Furnace, where current enhancement and marketing efforts are focused. However, any increased use of these sites is unlikely to significantly impact their condition and historic integrity. In addition, the benefits of preserving cultural sites outweigh any potential impacts due to visitation.

4.3.2 Alternative B: Places

Alternative B will likely have a significant positive impact on the identification, preservation, and enhancement of cultural resources in the heritage area. This alternative will focus on designated places or clusters of cultural resources where visitor infrastructure is currently available or easily developed. The areas that are most likely to be affected are historic communities along the Schuylkill River and its major tributaries, where a majority of the established cultural sites are located. By creating local linkages among historic sites, building on existing linkages, coordinating preservation efforts, encouraging voluntary stewardship, and promoting awareness of sites among local residents (Strategy 1A) this alternative will have multiple benefits for cultural sites in the heritage area, including:

- Increased awareness of existing cultural sites among residents
- Increased awareness of potential cultural sites among preservation professionals
- Increased appreciation and preservation of historic resources at major cultural sites, such as Valley Forge National Historical Park and Hopewell Furnace National Historic Site, that are located in heritage resource clusters
- Improved preservation techniques among historic preservation professionals

Encouraging partnerships among heritage resources within designated clusters could also result in coordinated marketing of existing sites and pooling of operating staff. These actions will likely increase the number of identified cultural sites in the heritage area and make them more

A variety of plan strategies and actions will promote preservation and enhancement of historic and cultural resources.



accessible to the public. Identification and preservation of established and newly recognized (emerging) sites could also lead to more historic designations, further preserving and enhancing these sites. Towns and cultural areas along the river that do not have historic districts, such as the Mahanoy Valley, Hamburg, Perkiomen Valley, Conshohocken, and parts of Philadelphia, could eventually receive historic district designation through local action. This alternative will also help to further preserve and enhance cultural resources in existing historic districts, such as in Tamaqua, Pottsville, Reading, the Oley Valley, Pottstown, Phoenixville, and Norristown.

The Plan specifically mentions working to protect the St. Nicholas Coal Breaker (Strategy 1A). Located near Mahanoy City, development of the St. Nicholas Coal Breaker as a historic destination could provide an anchor for a potential historic district in the Mahanoy Valley. It could also provide a model for historic preservation in Schuylkill County where much of the region's coal mining heritage is located.

This alternative will also likely positively impact the identification and preservation of scenic roads in the heritage area. Many roads with scenic qualities (e.g., views of the Schuylkill River, tributary streams, or historic towns) traverse areas where heritage resources are clustered. Specifically, Routes 23, 100, 61, 209, and several roads in Philadelphia could be affected.

Increased visitation to heritage resource clusters could also have potential impacts on cultural resources. Increased visitation could result in increased maintenance costs to address use impacts at specific sites. However, several measures in the Plan will minimize the potential for impacts to cultural sites. The Management Plan evaluation criteria for cultural site enhancement projects call for adequate infrastructure to be in place and for carrying capacity not to be exceeded. In addition, it is likely that increased visitation will help generate more interest and resources to help preserve and maintain sites that could otherwise be degraded by use or neglect.

Increased visitation to the heritage area could also affect scenic roads. Scenic roads near heritage resource clusters could experience more traffic and increased development. However, the conservation of cultural resources along scenic roads is likely to help maintain scenic character. In addition, the plan strategies and evaluation criteria call for economic activity and associated development to occur in areas where infrastructure is already in place, thus reducing the potential for impacts on scenic roads. The project evaluation criteria will also minimize the possibility that heritage projects will generate unintended secondary development along scenic roads.



4.3.3 Alternative C: Experiences

Alternative C will likely have a significant positive effect on the identification, preservation, and enhancement of cultural resources in the heritage area. However, it is not likely to identify and preserve as many cultural sites as Alternatives B and D. In addition, it will have a different focus on the preservation of cultural resources than both of those alternatives. Alternative C will direct resources and partnerships towards the identification and preservation of sites associated with visitor experience topics. Strategies emphasized under this alternative include preservation of regional scale resources (Strategy 5A), establishment of interpretive linkages (Strategy 5B), and development of physical linkages to promote heritage tourism and use of cultural sites (Strategies 2B and 5B). These strategies will result in increased appreciation and enhancement of regionally significant cultural resources, such as Valley Forge National Historical Park and Hopewell Furnace National Historic Site. In addition, this alternative's focus on the enhancement of recreational resources could result in increased visitation to related historic resources in these and other parks that contain both cultural and recreational attractions. However, it might not be as successful in protecting smaller, lesser known historic sites in traditional centers because they do not provide a major thematic link.

Potential linkages among sites include streams, trails, scenic roads, and examples of area-wide heritage such as the historic coal industry in Schuylkill County. Alternative C is likely to have its greatest impact on the preservation and enhancement of scenic roads. Many of the heritage area's roads with scenic characteristics are located in more rural areas. In addition, scenic roads can provide the type of regional linkage among resources promoted by this alternative. This alternative is also likely to emphasize the development of partnerships with nearby heritage areas. Providing linkages to other heritage areas will increase awareness of cultural sites and increase the marketing base for cultural attractions in the Schuylkill River Valley.

The Management Plan recommends working with the St. Nicholas Coal Breaker property owner to develop a feasibility study and plan for the future use of the site (Strategy 1A). Development of the St. Nicholas Coal Breaker in northern Schuylkill County as a cultural destination could be the basis for the establishment of a coal heritage thematic link. It could provide visitors with a prime example of coal heritage in the Schuylkill River Valley and be a link in driving tours, scenic roads, or trails. Lastly, it will likely bring more visitors to the northern part of the heritage area - potentially increasing visitation at nearby cultural sites.

Alternative C is not likely to affect the identification and preservation of as many cultural sites as Alternative B because the latter alternative

Increases in visitation to cultural sites will likely contribute to preservation of heritage area cultural resources by increasing awareness of preservation and cultural tourism opportunities.



focuses more on geographic clusters or places where more cultural sites are likely to be located. However, Alternative C could be instrumental in identifying and preserving cultural sites that are located in less visited and more rural parts of the heritage area and are related to an area-wide topic. While these resources are fewer in number, they may be overlooked by typical cultural resource preservation efforts because they are not located in an historic center or district. This alternative will likely lead to the enhancement of fewer existing historic districts and designation of fewer new ones than Alternative B because many of the existing and potential historic districts are located where clusters of heritage resources are present.

The potential impacts of visitation and use on cultural resources are likely to be less in Alternative C than in Alternatives B and D because visitation to the heritage area is projected to be lower and more evenly distributed throughout the heritage area. Larger, well known regional cultural resources are likely to experience the greatest impacts. Several strategies in the Plan are aimed at reducing these potential impacts. Mitigation for increased visitation and use of well-known existing sites will help to preserve these sites as the heritage area's resources are marketed. The project evaluation criteria will minimize the potential for preservation, enhancement, and marketing of projects to increase visitation beyond carrying capacity.

Visitation could also affect scenic roads with increased traffic and economic development, especially in more rural areas. As noted, the plan strategies and evaluation criteria are designed to ensure that use of cultural sites and associated economic activity does not exceed carrying capacity or adversely affect cultural resources.

4.3.4 Alternative D: Layers

Alternative D is likely to have the greatest positive impact on the identification and preservation of cultural resources of all the alternatives. Strategies to encourage voluntary stewardship (Strategy 1A), coordinate preservation and marketing efforts and partner with neighboring heritage areas (Strategy 2A), create local and regional linkages among cultural sites (Strategy 2B), and provide walking and driving tours (Strategy 5B) will increase awareness of cultural resources and destinations. This alternative will direct resources and partnerships both towards communities where clusters of cultural resources are located and towards other regional cultural resources that relate to visitor experience topics. It will likely affect cultural resources in historic communities along the Schuylkill River and its main tributaries as well as significant regional cultural resources located in more rural parts of the heritage area. It will result in the preservation of cultural resources and increased visitation at nationally significant sites in the heritage

Alternative D is expected to have the greatest positive impact on cultural resource preservation. It will likely foster the development of historic districts in both traditional historic centers and smaller rural communities with significant resources.



area, including Valley Forge National Historical Park and Hopewell Furnace. It will create linkages among cultural and recreational sites, potentially increasing awareness of cultural tourism opportunities among recreational tourists. It will preserve and promote cultural resources in the greatest number of existing historic districts, such as those located in Pottsville, Reading, Pottstown, Phoenixville, and Philadelphia, as well as outlying areas. It will also likely foster the designation of more new historic districts than the other alternatives. Candidates for historic district designation include eligible resources located both in the primary heritage clusters and in areas located away from the primary clusters.

Projects such as the preservation and development of the St. Nicholas Coal Breaker (Strategy 1A) as a cultural site will provide an anchor for the development and marketing of heritage resources in northern Schuylkill County. It will also provide the basis for a coal heritage thematic linkage in the Mahanoy Valley and Schuylkill County. It will bring more heritage tourists to sites in the area and raise awareness of local historic sites among local residents. It could also provide the impetus for the preservation of additional cultural sites in the area or related to coal heritage. Similar projects in other parts of the heritage area will result in similar benefits.

Alternative D is projected to have the largest increase in visitation of all the action alternatives. It will attract more visitors to cultural sites, both in heritage resource clusters and in outlying parts of the heritage area. It will likely increase visitation at major cultural sites, such as Valley Forge National Historical Park and Hopewell Furnace National Historic Site. The increased visitation is likely to contribute to the preservation of cultural resources throughout the Schuylkill River Valley as it becomes known for its cultural tourism opportunities. However, the potential impacts of this alternative from visitation and use of cultural sites are the highest of the alternatives. Increased visitation could result in increased maintenance costs to address use impacts at specific sites. As noted, the Management Plan strategies and evaluation criteria are designed to ensure that infrastructure is in place to support increased use of cultural sites and that such use does not exceed carrying capacity. In addition, visitation from this alternative is likely to be distributed throughout the five county region of the heritage area. Moreover, the increased public recognition of cultural resources fostered by this alternative should result in increased availability of resources for site preservation and maintenance.

Under this alternative, scenic roads could experience effects due to increased traffic and secondary development. However, the plan strategies and evaluation criteria call for economic development to be directed towards areas where visitor infrastructure exists and roads are able to accommodate traffic. In addition, the preservation



and enhancement of cultural resources should increase the recognized scenic value and impetus for protection of roads that traverse cultural landscapes.

Potential effects on recreational resources resulting from Management Plan strategies include creation and enhancement of outdoor recreational opportunities and impacts associated with increased visitation and use.

4.4 IMPACTS ON RECREATIONAL RESOURCES

This section discusses the potential positive impacts of the four alternatives on the identification, enhancement, preservation, creation, and marketing of outdoor recreational resources. Regionally significant recreational resources considered include:

- Lake, streams, and other water resources used for outdoor recreational purposes
- Urban, regional, state, and national parks
- Recreational trails
- Gamelands

This section also discusses the potential impacts associated with increased visitation and use of specific recreational sites.

4.4.1 Alternative A: No Action

Alternative A will have the least impact on the preservation, creation, and enhancement of recreational resources in the heritage area. This alternative assumes that the current levels of resources and partnerships committed to preserving and enhancing recreational resources will continue. These efforts have had a positive impact on recreational resources through the staged development of the Schuylkill River Trail and enhancements to riverfront parks and boat landings as part of the development of the Schuylkill River Water Trail. A continuation of these efforts will continue to provide new recreational opportunities, but to a lesser degree than the three action alternatives.

Under this alternative, recreational sites along the Schuylkill River and the Schuylkill River Trail are likely to experience the greatest positive impacts in terms of preserving and enhancing recreational opportunities. However, the lower levels of resource commitment and partnerships associated with this alternative are likely to result in the enhancement of fewer existing recreational sites and the creation of fewer new ones than in the action alternatives. In addition, this alternative will commit the least resources towards completing the Schuylkill River Trail, a primary Management Plan strategy.

Impacts to recreational resources from visitation and use are likely to be minimal with this alternative. Visitation and use of recreational sites is likely to increase modestly over current levels. The Management Plan includes measures to reduce the impact of increased visitation



at recreation sites. Project evaluation criteria will reduce the potential for recreational sites to be used beyond their carrying capacity. If a recreational site is used beyond its carrying capacity, damage to adjacent natural habitat and erosion of recreational resources could result. In addition, overcrowding in parking lots, at trailheads, and on trails could reduce visitor experience. However, none of these impacts are likely to be significant as a result of this alternative's focus on the development of the Schuylkill River Trail and the measures taken to mitigate these potential impacts during construction of the trail.

State and national parks and regional trails such as the Valley Forge-Philadelphia Trail will likely remain the primary focus of recreational activity and major draws for recreational visitors. Therefore, impacts due to use are likely to remain greatest at these sites, but will not be significantly increased as a result of National Heritage Area designation. Impacts due to use could increase in these areas if outdoor recreation becomes more popular in the heritage area and fewer sites are enhanced or created to accommodate part of the demand than in the action alternatives.

National Park Service properties or units within the Schuylkill River Valley National Heritage Area include Valley Forge National Historical Park, Hopewell Furnace National Historic Site, and the Appalachian Trail. The potential impacts of Alternative A on these properties have been reviewed and it has been determined that impairment will not occur.¹

4.4.2 Alternative B: Places

Alternative B is likely to have a greater impact on the preservation and enhancement of recreational resources in the heritage area than Alternative A, but less than Alternatives C and D. Alternative B will direct resources and partnerships towards preserving and enhancing recreational sites near heritage resource clusters, including resources that are most likely to be used by local residents and their visiting friends and relatives. Therefore, it will have its greatest impact in enhancing portions of the Schuylkill River and the Schuylkill River Trail located near communities containing clusters of heritage resources, as well as waterfront parks and other passive outdoor recreational resources located in the vicinity of these clusters. It will likely provide many heritage area residents with additional passive recreational opportunities as most residents live in or near the heritage resource clusters that are the focus of

The effects of Alternative B on recreational resources will be focused on designated heritage resource clusters.

¹ "Impairment" is an impact that in the professional judgement of the responsible National Park Service Manager would harm the integrity of park resources or values, including the opportunities that would otherwise be present for the enjoyment of those resources or values. Whether an impact meets this definition depends upon the particular resources or values that would be affected; the severity, duration, and timing of the impact; the direct or indirect effects of the impact; and the cumulative effects of the impact in question.



this alternative. Therefore, it could reduce travel times to recreation sites such as parks, trails, and waterfront areas for many heritage residents. In addition, it could result in the creation of more linkages among recreational and cultural sites in activity centers and link activity centers to regional recreational resources passing near downtown districts. For example, development of the Schuylkill River Trail in the Port Clinton heritage resource cluster area could link the Town and its heritage resources to the Appalachian Trail. This alternative's focus on preserving and enhancing historic and cultural resources in heritage resource clusters could also result in the development of additional destinations located along portions of the Schuylkill River Trail. It could also result in the development of smaller recreation and open space areas that are associated and potentially preserved and enhanced with cultural sites.

Compared to the other action alternatives (C and D), Alternative B places less emphasis on increasing outdoor recreational opportunities in more rural parts of the heritage area, including larger regional resources located at a distance from heritage resource clusters. In addition, this alternative places less emphasis on developing parts of the Schuylkill River Trail located between heritage resource clusters than the other action alternatives. Therefore, this alternative will be less effective than these alternatives in fulfilling one of the important plan strategies, which is to complete the development of the Schuylkill River Trail. It will also be less effective in marketing the recreational resources of the heritage area to potential visitors from outside the heritage area as rural recreational resources tend to be larger and more attractive to recreational tourists.

Alternative B is projected to result in increased visitation within the heritage area compared to the No Action Alternative. Impacts on recreational sites associated with increased visitation and use are likely to be highest near established communities for the following reasons. First, this alternative is likely to create or enhance recreational sites near heritage resource clusters, including sections of the Schuylkill River Trail. Next, these parks and recreational sites will be located closest to a majority of the population. As these sites are enhanced, they will be used by a larger local population. Lastly, these parks are most likely to be used by friends and relatives of local residents who are a primary target market of this alternative. However, the Management Plan strategies and evaluation criteria are designed to ensure that infrastructure is in place to support increased use of recreational sites and that such use does not exceed carrying capacity. In addition, the development of recreational sites in activity centers and heritage resource clusters will provide additional resources to offset increased visitation to these areas as a result of the preservation, enhancement, and marketing of cultural sites. Therefore, potential impacts such as overcrowding at parking lots and overuse of recreational sites in any one park or trail are likely to be



minimized due to increased options within heritage resource clusters. It should also be noted that visitation increases and related impacts are expected to be most significant along the Schuylkill River Trail where measures will continue to be taken to ensure that recreational resources are not compromised. This alternative is likely to increase recreational activity at Valley Forge National Historical Park, Hopewell Furnace National Historic Site, and the Appalachian Trail, as each is located within or adjacent to a heritage resource cluster. However, these increases are not expected to significantly impact recreational resources.

The potential impacts of Alternative B on these National Park Service properties have been reviewed and it has been determined that impairment will not occur.

4.4.3 Alternative C: Experiences

Alternative C is likely to have a greater impact on the enhancement or creation of regionally significant outdoor recreational resources in the Schuylkill River Valley than Alternatives A and B. Alternative C will direct higher levels of resources and funding towards regional recreational sites and resources that create linkages among such sites. This alternative is directed towards residents and visitors with interests in particular heritage related topics, including outdoor recreation, and who would be more inclined to travel to experience these interests than the more casual residents and visiting friends and relatives who are the primary target of Alternative B.

Alternative C is more likely than the other alternatives to address areas where regional recreational sites are lacking or where connections are needed between existing sites. Completion of the Schuylkill River Trail and other trails that link significant heritage resources will be a primary focus of this alternative. Waterfront parks along the Schuylkill River and its major tributaries are likely to be enhanced where they relate to this system of regional connections. Open space lands located along the Appalachian Trail, regionally significant state and national parks or gamelands, and recreational resources catering to specific interests are also likely candidates for preservation or enhancement.

This alternative will likely be effective in developing and linking regional recreational resources that also have cultural value. Plan recommendations include preserving and enhancing the de-silting basins as cultural, natural and recreational resources that could be linked to other heritage sites (Strategy 1B). Remaining pieces of the Schuylkill Navigation Canal could be preserved and enhanced as cultural and recreational sites linked to the Schuylkill River Trail (Strategy 3A). This alternative is more likely to result in the establishment of regional birding connections and the protection of birding resources. Hawk Mountain and Mill Grove, regional birding attractions that are

Alternative C will have a greater impact on regionally significant recreational resources than Alternatives A and B.

Development of the Schuylkill River Trail will provide a recreational pathway for visitors connecting recreational and cultural sites to each other and to heritage area communities.



located far from each other, could be linked through trails, designated auto routes, and/or interpretive materials. The regional focus of this alternative is more likely to result in the protection and promotion of migratory flyways and their incorporation into a birding trail or interpretive linkage. It could also enhance major regional trails such as the Horseshoe Trail, Schuylkill River Trail, and the Appalachian Trail and contribute to the promotion of Valley Forge National Historical Park as both a regional cultural and recreational site.

This alternative is also likely to enhance recreational opportunities through preservation of associated natural resources and features (Strategy 3B). Water quality improvements and monitoring (Strategy 1B) will result in an improvement of heritage area fisheries. Preservation of open space and creation of a regional greenway (Strategy 1B) will enhance related parks and trails. Preservation of regionally significant natural features will draw recreational tourists and provide major destinations along trails.

This alternative will have less effect on local recreational resources located near population centers. Such resources are unlikely to attract visitors with a special interest in certain types of recreational activities. In addition, these parks typically are not located along regional linkages. Local parks along major waterways will be an exception because waterways provide linkages between regionally significant resources.

Alternative C is projected to attract more visitors to the heritage area than Alternative A, but less than Alternatives B and D. Impacts from visitation and use could affect more recreational resources than Alternative B, but the impacts are likely to be less apparent in resources located near population centers and heritage resource clusters. In addition, outdoor recreational visitation will be distributed more evenly throughout the heritage area. State, national, and regional parks and trails are likely to experience the greatest impact due to increases in visitation for special interest recreational activities. Parks and gamelands located along major trails such as the Schuylkill River Trail and the Appalachian Trail will also be potentially subject to impacts from increased use. However, the large scale of these resources will minimize the potential for significant impacts such as overcrowding, trail erosion, and habitat disturbance in any particular location. In addition, the Management Plan evaluation criteria require that projects to enhance existing or create new recreational resources be reviewed to ensure that increased use and visitation does not exceed carrying capacity. This alternative's focus on the preservation and enhancement of open space lands and important natural features is likely to result in habitat preservation near recreational resources and have a much greater positive impact on their preservation than the potential minor habitat disturbances associated with use.



This alternative is likely to increase recreational activity at Valley Forge National Historical Park, Hopewell Furnace National Historic Site, and the Appalachian Trail, as each would relate to a major thematic linkage. As with Alternative B, the levels of use associated with these increases are not expected to significantly impact recreational resources. In addition, this alternative is likely to increase awareness of cultural resources at these sites among recreational users.

The potential impacts of Alternative C on these National Park Service properties have been reviewed and it has been determined that impairment will not occur.

4.4.4 Alternative D: Layers

Alternative D will have the greatest impact of all the alternatives on the enhancement of existing recreational sites and creation of new ones in the Schuylkill River Valley. Alternative D will direct resources and partnerships towards recreational resources located near heritage resource clusters, regionally significant recreational resources that are not located near such clusters, and towards connections among these resources. This alternative will target both casual users (i.e., local residents and persons visiting friends and family) and visitors from inside and outside the heritage area with specific outdoor recreation interests.

Alternative D will enhance and create recreational resources near population centers and heritage resource clusters that are more likely to be visited by casual users. It will also address regional recreational sites that are likely to attract visitors with a special interest in certain types of outdoor recreation. Waterfront parks and sites offering outdoor recreational opportunities along the Schuylkill River and its major tributaries will likely be affected, as these resources are located along regional linkages and often within heritage resource clusters. State and national parks are also likely to be affected as they offer recreational opportunities to both the casual user and the visitors with more specialized recreational interests. State gamelands could be enhanced as well, as hunters are usually willing to travel further distances than the casual visitor and many of the state gamelands are located along regional connections. Recreational opportunities on the Schuylkill River and its main tributaries are likely to increase, as these waterways are regional recreational resources and linkages.

Implementation of this alternative could result in the incorporation of remaining vestiges of the Schuylkill Navigation Canal into the Schuylkill River Trail or Schuylkill River Water Trail. It could create additional recreational opportunities for birders through the preservation of migratory flyways and development of a birding trail linking regionally significant sites, such as Mill Grove and Hawk Mountain (Strategy

Alternative D will have the greatest positive impact of all the alternatives in terms of creating and enhancing regional recreational resources.



1B). It could lead to the enhancement of the de-silting basins and their incorporation into the network of heritage resources with both a cultural and recreational focus (Strategy 1B). Additional recreational opportunities could also be created through the provision of limited recreational access to previously restricted areas (Strategy 3B). This alternative is best suited to provide linkages among sites that have both recreational and cultural tourism opportunities such as Valley Forge National Historical Park. Lastly, urban parks could be enhanced, especially if they are located within one of the heritage resource clusters.

Similar to Alternative C, completion of the Schuylkill River Trail and other trails that create linkages among significant heritage resources will be a primary focus of this alternative. Through this alternative, the Schuylkill River Trail, tributary trails, and the Appalachian Trail are likely to become major connections among heritage resource clusters, regional recreational resources, and other sites that appeal to outdoor recreation interests.

There are few types of recreational resources that are not potentially affected by this alternative. Local parks in more rural parts of the heritage area are not probable candidates for enhancement because they are not located within a heritage resource cluster and are unlikely to attract visitors interested in recreational tourism. The recreational resource value of smaller tributaries in the heritage area may also not be affected because they do not provide regional linkages. An exception may be smaller trout streams that are well known within and outside the heritage area.

Alternative D will be the most effective alternative in completing the Schuylkill River Trail system and enhancing other regionally significant recreational resources.

Alternative D is projected to attract the most visitors of the alternatives. Potential impacts from visitation and will most likely be experienced at state and national parks that have the greatest draw. The Schuylkill River Trail is also expected to experience significant increases in visitation as its development and promotion is a priority of this Management Plan. However, physical impacts to the trail and its surroundings will be minimal as it is being developed to accommodate high levels of use.

Regional recreational sites and trails (e.g., the Appalachian Trail), tributary trails, and waterfront parks in heritage resource clusters will also likely experience slight impacts due to increased visitation and use. Any impacts from recreational use are likely to be minor because visitation will be spread throughout the five-county region of the heritage area. In addition, the criteria for evaluating heritage area projects will help ensure that the effects of use and visitation do not exceed the carrying capacity of recreational resources. The development of recreational resources within heritage resource clusters and at regionally significant parks and trails will also provide options for both heritage area visitors and local residents, reducing impacts at any one site. Preservation of open space lands (Strategy 1C), water quality



improvements (Strategy 1B), preservation of green space near heritage resource sites (Strategy 1C), and development of a regional greenway strategy (Strategy 1B) will result in the protection of resources associated with recreational opportunities. These measures will have a positive impact on the preservation of natural areas and will more than offset any minor habitat disturbances associated with use.

This alternative will likely increase awareness of recreational opportunities at Valley Forge National Historical Park and Hopewell Furnace National Historic Site as both are within heritage resource clusters and provide a major regional thematic connection. Increased awareness of recreational opportunities and their incorporation into recreational linkages could also result in increased awareness, visitation, and protection of their cultural resources. As with Alternatives B and C, these parks and the Appalachian Trail are expected to experience increased visitation and use, but the levels of use associated with these increases are not expected to significantly impact recreational resources.

The potential impacts of Alternative D on these National Park Service properties within the heritage area have been reviewed and it has been determined that impairment will not occur.

4.5 IMPACTS ON LAND USE

This section describes the impacts each alternative will have on land use within the heritage area. For discussion purposes, land use is divided into three general categories:

- Damaged landscapes include abandoned mines and areas affected by mining, abandoned industrial parks and buildings, and other areas affected by obsolescent industrial activities.
- Rural landscapes contain a predominance of farmland, forests, old fields, and/or other forms of open space.
- Developed and developing landscapes include traditional centers such as cities, boroughs, villages, and the suburban or suburbanizing areas surrounding them.

Land use impacts are characterized in terms of effects on three general types of human-modified landscapes found within the Schuylkill River Valley.

4.5.1 Impacts on Damaged Landscapes

A. Alternative A: No Action

Alternative A will likely have the least positive impact on the restoration and redevelopment of damaged landscapes in the Schuylkill River Valley of the four alternatives. The Pennsylvania Heritage Parks program has successfully contributed to reclaiming some abandoned industrial/mining sites in the heritage area. However, resource commitment and partnerships will not be as high in this alternative as in the action



alternatives, resulting in lesser impacts on the reclamation of abandoned mines and other damaged sites throughout the heritage area. In addition, the more limited geographic focus of the current program will likely not impact abandoned industrial and mining sites located outside the main corridor of the Schuylkill River and its major tributaries.

B. Alternative B: Places

Alternative B will likely have a significant positive impact on the restoration of damaged landscapes in the heritage area. Alternative B will direct more resources and partnerships towards restoring damaged landscapes in the heritage area than Alternative A. However, it is not likely to make as great an impact as Alternatives C and D.

Under Alternative B, the major emphasis will be on reclaiming damaged landscapes near heritage resource clusters. Abandoned industrial sites in communities along the main stem of the Schuylkill River and the main tributaries will most likely be affected by this alternative. Therefore, Alternative B is likely to restore more abandoned sites in traditional centers of activity than Alternatives A and C. Potential areas for such restoration activities include Tamaqua, Pottsville, Port Clinton, Hamburg, Reading, Pottstown, Phoenixville, Norristown, and parts of Philadelphia. This alternative will also potentially affect abandoned coal mines if they are located near a heritage resource cluster or a traditional population center such as in the Mahanoy Valley and the Pottsville areas.

Increasing economic activity in traditional centers is likely to result in the restoration and adaptive reuse of historic and abandoned buildings.

The conservation and use of heritage resources to foster sustainable economic activity in traditional centers (Strategy 4A) will provide the basis for the restoration and reuse of damaged landscapes such as abandoned industrial parks and buildings. The restoration and reuse of historic buildings (Strategies 1A and 4A) will reduce blight in downtown historic and business districts. Plan recommendations to promote small business development in traditional centers (Strategies 4A and 4B) will also result in the restoration of abandoned buildings. As economic vitality in downtown districts increase, more abandoned buildings are likely to be restored.

Most of the abandoned coal mines in the heritage area would not be candidates for reclamation under Alternative B because they are located outside of traditional activity centers and away from heritage resource clusters. This alternative would also be less effective than Alternatives C and D in addressing redevelopment and restoration of abandoned industrial lands in communities away from the Schuylkill River and in more rural parts of the heritage area. Abandoned industrial sites along smaller tributaries are also not as likely to be restored.



C. Alternative C: Experiences

Alternative C will likely have a greater impact on the restoration of damaged landscapes in the heritage area than Alternatives A and B, but not as much of an impact as Alternative D. Under Alternative C, resources and partnerships will be directed towards restoring damaged landscapes that relate to visitor experience topics and regional linkages. Therefore, it is more likely to address abandoned sites outside of traditional activity centers along the Schuylkill River than Alternative B. Abandoned industrial and waterfront sites along the Schuylkill River, Schuylkill River Trail, tributary streams, and other linear corridors that provide regional linkages could be significantly impacted. In addition, the de-silting basins, a by-product of the coal industry, will likely be restored as natural habitat and could be incorporated into the open space network and cultural linkages. The development of a water quality monitoring program will aid in the determination of riparian areas in need of restoration. The development of a regional greenway strategy could include the restoration of damaged landscapes, such as abandoned coal mines in Schuylkill County. This alternative's focus on enhancing and creating new recreational opportunities could also restore damaged landscapes as some sites could be restored as recreational destinations. Alternative C will have a lesser impact in addressing redevelopment of damaged lands located within traditional centers than Alternative B. While it will likely affect waterfront sites located within these centers, it will not focus on the redevelopment of abandoned sites that do not provide a regional connection or linkage to visitor experience topics. Therefore, abandoned industrial parks and buildings in traditional centers are not as likely to be restored through this alternative.

D. Alternative D: Layers

Alternative D will have the greatest positive impact on the restoration and redevelopment of damaged landscapes in the heritage area. Alternative D will likely leverage the most resources and partnerships for the restoration of abandoned sites. It is also likely to affect more abandoned sites than the other three alternatives due to its focus on both heritage resource clusters and visitor experience themes and linkages.

Many of the plan strategies will result in the restoration of damaged landscapes. Preservation and enhancement of historic and cultural resources (Strategy 1A) will likely involve the restoration of related abandoned buildings. The promotion of entrepreneurial activity in the heritage area (Strategy 4B) will increase economic vitality in downtown centers. Increased economic activity is likely to result in the restoration of abandoned buildings and other damaged landscapes within business districts (Strategy 4A). Development of a regional greenway strategy

Alternative D will be the most effective alternative in restoring areas affected by the region's industrial heritage, including abandoned industrial sites, buildings, and coal mines.



and additional recreational resources will likely contribute to restoring abandoned coal mines, the de-silting basins, and damaged riparian areas (Strategies 1B, 3A, and 3B). The development of a regional water quality monitoring program (Strategy 1B) will result in the prioritization of streams and related riparian zones in need of restoration. The development of new recreational opportunities could also include the restoration of associated damaged landscapes.

4.5.2 Impacts on Rural Landscapes

A. Alternative A: No Action

Alternative A is likely to have the least positive impact on rural landscapes in the heritage area. Much of the current program's focus is on the preservation and enhancement of cultural resources near the Schuylkill River and on the development of the Schuylkill River Trail. Development of the Schuylkill River Trail could benefit rural landscapes as lands along the trail become more attractive for preservation. Waterfront parks and rural waterfront areas along the Schuylkill River are also likely to be preserved and enhanced through this alternative, especially if they relate to the development of the Schuylkill River Trail or the Schuylkill River Water Trail. This alternative would not, however, direct resources and partnerships towards preservation of farmland or other open space.

Impacts associated with visitation are likely to be negligible under this alternative. Visitation is expected to show modest increases. In addition, heritage sites developed under this alternative will most likely be near population centers along the Schuylkill River rather than in rural areas. However, there is the potential for rural resources along the Schuylkill River Trail and Water Trail to be affected as these trails are developed and used more frequently. New trails could consume small parts of rural lands and bring trail users in proximity to sensitive rural areas such as farms, but these impacts are expected to be minimal. Moreover, the majority of the Schuylkill River Trail will be constructed on abandoned railroad beds, and measures will be taken during construction of the trail to stabilize embankments and minimize impacts on adjoining lands.

B. Alternative B: Places

Alternative B is likely to have a greater positive impact on rural landscapes in the heritage area than Alternative A because of its larger geographic scope and resource levels. However, it is expected to have significantly less impact than Alternatives C and D. Under this alternative, resources will be directed towards heritage resource clusters that are typically focused on population and activity centers. It is not likely that this alternative will preserve significant amounts of farmland

Alternative B will be less focused on rural land preservation than the other Action Alternatives.



or other open space unless located near heritage resource clusters or on the fringe of developed areas. Farms, forests, and fields on the outer edge of developed areas in Montgomery, Chester, and Berks Counties are most likely to be preserved, especially if they have a relationship to nearby heritage resource clusters. This alternative could have an indirect impact on the preservation of rural landscapes through a number of measures aimed at increasing economic activity and restoring abandoned buildings in traditional centers. Promotion of economic activity (Strategies 4A and 4B), restoration of abandoned industrial buildings (Strategies 1A and 4A), and preservation of cultural resources in traditional centers (Strategy 1A) will likely result in less development of rural landscapes as historic activity centers receive renewed attention. Some rural waterfront areas are also likely to be affected as many of the clusters of heritage resources are located near the Schuylkill River and, in some cases, in rural areas adjacent to the River or its major tributaries. Some of these rural waterfront areas could also be incorporated into the Schuylkill River Water Trail.

Alternative B is not likely to result in significant impacts from visitation and use on rural landscapes in the heritage area. While greater visitation increases are projected than for Alternative A, it is likely that visitors will be attracted to the developed areas where this alternative will focus on enhancing heritage resources. Although a few potential clusters of heritage resources are located in more rural parts of the heritage area, it is unlikely that use and visitation to these areas will significantly increase or affect rural resources. In addition, the project evaluation criteria will minimize the potential for any unintended secondary development associated with the creation of new visitor-oriented businesses.

C. Alternative C: Experiences

Alternative C is likely to have a more significant impact on the preservation of farmland and other open space in the Schuylkill River Valley than Alternatives A and B. Under this alternative, resources and partnerships are more likely to be directed towards preserving and enhancing rural lands related to visitor experience topics and regional connections. Farmland and open space are important to the rural character of the heritage area and would likely be an important attraction for visitors with special interests in heritage topics.

Farmland and open space that provide important linkages and “fill-ins” between heritage resources are most likely to be preserved. For example, the development of a regional greenway strategy is likely to contribute to the preservation of rural lands located between major parks and natural areas in order to provide continuous stretches of open space linking natural habitats and recreational resources. In addition, lands

Alternative C is expected to direct resources toward preserving and enhancing rural lands related to visitor experience topics and to regional connections.



that provide links between regionally significant cultural resources could be preserved in order to increase density of related sites along thematic linkages (Strategy 2B). This alternative's focus on the development and enhancement of recreational resources (Strategies 3A and 3B) could also increase the possibility that rural lands will be positively impacted. Rural areas located adjacent to the Schuylkill River Trail or other major regional recreational connections that have not been developed are likely candidates for preservation and incorporation into trail and recreation networks. Lastly, Alternative C's strategy of encouraging partnerships with nearby heritage areas (Strategy 2B) could result in the preservation of regionally significant lands that have a thematic link to those other heritage areas. Therefore, rural resources located along the border of the Schuylkill River Valley Heritage Area or other areas that may not have a thematic link within the heritage area could be preserved.

Alternative C is expected to minimally affect rural landscapes through visitation and use associated with its focus on developing regionally significant recreational sites. Many recreational sites that could be enhanced are likely to be in rural parts of the heritage area. Therefore, visitation increases and associated impacts are likely in rural areas. However, the Management Plan incorporates several measures intended to reduce impacts of visitation and use on rural landscapes. By encouraging the use of existing infrastructure, the potential for undesirable secondary development associated with new visitor-oriented businesses will be minimized. The project evaluation criteria will also be used to minimize the possibility that carrying capacity of sensitive rural lands will be exceeded due to the development and use of recreational sites. Development of a regional greenway strategy (Strategy 1B) and the resulting preservation of rural landscapes will more than offset any potential impacts resulting from recreational usage. It should also be noted that the provision of new recreational opportunities in rural areas often is implemented in conjunction with the preservation of sensitive natural lands. This is particularly true for the heritage area given the types of passive outdoor recreational activities that would be encouraged.

D. Alternative D: Layers

Alternative D is likely to have the greatest impact of all the alternatives on the preservation of farmland and open space in the heritage area. Resources will likely be directed towards preserving rural resources on the fringe of heritage resource clusters as well as in other parts of the heritage area, especially if they complete or contribute to the character of regional connections among heritage resources. Rural lands along streams and rivers, the Schuylkill River Trail and other regional trails, and scenic corridors are also likely to be positively impacted. In addition, the increased vitality of traditional centers promoted by this alternative

Alternative D is expected to have the greatest impact of all the alternatives on the preservation of farmland and open space.



will help to foster sustainable growth and preservation of open space outside of the centers.

Several specific Management Plan strategies will help to preserve and enhance rural landscapes. The development of a regional greenway strategy (Strategy 1B) will preserve rural lands and enhance them through targeted restoration activities. It will also reduce development pressures through preservation of regionally significant open space areas. Supporting the protection of heritage resources and related open space areas, as well as land use plans that integrate heritage resource preservation (Strategies 1A and 1C), could promote the development of multi-municipal land use plans that are more likely to result in preservation of rural lands between municipalities. In addition, regional recreational resources are likely to be developed in conjunction with the preservation of related open space areas.

Like Alternative C, this alternative could result in impacts on rural landscapes caused by increased visitation to rural areas, but these impacts are expected to be minimal. This alternative is projected to have the highest increase in visitation of all the action alternatives, and the use of recreational, cultural, and natural sites in rural areas is likely to increase as well. However, the Plan strategies and actions include measures that will help to reduce the impacts of increased use of rural lands and increased visitation to the heritage area. The project evaluation criteria will help to minimize the effects of secondary development associated with visitor-oriented businesses. In addition, economic development associated with increases in heritage tourism is expected to be beneficial. It will likely increase the economic vitality of traditional centers, reducing the need for the development of rural lands. Other measures intended to reduce the effects of visitation on rural lands include minimizing the potential for visitation to exceed carrying capacity, coordinating regional preservation efforts, and encouraging voluntary stewardship.

Rural landscapes will be preserved through the development of a regional greenway strategy, redevelopment of traditional activity centers, and support of multi-municipal land use plans.

4.5.3 Impacts on Developed and Developing Landscapes

A. Alternative A: No Action

Alternative A will likely impact communities along the Schuylkill River, but is not expected to affect these areas as much as the action alternatives because of the more limited levels of resources and partnerships. Enhancement of cultural resources and the Schuylkill River Trail will likely foster some new economic activity in towns along the Schuylkill River and create business opportunities associated with visitation to cultural or recreational sites. It will also make limited contributions to revitalizing areas that are degraded due to obsolescent land uses. This alternative will likely not impact developed or developing areas located

Developed and developing landscapes include traditional centers and suburban and suburbanizing areas.



away from traditional centers of activity along the Schuylkill River. There will also likely be no significant visitation impacts to developed landscapes resulting from this alternative as visitation increases are expected to be modest.

Because Alternative B will focus on heritage resource clusters, it will have its greatest impact on developed areas, particularly traditional centers such as Phoenixville, Pottstown, and Pottsville.

B. Alternative B: Places

Alternative B will direct resources and partnerships towards enhancing areas where heritage resource clusters are located. Therefore, it is likely to have its greatest impact on developed parts of the heritage area. The enhancement and promotion of nearby heritage resources is likely to foster redevelopment and heightened economic activity in traditional centers, especially those containing concentrations of heritage resources and located along the Schuylkill River or its main tributaries. It is likely that increased visitation to these centers will result in new businesses, which will typically use existing infrastructure as opposed to developing vacant or open space lands located outside of the centers. The reuse of abandoned or neglected buildings located in heritage resource clusters will be promoted under this alternative. Waterfront parks in traditional activity centers are likely to be affected as connections between waterfront parks and activity centers are enhanced or improved. Small green space areas in traditional centers could be preserved in association with enhancement of heritage resources. Walking tours could be established and promoted in heritage resource communities. Roads and parking areas could be improved to accommodate increased visitation. Public transportation could be enhanced to accommodate local travel for both workers and tourists.

There are some potential impacts associated with increased visitation under this alternative, but these impacts are likely to be minimal. Heritage resource communities are likely to experience increased automobile traffic due to the greater number of visitors to traditional centers. However, the development of heritage resources in close proximity to each other and walking tours connecting them will likely reduce automobile usage among visitors. Increased visitation may result in associated economic development, but this development is expected to occur in areas where infrastructure is in place. In addition, economic development is intended to be beneficial and will likely increase employment opportunities and reduce the number of abandoned buildings. Maintenance costs for roads, sidewalks, and other visitor infrastructure could slightly increase, but are likely to be offset by increased economic activity.

This alternative is not likely to impact communities that are not designated as heritage resource clusters. These communities are unlikely to experience significant visitation impacts or revitalization benefits as a result of the implementation of Alternative B.



C. Alternative C: Experiences

Alternative C will likely have a significant impact on developed and developing landscapes in the heritage area, but is unlikely to affect those areas as much as Alternatives B and D. Under this alternative, resources and partnerships will be directed towards heritage resources that are regionally significant and which create a link among visitor experience topics. Developed areas along waterways, trails, open space corridors, and scenic roadways are most likely to be affected. Traditional activity centers in the heritage area will likely experience some increased economic activity, adaptive reuse of historic resources, and redevelopment of abandoned buildings, but to a lesser extent than Alternatives B and D. Compared to Alternative B, Alternative C will affect more developed and developing areas located away from the main stem of the Schuylkill River. Several actions related to the focus of this alternative on visitor experience topics will support economic development in smaller communities and developing areas located near state and national parks, significant regional cultural resources, and recreational resources outside of the primary activity centers. Building on existing thematic programs and developing density of heritage sites along thematic linkages (Strategy 2B) will likely result in the enhancement of heritage sites and increased economic activity in smaller communities located away from traditional centers. Creating partnerships with adjacent heritage areas (Strategy 2B) could result in increased economic activity and redevelopment of communities that may have a thematic link to heritage resources outside of the Schuylkill River Valley. Building partnerships at the local level could create awareness of heritage resources in communities located just outside of traditional activity centers.

This alternative has the potential to result in visitation-related economic development in developing areas near regional heritage resources. Land on the suburban fringe could be consumed to accommodate this development, but the Management Plan strategies and project evaluation criteria encourage economic development to occur in areas where infrastructure exists. There is also the potential for increased automobile traffic due to increased visitation. However, this alternative is not likely to result in significant increases of heritage resources and associated economic activity in any one place. Therefore, visitation increases associated with this alternative are likely to be distributed throughout the heritage area and are not likely to have a significant impact on any particular local community.

Alternative C will have less effect on developed and developing landscapes than the other Action Alternatives.



Developed and developing areas will likely experience increased economic activity, redevelopment of abandoned buildings, and establishment of heritage tourism-related businesses and infrastructure.

D. Alternative D: Layers

Of all the action alternatives, Alternative D is likely to have the most significant impact on developed and developing areas located throughout the heritage area. It will direct preservation and enhancement efforts towards heritage resources located in traditional activity centers and towards developed and developing areas that contain heritage resources providing linkages related to visitor experience topics.

Traditional activity centers are likely to experience significant increases in economic activity and associated development as visitation increases and existing infrastructure and buildings are redeveloped to accommodate visitor-oriented businesses. Waterfront parks located in communities along the River or its tributaries will likely be enhanced and connected to downtown activity areas. Small green space areas associated with heritage resources will likely be preserved and incorporated into local park systems (Strategy 1A). Walking tours will likely be established and promoted through partnerships among local heritage resource sites (Strategies 2B and 5B). Economic activity and tourism related business opportunities will likely increase along walking tours. Road and public parking areas will likely be improved to accommodate increased visitation. Public transportation could be improved to connect heritage resource areas and to provide an alternative means of transportation for local residents and visitors.

Alternative D will also likely affect developed and developing areas near regionally significant heritage resources located away from the traditional activity centers along the Schuylkill River. Communities along scenic roads, waterways, open space corridors, and trails are likely to experience increased economic activity. Improved physical and programmatic linkages will be put in place to connect such areas with urban centers, thus promoting economic activity through increased visitation. Abandoned buildings could be restored in conjunction with the enhancement of regional heritage resources (Strategies 1A and 4A). Partnerships with other heritage resource sites, especially those in traditional centers, could increase awareness of resources located in smaller communities, further promoting economic activity (Strategies 2B and 5B).

Alternative D is projected to result in the greatest increase in visitation of all the alternatives, with the increase being distributed throughout the heritage area. While the increased visitation will promote additional economic activity, it will likely also increase traffic in traditional centers or near heritage resources. The Management Plan strategies call for economic development to occur in areas of existing infrastructure, but some levels of secondary development may occur along the suburban fringe as a result of increased visitation. However, the plan



strategies emphasize sustainable growth and preservation of open space, minimizing the potential for these impacts to be significant. In addition, localized traffic will be reduced through walking tours and other strategies that promote the redevelopment of pedestrian-friendly historic and downtown districts.

4.6 IMPACTS ON SOCIOECONOMIC CONDITIONS

The primary socioeconomic impacts associated with the alternatives are increases in visitation and associated visitor spending, which will result in increased economic activity in the heritage area. Estimates have been developed for the five-year increase in visitation and spending, broken down by county within the heritage area and whether the visitation/spending is associated with heritage sites/attractions or events (Tables 4-1 and 4-2). Estimates have also been developed for visitor spending by visitor origin, category of spending, and season. These estimates indicate that the following shifts will likely occur within the region's tourist economy under the Action Alternatives:

1. More visitors will come from out of state
2. Spending on categories that significantly depend on out-of-state visitation (i.e., lodging, transportation, recreation/entertainment) will increase
3. Visitation will increase during off-peak seasons, particularly the winter

The following text discusses the potential socioeconomic impacts associated with each individual alternative based upon the estimates.

The socioeconomic impacts of the Action Alternatives are expected to include increased out-of-state visitation and associated spending, as well as increased visitation during off-peak seasons.

4.6.1 Alternative A: No Action

Alternative A assumes that current levels of resources and partnerships to promote heritage-related visitation under the State Heritage Parks program will continue. As a result, it is likely that visitation and economic impacts will increase modestly above the current baseline. Current annual visitation to the heritage area is estimated at 5,873,100, with 825,500 of those visitors attending heritage area events and 5,047,600 visiting heritage area attractions. Current estimated visitor spending is \$357,987,000 annually, with \$22,690,500 being spent at heritage area events and \$335,296,500 being spent at heritage area attractions.

Under Alternative A, the greatest increases in visitation are likely to occur in Schuylkill County, which has the most potential for future heritage tourism growth. Visitation to Schuylkill County is expected to increase by about 16,000 or 5%, resulting in about \$830,000 in additional spending. Overall, regional visitation is expected to increase



by approximately 77,000 (1.3%) and visitor-related spending is expected to increase by approximately \$4.5 million (1.5%)

Table 4-1. Estimated Annual Heritage Area Visitation After Five Years, by Alternative

	ATTRACTIONS	EVENTS	TOTAL
Current Annual Visitation–Baseline			
Berks	642,400	224,000	866,400
Chester	408,000	9,000	417,000
Montgomery	518,000	118,000	636,000
Philadelphia	3,279,700	352,000	3,631,700
Schuylkill	199,500	122,500	322,000
Total	5,047,600	825,500	5,873,100
Alternative A. No Action (Additional Annual Visitation)			
Berks	16,060	5,600	21,660
Chester	8,160	180	8,340
Montgomery	10,360	2,360	12,720
Philadelphia	16,400	1,760	18,160
Schuylkill	9,975	6,125	16,100
Total	60,955	16,025	76,980
Alternative B. Places (Additional Annual Visitation)			
Berks	96,360	22,400	118,760
Chester	48,960	900	49,860
Montgomery	51,800	5,900	57,700
Philadelphia	163,985	7,040	171,025
Schuylkill	39,900	18,375	58,275
Total	401,005	54,615	455,620
Alternative C. Experiences (Additional Annual Visitation)			
Berks	64,420	5,600	120,240
Chester	40,800	2,250	43,050
Montgomery	25,900	11,800	37,700
Philadelphia	65,595	35,200	100,795
Schuylkill	29,925	36,750	66,675
Total	226,460	142,000	368,460
	ATTRACTIONS	EVENTS	TOTAL
Alternative D. Layers (Additional Annual Visitation)			
Berks	160,600	56,000	216,600
Chester	102,000	2,250	104,250
Montgomery	103,600	11,800	127,200
Philadelphia	327,970	35,200	363,170
Schuylkill	79,800	36,750	141,050
Total	773,970	142,000	952,270

Source: Economics Research Associates



Table 4-2. Estimated Annual Heritage Area Visitor Spending After Five Years, by Alternative

	ATTRACTIONS	EVENTS	TOTAL
Current Annual Visitor Spending–Baseline			
Total	\$335,296,500	\$22,690,500	\$357,987,000
Alternative A: No Action (Additional Annual Visitor Spending)			
Berks	\$1,066,800	\$153,900	\$1,220,700
Chester	\$542,000	\$4,900	\$547,000
Montgomery	\$688,200	\$64,900	\$753,000
Philadelphia	\$1,089,300	\$48,400	\$1,137,600
Schuylkill	\$662,600	\$168,300	\$830,900
Total	\$4,048,800	\$440,400	\$4,489,200
Alternative B: Places (Additional Annual Visitor Spending)			
Berks	\$6,400,600	\$615,600	\$7,016,300
Chester	\$3,252,100	\$24,700	\$3,276,900
Montgomery	\$3,440,800	\$162,200	\$3,602,900
Philadelphia	\$10,892,600	\$193,500	\$11,086,100
Schuylkill	\$2,650,300	\$505,000	\$3,155,300
Total	\$26,636,500	\$1,501,000	\$28,137,500
Alternative C: Experiences (Additional Annual Visitor Spending)			
Berks	\$4,267,100	\$1,539,100	\$5,806,200
Chester	\$2,710,100	\$61,800	\$2,771,900
Montgomery	\$1,720,400	\$324,300	\$2,044,700
Philadelphia	\$4,357,000	\$967,400	\$5,324,500
Schuylkill	\$1,987,700	\$1,010,000	\$2,997,800
Total	\$15,042,400	\$3,902,700	\$18,945,100
Alternative D: Layers (Additional Annual Visitor Spending)			
Berks	\$10,667,700	\$1,539,100	\$12,206,800
Chester	\$6,775,300	\$61,800	\$6,837,100
Montgomery	\$6,881,600	\$648,600	\$7,530,200
Philadelphia	\$21,785,200	\$967,400	\$22,752,600
Schuylkill	\$5,300,700	\$1,683,400	\$6,984,000
Total	\$51,410,400	\$4,900,300	\$56,310,700

Source: Economics Research Associates

Regardless of the small projected increases in visitor activity, Alternative A would likely result in missed opportunities for the more rural parts of the region, especially Schuylkill County. Currently over 60% of heritage area visitation occurs in the City of Philadelphia due to the awareness of the abundance of heritage attractions in Philadelphia and supporting visitor infrastructure. However, the community revitalization and heritage goals of the Management Plan seek to impact parts of the heritage area where an increase in tourism-related employment and business opportunities would have the most effect. Therefore, Alternative A will likely have the least positive socioeconomic impact on the heritage area.



Alternative B will have its greatest impact on increasing visitation and associated spending in traditional centers and other heritage resource clusters.

4.6.2 Alternative B: Places

Alternative B will leverage more resources (including direct funding and matching funds) and partnerships than Alternative A. It will focus these resources on preserving and improving heritage attractions and resources in geographically based places (clusters of heritage attractions and resources). Therefore, Alternative B is likely to have the greatest impact on increasing visitation and tourist spending in traditional activity centers and other areas where heritage attractions and resources are plentiful.

Annual visitation to the heritage area under this alternative is projected to increase by approximately 455,620. A large majority of the increase will be for visits to heritage area attractions as opposed to heritage area events (401,005 and 54,615 annual increase, respectively). The largest percentage increases in visitation will be to Schuylkill County, which is projected to experience an increase of approximately 58,275 or 18% overall. Philadelphia is projected to experience the highest numerical increase (approximately 171,025) but the lowest percentage increase (approximately 4.7% overall) because of its large established base of visitation. Berks County is projected to experience a significant increase in both the number of visitors (approximately 118,760) and percentage of visitation (approximately 13.7% overall). Montgomery and Chester Counties are projected to experience more moderate increases in visitation numbers (57,700 and 49,860) and percentages (9.0% and 11.9%), respectively.

Total visitor spending under this alternative is projected to increase by an estimated \$28,137,500 over the baseline. Spending increases are likely to have the greatest impact on Schuylkill County where the percentage visitation increases are projected to be the highest. Total visitor dollars will still increase the most in Philadelphia; however, the impact will not be as great as in Schuylkill County due to the significant existing heritage tourism base in the City.

The above economic estimates indicate that Alternative B will have a significant impact in Schuylkill County and those places where heritage attractions are concentrated. These places are likely to experience significant increases in employment and new business opportunities. There is also the potential for some increases in population, especially in Schuylkill County, which has been steadily declining in population in recent decades.

4.6.3 Alternative C: Experiences

Alternative C is expected to leverage roughly the same level of resources (including direct funding and matching funds) and partnerships as Alternative B. It will focus these resources on preserving and improving



heritage attractions and resources that provide linkages among visitor experience topics. Therefore, Alternative C is expected to result in a greater percentage increase than Alternative B in visitation and spending at heritage area events that draw visitors with a more intense interest in particular heritage topics. However, total visitation and tourist spending are not expected to increase as much as Alternative B.

Annual visitation to the heritage area under this alternative is projected to increase by approximately 368,460 (226,460 to attractions and 142,000 to events). As in Alternative B, the largest percentage increases are projected to occur in Schuylkill, Berks, and Chester Counties (20.7%, 13.9%, and 10.3%, respectively). Montgomery and Philadelphia Counties are projected to experience significantly lower increases in visitation than in Alternative B (5.9% and 2.7%, respectively). In all five counties, increases are projected to be greater for attendance at heritage area events than for visitation to heritage area attractions.

Total visitor spending under Alternative C is estimated to increase by \$18,945,100 over the baseline. Spending increases are likely to have the greatest impact in Schuylkill, Berks, and Chester Counties where visitation is expected to increase the most. However, total spending in these counties will not be as large as in Alternative B. Visitor spending will be more widely dispersed throughout the heritage area than in Alternative B, with the most impact coming in areas where regional heritage attractions are located and events take place.

Alternative C is expected to have the greatest economic impact in Schuylkill County and, to a lesser degree, Berks and Chester Counties. Employment and business opportunities will likely increase, but are likely to be associated more with heritage area events and regional attractions rather than concentrated in traditional activity centers as in Alternative B. Therefore, this alternative is likely to impact areas where heritage-related events take place or which are near regional attractions drawing visitors with a special interest in specific types of heritage resources or topics.

4.6.4 Alternative D: Layers

Alternative D is expected to leverage the most resources (including public and institutional matching funds) and partnerships of all three action alternatives. It will focus resources both on geographically based clusters of heritage attractions and resources and on regional linkages related to visitor experience topics. Therefore, Alternative D is projected to result in the largest total increase in visitation and related spending of all the alternatives.

Annual visitation to the heritage area under this alternative is

Alternative C is expected to have its greatest impact on visitation and spending associated with events that draw visitors with a more intense interest in particular heritage topics.

Implementation of Alternative D is expected to result in the largest increases in heritage related tourism and related spending of the four alternatives.



projected to increase by approximately 952,270. Visitation will increase both to heritage area attractions and events (773,970 and 178,300 estimated annual increase, respectively). As with the other alternatives, visitation increases are expected to be the greatest in Schuylkill County (43.8% percentage increase projected) and, to a lesser degree, Berks and Chester Counties (25% each). Significant increases are expected in Montgomery and Philadelphia Counties as well (20% and 10%, respectively).

Total tourist spending under Alternative D is projected to increase by \$56,310,700. Spending increases are likely to have the greatest impact in Schuylkill, Berks, and Chester Counties where visitation is expected to increase the most. However, total spending will be highest in Philadelphia due to its established heritage attractions and visitor infrastructure. Tourist spending will impact areas where heritage resource clusters are located and which support regional heritage events and attractions.

As with the other action alternatives, the greatest socioeconomic impacts of Alternative D will likely be experienced in more rural counties where heritage tourism opportunities and visitor infrastructure are currently limited. Schuylkill, Berks, and Chester Counties will likely be affected the most by implementation of this alternative. Employment and business opportunities are likely to be increased both in traditional activity centers and in areas where regional heritage attractions are located and heritage-related events take place.

4.7 COMPARISON OF ALTERNATIVES

Table 4-3 provides an overall summary and comparison of the potential impacts of the four alternatives described in the previous sections of this chapter. The impacts of the alternatives on each resource category is classified as Negligible, Minor, Moderate, or Major based upon the previous evaluation. They are further categorized either as benefits where positive effects on resource categories are expected or as impacts due to construction, visitation, or use.

4.8 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Implementation of the Schuylkill River Valley National Heritage Area Management Plan will require the commitment of funding, labor hours, materials to upgrade resources and facilities, and assistance from local, state and federal agencies. It is unlikely that use of these resources will have a significant adverse effect upon their availability in the future.

There is the potential for unintended secondary development to occur in revitalized traditional activity centers or near heritage resources as



visitation and economic opportunities increase. Development could convert vacant lands. However, it is expected that the majority of the development associated with increased economic vitality will be in accordance with the community revitalization and heritage tourism strategies, which emphasize development in established centers and reuse of existing buildings and infrastructure as opposed to the conversion of vacant lands.

There is also the potential for heritage resources to be overlooked and left unpreserved due to the smaller scope of Alternative A, and to a lesser degree, Alternatives B and C. If overlooked, these heritage resources

Table 4-3. Comparison of Environmental Impacts of Alternatives

	ALTERNATIVES			
	A	B	C	D
Natural Resources				
Water Resources—Protection and Restoration	Negligible Benefits	Minor Benefits	Moderate Benefits	Moderate Benefits
Water Resources—Impacts due to Construction, Visitation or Use	Negligible Impacts	Minor Impacts	Minor Impacts	Minor Impacts
Air Quality and Noise—Impacts due to Construction, Visitation or Use	Negligible Impacts	Negligible Impacts	Negligible Impacts	Minor Impacts
Land Resources—Protection of Species and Habitat	Negligible Benefits	Minor Benefits	Moderate Benefits	Moderate Benefits
Land Resources—Impacts due to Construction, Visitation or Use	Negligible Impacts	Minor Impacts	Minor Impacts	Minor Impacts
Historic and Cultural Resources				
Protection and Enhancement	Minor Benefits	Moderate Benefits	Minor Benefits	Major Benefits
Impacts due to Construction, Visitation or Use	Negligible Impacts	Minor Impacts	Minor Impacts	Minor Impacts
Recreational Resources				
Protection and Enhancement	Minor Benefits	Minor Benefits	Moderate Benefits	Major Benefits
Impacts due to Construction, Visitation or Use	Negligible Impacts	Negligible Impacts	Minor Impacts	Minor Impacts
Land Use				
Damaged Landscapes—Restoration	Negligible Benefits	Minor Benefits	Moderate Benefits	Moderate Benefits
Rural Landscapes—Preservation of Farms and Open Space	Negligible Benefits	Minor Benefits	Moderate Benefits	Moderate Benefits
Rural Landscapes—Impacts due to Construction, Visitation or Use	Negligible Impacts	Negligible Impacts	Minor Impacts	Minor Impacts
Developed and Developing Landscapes—Investment in Traditional Centers	Negligible Benefits	Major Benefits	Minor Benefits	Major Benefits
Developed and Developing Landscapes—Impacts due to Construction, Visitation or Use	Negligible Impacts	Minor Impacts	Minor Impacts	Minor Impacts
Socioeconomic Conditions				
Visitation	Negligible Increase	Moderate Increase	Minor Increase	Major Increase
Visitor Spending	Negligible Increase	Moderate Increase	Minor Increase	Major Increase



could be irreversibly committed to other uses in the future.

4.9 RELATIONSHIP BETWEEN THE LOCAL SHORT-TERM USE OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Implementation of the Management Plan is likely to increase visitation over the short and long terms. Over the short term it is unlikely that visitation will significantly impact heritage resources or the heritage area environment. Over the long term, it is possible that increased visitation will result in some slight deterioration of highly visited heritage sites and local roadways. However, an increase in visitation over the short term will positively impact existing businesses. Over the long term, increased visitation will foster redevelopment and economic investment in traditional activity centers, thus increasing the economic vitality of the heritage area.

Identification of potential heritage sites is unlikely to have an immediate impact on their preservation. However, over the long term identification of potential heritage sites will likely lead to their preservation and incorporation into community revitalization activities, increasing visitor opportunities and strengthening the heritage area economy.

Construction associated with heritage site development is likely to cause a temporary disturbance to natural resources, increase noise levels, and potentially affect traffic or parking near business centers. These impacts are temporary and will benefit these areas and businesses over the long term.

4.10 ENERGY REQUIREMENTS AND CONSERVATION POTENTIAL

The following activities associated with implementation of the Management Plan are likely to have an impact on energy consumption in the heritage area:

- Increased visitation and likely increase in automobile usage
- Increases in heritage sites available to the public
- Redevelopment and construction activities
- Development of heritage tourism related services

An increase in trail development and in accessibility of heritage resources will likely increase the potential for energy conservation.



4.11 SECONDARY AND CUMULATIVE IMPACTS

Implementation of the Management Plan will contribute to the long-term preservation of cultural, recreational, and natural resources in the heritage area. Increased preservation of heritage resources will increase awareness of the heritage area as a region rich with recreational and cultural tourism opportunities. This will likely lead to an increase in the number of preservation organizations and efforts, further preserving heritage resources.

Increased preservation and awareness of heritage resources will also lead to increased visitation and economic vitality. Historic communities that have lost an economic base will look to heritage tourism to increase business and employment opportunities. This will likely lead to the redevelopment of abandoned buildings and reinvestment in historic centers. Revitalization of these centers will lead to an increased need for town services and utilities. Traffic levels are also likely to increase in traditional activity centers over time. In addition to beneficial economic development, it is possible that some types of unintended residential and commercial development will occur as a result of revitalization of heritage area communities.

Increased visitation and use of heritage sites is likely to increase wear and tear over the long term. Maintenance costs for recreational and cultural sites will likely increase with use.

4.12 UNAVOIDABLE ADVERSE IMPACTS

No unavoidable adverse impacts have been identified for the four alternatives at this time. Because the Management Plan and EIS are programmatic in scope, future site-specific actions may require project level environmental assessment, at which time unavoidable adverse impacts could be identified.