

National Park Service  
U.S. Department of the Interior

Valley Forge National Historical Park  
Pennsylvania



DRAFT  
**White-tailed Deer**  
Management Plan/Environmental Impact Statement

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**Draft White-tailed Deer Management Plan/Environmental Impact Statement**  
**Valley Forge National Historical Park**  
**King of Prussia, Pennsylvania**  
**December 2008**

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This Draft White-tailed Deer Management Plan/Environmental Impact Statement (plan/EIS) describes four alternatives for the management of white-tailed deer and for appropriate response to chronic wasting disease (CWD) at Valley Forge National Historical Park (NHP). The Plan/EIS also describes the environment that would be affected by the alternatives and the environmental consequences for implementing these alternatives.

The purpose of this action is to develop a deer management strategy that supports protection, preservation, and restoration of native vegetation and other natural and cultural resources throughout and beyond the life of this plan/EIS. Action is needed at this time to address declining forest regeneration and to ensure the protection and restoration of native vegetation and wildlife, and the protection of cultural resources. Studies have determined that excessive deer browsing reduces forest regeneration, resulting in adverse changes to the forest structure, composition, and wildlife habitat. Excessive deer browsing in Valley Forge NHP also has adversely affected the natural distribution, abundance, and diversity of native species, including species of special concern, and has impacted native shrubs, trees, and forest landscapes. Furthermore, changes in the proximity of CWD to the park boundary and other risk factors have resulted in an elevated risk of CWD occurrence within the park. Finally, action is needed to foster greater cooperation with state and local governments currently implementing deer management actions (including CWD surveillance and response) to help achieve mutual deer management goals.

Under Alternative A (No-action), existing deer management and monitoring efforts would continue. No new actions would be taken to reduce the effects of deer overbrowsing or to address CWD. The action alternatives include various methods to reduce and maintain the deer population at an appropriate density to achieve plan objectives. Alternative B (Combined Nonlethal Actions) would include rotational fencing of select forested areas of the park and the use of reproductive controls, when available and feasible. The park also would increase its CWD surveillance efforts. Alternative C (Combined Lethal Actions) would implement sharpshooting with firearms, as well as limited capture and euthanasia where necessary. Alternative D (Combined Lethal and Nonlethal Actions) would include the reproductive controls included in Alternative B and the lethal actions included in Alternative C. Both Alternatives C and D would implement the full CWD Response Plan, which includes increased surveillance and reduction of the deer herd to minimize the probability of spread of CWD.

The potential environmental consequences of the alternatives are addressed for vegetation, white-tailed deer population, other wildlife and wildlife habitat, special status species, cultural landscapes, historic structures, archeological resources, visitor use and experience, socioeconomic resources and adjacent lands, public safety, and park operations. Under Alternative A, no action would be taken to reverse the expected long-term continued growth in the deer population, and damage to natural and cultural resources would likely continue. The analysis indicates that impairment to vegetation and special status plant species; other wildlife, wildlife habitat, and special status animal species; cultural landscapes; historic structures; and archeological resources could result if Alternative A was implemented.

The Draft Plan/EIS is available for public and agency review and comment for a 60-day minimum review period beginning when the U.S. Environmental Protection Agency Notice of Availability is published in the Federal Register. If you wish to comment on the document, you may mail comments to the name and address listed below or you may post them electronically at <<http://parkplanning.nps.gov/vafo>>. Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment, including your personal identifying information, may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

After public review, this document may then be revised in response to public comments. A final version of this document will then be released, and a 30-day no-action period will follow. Following the 30-day period, the alternative or actions constituting the approved plan will be documented in a record of decision that will be signed by the Regional Director of the Northeast Region.

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## Executive Summary

Significant changes have occurred across Pennsylvania's landscape in recent decades, including the landscape in and around Valley Forge National Historical Park (NHP). Among the most dramatic of these changes is the resurgence of white-tailed deer (*Odocoileus virginianus*). Extremely rare at the turn of the 20th century, deer populations in Pennsylvania have not only rebounded, but are now higher than at any other point in time. The success of the white-tailed deer is attributed to their ability to favorably exploit changes in habitat and a reduction in hunting pressure brought about by changes in land use patterns and a decrease in areas available to hunters associated with suburban development.

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### Purpose of and Need for Action

The purpose of the plan/EIS at Valley Forge NHP is to develop a deer management strategy that supports protection, preservation, and restoration of native vegetation and other natural and cultural resources throughout and beyond the life of this plan/EIS. The purpose of the plan/EIS also is to provide appropriate response to chronic wasting disease at Valley Forge NHP.

Forest regeneration has been selected as the primary measure of plan success (PGC 2006b). Although other factors may affect forest regeneration, such as forest canopy, nonnative invasive species, pests/disease, and fire, this plan focuses on the role and impact of white-tailed deer in the ecological environment, which has been documented through research and long-term monitoring at Valley Forge NHP.

Action is needed at this time to address declining forest regeneration and to ensure the protection and restoration of native vegetation, wildlife, and the cultural landscape. The following statements further define the need for action:

- An increasing number of deer in the park over the past two decades has resulted in unacceptable changes in the species composition, structure, abundance, and distribution of native plant communities and associated wildlife.
- Browsing of tree seedlings and shrubs by deer in the park has prevented successful forest regeneration.
- Changes in the proximity of chronic wasting disease to the park boundary and other risk factors have resulted in an elevated risk of chronic wasting disease occurrence within the park.

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### Objectives in Taking Action

Objectives are “what must be achieved to a large degree for the action to be considered a success” (NPS 2001). Objectives for managing deer populations must be grounded in the park's enabling legislation, purpose, significance, and mission goals, and must be compatible with the direction and guidance provided by the park's general management plan (GMP) (NPS 2007j). The action alternatives

selected for detailed analysis must resolve the purpose of and need for action and meet the plan objectives. The following objectives related to deer management at Valley Forge NHP were developed for this plan.

### **Vegetation**

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- Protect and promote restoration of the natural abundance, distribution, structure, and composition of native plant communities by reducing deer browsing.
- Reduce deer browsing pressure enough to promote tree and shrub regeneration that results in a diverse forest structure dominated by native species.
- Promote a mix of native herbaceous plant species and reduce the competitive advantage of invasive, nonnative plant species.

### **Wildlife and Wildlife Habitat**

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- Maintain a white-tailed deer population within the park that allows for protection and restoration of native plant communities.
- Protect and preserve other native wildlife species by promoting the restoration of native plant communities.
- Reduce the probability of occurrence, promote early detection, and reduce the probability of spread of chronic wasting disease.

### **Threatened, Endangered, and Special Status Species**

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- Protect and promote restoration of special status plant and animal species and their habitat.

### **Cultural Resources**

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- Protect the integrity of the cultural landscape, including the patterns of open versus wooded land, commemorative plantings, and vegetative screenings.
- Protect archeological resources by promoting the growth and maintenance of native vegetative cover and reducing trampling and soil erosion.

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## **Description of Valley Forge NHP**

Valley Forge NHP is located in southeastern Pennsylvania, 18 miles northwest of center city Philadelphia. Situated in rapidly growing suburbs, the park spans portions of two counties: northeastern Chester County and southwestern Montgomery County. The park also is part of five townships: Schuylkill and Tredyffrin Townships to the west and south in Chester County; and Lower Providence, West Norriton, and Upper Merion Townships to the north and east in Montgomery County. Chester and Montgomery Counties are located within the Greater Philadelphia Area, comprised of three additional counties: Bucks, Delaware, and Philadelphia.

The park comprises the site of the 1777-78 winter encampment of General George Washington's Continental Army. It protects many significant cultural resources, including cultural landscapes, historic buildings and structures, archeological sites, and archives and collections. As suburban sprawl increasingly covers the land

around Valley Forge NHP, the park also increases in value as a bio-refuge for plants and animals. Supporting over 1,300 species of flora and fauna, habitats within the park include oak/tulip forests, tall grass meadows, wetlands, and forested floodplains.

In addition to its varied cultural and natural resources, the park offers visitors interpretive programming, self-guided walking and driving tours, and newly updated exhibits at the Welcome Center. Overall, many regional visitors appreciate it as a place of recreation and renewal, with approximately 80% of its visitors enjoying the park while walking, biking, boating, fishing, horseback riding, and picnicking.

The park boundary was established in 1976 by the enabling legislation that designated the former Valley Forge State Park as a unit of the national park system, transferring ownership from the Commonwealth of Pennsylvania to the NPS. The boundary was expanded by congress in 1980. A number of private parcels were included within the park's boundary at the time of its establishment, with the expectation that these parcels would eventually be ceded or sold to the park. Today, most of these parcels have been acquired by the federal government. The park will continue to pursue acquisitions of certain parcels within park boundaries.

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## White-tailed Deer at Valley Forge NHP

White-tailed deer occur throughout Pennsylvania, as well as the contiguous United States (with the exception of portions of the Southwest). Prior to European settlement, North American white-tailed deer populations are estimated to have been between 23 and 24 million, or about 8-11 deer per square mile (McCabe and McCabe 1984). Deer population numbers declined dramatically in the eastern United States after European settlement. In Pennsylvania, the declining deer population size was attributed to unregulated deer harvests, including subsistence and market hunting, and the extensive logging of forests across the state in the 19th and early 20th centuries (PGC 2003, Latham et al 2005).

Deer were described as scarce by 1895, when the Pennsylvania Game Commission (PGC) was created to protect and preserve game species. To restore the state's deer population, over 1,200 deer were released between 1906 and 1925 and hunting laws were established and enforced (PGC 2003). Across Pennsylvania the deer population recovered rapidly in response to laws regulating deer harvest and protecting antlerless deer as well as the abundance of early successional habitat created as a result of past logging activities (PGC 2003). This increase is mirrored by the buck harvest which increased nearly 160-fold between 1915 and 2001 (Porter et al. 1994, Latham et al. 2005). Locally, this recovery was noted by the Valley Forge Park Commission in 1939, which describes, "deer in small numbers are making extended stays in the park." Concern over escalating deer densities and alteration of forest plant communities was noted by PGC biologists as early as the mid-1940s (Latham et al 2005). Despite these concerns, antlerless deer seasons were not held annually until 1956. Between 1982 and 1999, deer density across Pennsylvania was maintained at 50-100% above the recommended PGC density goal (Latham et al. 2005, PGC 2003).

In national park units in the eastern U.S., such as Valley Forge NHP, landscapes have traditionally been managed to allow for the preservation and rehabilitation of scenic and historic landscapes. The result is a mixture of forest and field, which constitutes excellent habitat for white-tailed deer. As a result of low mortality rates,

due to lack of natural predators and recreational hunting, loss of habitat due to urbanization in areas surrounding the park, and the availability of ideal habitat within the park, the population of deer has greatly increased.

Today the deer density in and around the park exceeds 193 deer per square mile (NPS 2008f) and researchers have established that such high deer densities can have direct and indirect negative impacts on plant and animal communities (Alverson 1988, Anderson 1994, Augustine and Frelich 1998, deCalesta 1994, McShea 2000, McShea and Rappole 2000). Direct impacts from intense browsing include reductions in plant species richness (number of species), plant density and biomass, height growth, and the development of vertical structure. Loss of plant species and vertical structure leading to the decline of animal species that depend on them represents the primary indirect effect of browsing (Latham et al 2005).

From 1983-1985, researchers from The Pennsylvania State University (PSU) provided a baseline estimate of deer population size based on a combination of data from aerial surveys, fecal pellet group counts, spotlight counts, diurnal observations of deer, and browsing-grazing surveys (Cypher et al. 1985). The maximum population size park-wide was estimated to be 165-185 individuals (summer) potentially declining to 110-120 individuals after fall, winter, and spring mortality (Cypher et al. 1985). The corresponding estimate of deer density was 31-35 deer per square mile in summer and 21-23 deer per square mile in spring. Park staff have continued to conduct spotlight counts on an annual basis to determine trends in deer abundance over time. Spotlight count data indicate that the deer population at Valley Forge NHP has increased significantly between 1986 and 2007. On average, the deer population has increased about 10% each year, with significant fluctuations appearing after 1996.

Park staff conducts spring compartment counts on an annual basis according to the protocol established by Lovallo and Tzilkowski (2003) to evaluate changes in deer population size over time. The protocol is based on a mark-recapture study conducted by researchers from PSU between 1997 and 1999. Mark-recapture is a standard method used to obtain accurate estimates of deer population size through development of a sighting index, allowing estimation of the proportion of the deer population not observed during deer counts. A total of 90 female and 15 male deer were marked with ear tags and radio-collars (ear-tag transmitters for males) and served as the basis for developing the park sighting index (Lovallo and Tzilkowski 2003).

Data from spring compartment counts indicate an increase in estimated deer population size from 772 individuals to 1,023 individuals between 1997 and 2007, reaching a maximum of 1,398 in 2003. This reflects a change in deer density from 146 to 193 deer per square mile. The highest densities of deer have been recorded in central and southwestern portions of the park (Lovallo and Tzilkowski 2003).

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## Alternatives Considered

The alternatives selected for detailed analysis are summarized below. The National Environmental Policy Act of 1969, as amended, (NEPA) requires federal agencies to explore a range of reasonable alternatives and to analyze what impacts the alternatives could have on the human environment, which the act defines as the natural and physical environment and the relationship of people with that environment. The analysis of impacts is presented in Chapter 4: Environmental Consequences.

The alternatives under consideration include a no-action alternative, as prescribed by NEPA regulations at 40 CFR 1502.14. The no-action alternative (Alternative A) in this document is the continuation of the park's current deer management activities and continuation of limited CWD surveillance. The three action alternatives (Alternatives B, C, and D) contain actions to support forest regeneration to protect, conserve, restore native plant communities and other natural and cultural resources.

The alternatives also include the implementation of the park's CWD Response Plan (Appendix C). CWD response actions include disease surveillance (detection), as well as actions to assess disease prevalence and distribution, minimize the likelihood of spread to surrounding communities and amplification within local deer populations, and if possible, elimination of CWD. All actions would be closely coordinated with the PGC and Pennsylvania Department of Agriculture (PDA) due to the scale of management identified as necessary to address CWD (minimum 79 square miles) relative to park size (5.3 square miles).

Action alternatives were developed by the interdisciplinary planning team, with feedback from the public and the science teams during the planning process. These alternatives meet, to varying degrees, the management objectives for Valley Forge NHP and also the purpose of and need for action, as expressed in Chapter 1: Purpose of and Need for Action. Because these action alternatives would meet the park's objectives and would be technically and economically feasible, they are considered "reasonable."

Under **Alternative A, No-Action**, existing deer management and monitoring efforts would continue. These actions include continued deer population and vegetation monitoring, maintaining small fenced areas to protect selected vegetation, roadkill removal, public education, coordination with the PGC, and continuation of limited CWD surveillance as described in the CWD Response Plan. No new actions would occur to reduce the effects of deer overbrowsing or to address CWD.

**Alternative B, Combined Nonlethal Actions:** In addition to the actions included under Alternative A, Alternative B would incorporate nonlethal actions to protect native plant communities, promote forest regeneration, gradually reduce the deer population in the park, and enhance CWD surveillance. This would include rotational fencing of selected forest areas of the park. The location of fenced areas would be selected based on the availability of forested areas of appropriate size (e.g. where a 10-acre enclosure could be rotated four times to cover 40 acres of forest), to be inclusive of the different forest types in the park, to promote park-wide distribution, and facilitate easy maintenance. The fencing would be rotated as forests within fenced areas reached acceptable levels of regeneration. The rotational fencing would be implemented in conjunction with reproductive control to gradually reduce and then maintain the deer population at an appropriate density. Reproductive controls would be implemented via a chemical reproductive control agent, when an acceptable agent becomes available. Until such an agent is available, the rotational fencing would be the sole means of promoting regeneration of the park's vegetation. It is expected that both actions would occur throughout the life of this plan (15 years). When the initial deer density goal is achieved and acceptable levels of tree seedling recruitment have been reached it may be possible to eliminate or reduce rotational fencing. This would be assessed using adaptive management.

If a confirmed case of CWD were detected within 5 miles of the park boundary or the park fell within a state-established CWD containment zone, then surveillance

would be enhanced using tonsillar biopsy to test deer and remove or cull CWD-positive members of the population.

**Alternative C, Combined Lethal Actions:** In addition to the actions included under Alternative A, Alternative C would incorporate lethal actions to protect native plant communities, promote forest regeneration, and quickly reduce the deer population in the park. The additional actions would include deer population reduction, and maintenance at an appropriate deer density, by lethal actions. Sharpshooting would involve the use of firearms and occur in conjunction with limited capture and euthanasia of individual deer in certain circumstances where sharpshooting would not be appropriate. Population maintenance would also be conducted using lethal methods.

If a confirmed case of CWD were detected within 5 miles of the park boundary or the park fell within a state-established CWD containment zone, then active lethal surveillance would be implemented for the purposes of assessing disease presence, prevalence, and distribution. Lethal reduction actions already being taken under Alternative C would be accelerated to achieve the target deer density more quickly. Additionally, a one-time population reduction action, to a density of not less than 10 deer per square mile, may be considered. This action would be based on the success of state agencies in lowering deer densities to less than 31-35 deer per square mile in the state-established CWD containment zone surrounding the park for the purposes of disease management.

**Alternative D, Combined Lethal and Nonlethal Actions:** In addition to the actions included under Alternative A, Alternative D would incorporate lethal and nonlethal actions to protect native plant communities, promote forest regeneration, and quickly reduce the deer population in the park. This would include all of the actions included under Alternative A, as well as the reproductive controls included in Alternative B, and the lethal actions included in Alternative C. Initially, this alternative would use lethal reduction via sharpshooting and capture/euthanasia to quickly reduce the deer population and achieve the initial deer density goal. Population maintenance would be conducted via reproductive control when an acceptable agent becomes available. Until an acceptable and effective reproductive control agent becomes available, population maintenance would be conducted using lethal methods.

If a confirmed case of CWD were detected within 5 miles of the park boundary or the park fell within a state-established CWD containment zone, then lethal reduction actions, if already being implemented, would be accelerated to achieve the target deer density more quickly. If reproductive control was already being implemented, then the park would return to lethal removal actions until CWD monitoring, conducted for a period of time consistent with current knowledge of the environmental persistence of CWD infectious agents, revealed no additional CWD-positive deer within the park. At that time, the park would return to reproductive control methods for population maintenance. Additionally, during the CWD response, a one-time population reduction action could be implemented to achieve a deer density of not less than 10 deer per square mile. This action would be based on the success of state agencies in lowering deer densities to less than 31-35 deer per square mile in areas surrounding the park for the purposes of disease management.

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## Environmental Consequences

The summary of environmental consequences considers the actions being proposed and the cumulative impacts from occurrences inside and outside the park. The potential environmental consequences of the actions are addressed for vegetation and special status plant species; white-tailed deer population; other wildlife, wildlife habitat, and special status animal species; cultural landscapes; historic structures; archeological resources; visitor use and experience; socioeconomic resources and adjacent lands; public safety; and park operations.

### Alternative A

Under Alternative A, there would be long-term, unavoidable, adverse impacts to vegetation, the white-tailed deer population, other wildlife and wildlife habitat, and special status species due to the continued increase in the deer population over time and the associated damage to park vegetation. There would be long-term, unavoidable, adverse effects to historic structures and archeological resources due to trampling and erosion. There would also be long-term, unavoidable, adverse impacts on visitor use and experience, because of the lack of vegetation and the associated wildlife and scenery which park visitors enjoy. There would be long-term, unavoidable, adverse impacts to socioeconomic resources and adjacent lands, as well as public safety, as the deer population would continue to grow or stabilize at a high density. This population would continue to inflict increasing damage on local properties and potentially lead to more deer-vehicle collisions. Unavoidable adverse impacts would continue on park operations, due to the demand on park staff related to continued deer monitoring and resource management.

### Alternative B

Over the life of the plan, Alternative B would include most of the unavoidable adverse impacts described for Alternative A, as the benefits of reproductive control would not be realized until much later. Unavoidable adverse impacts to some plant species, some historic structures, and some archeological resources could be mitigated, but not eliminated, by the use of rotational fencing, however. Reproductive controls may have some unavoidable adverse impacts if the actions were visible or audible to park visitors. Reproductive controls may adversely impact deer population behavior. Providing interpretive materials may help mitigate some of this effect; however, reproductive control as proposed under this alternative would likely occur during relatively high visitor use periods and would require a substantial effort to treat the required number of deer. Unavoidable adverse impacts to park operations would remain relatively the same as Alternative A, as the fence construction and reproductive control implementation would be completed by a contractor or other federal employees.

### Alternative C

Unavoidable adverse impacts for Alternative C would be greatly reduced compared to Alternatives A and B. The reduction in deer numbers would occur relatively rapidly and the park's vegetation would begin to recover within the life of the plan. This would mitigate adverse effects to vegetation, white-tailed deer population, other wildlife and wildlife habitat, special status species, historic structures, and archeological resources. Some wildlife that prefer more open habitat would be unavoidably impacted as the vegetation recovered. There may be some unavoidable adverse effects to visitors relating to the implementation of the lethal reduction.

Conducting lethal reduction at night and providing interpretive materials would help mitigate some adverse effects. Unavoidable adverse impacts to operations and management would remain relatively the same as Alternative A, as the lethal reduction would be administered by a contractor or other federal employees.

### **Alternative D**

Unavoidable adverse impacts for Alternative D would be greatly reduced compared to Alternatives A and B. The reduction in deer numbers would occur relatively rapidly and the park's vegetation would begin to recover within the life of the plan. This would mitigate adverse effects to vegetation, white-tailed deer population, other wildlife and wildlife habitat, and special status species, historic structures, and archeological resources. Some wildlife that prefer more open habitat would be unavoidably impacted as the vegetation recovered. There may be some unavoidable adverse effects to visitors relating to the implementation of the lethal reduction. Conducting lethal reduction at night and providing interpretive materials would help mitigate some adverse effects. Unavoidable adverse impacts to park operations and management would remain relatively the same as Alternative A, as the lethal reduction and reproductive controls would be administered by a contractor or other federal employees.

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## **Consultation and Coordination**

Many public agencies; federal, state, and local governments; nonprofit organizations; institutions; and individual citizens have an interest in deer management at Valley Forge NHP. Reaching out to these interested parties for their ideas and expertise and listening to their concerns is an important step in the development of the plan/EIS. A combination of activities, including internal workshops, formal public meetings, and agency and government briefings has helped the NPS gain important guidance in developing alternatives for the plan/EIS.

The Notice of Intent to prepare the plan/EIS was published in the Federal Register on September 7, 2006. This represented the initiation of the project and the beginning of the public scoping and outreach process.

An internal scoping meeting was held on September 12 and 13, 2006 to initiate the plan/EIS process. Attendees included park officials, representatives from the NPS Northeast Region office, the NPS Environmental Quality Division (EQD), and their consultants. Discussions at the meeting focused on the management of white-tailed deer as part of a healthy and functioning ecosystem at Valley Forge NHP. The goal of this meeting was to determine the purpose, need, and objectives for managing deer at the park, as well as to identify issues and concerns associated with the deer populations and their impact on the park ecosystem. Preliminary alternative management strategies were also discussed. Following this meeting, an Internal Scoping Report was drafted to inform the development of the environmental planning process (NPS 2006b).

In addition to internal scoping, the NPS assembled two science teams to address deer and vegetation management and CWD. The first team was composed of regional and national experts on forest regeneration, vegetation management, and wildlife management, and individuals with specific experience in deer management (see References: Planning Team, Contributors, and Consultants). The science team participated in regular phone meetings for the first three months of 2007 to discuss

and review literature, studies, and professional experience related to measuring impacts of deer browsing, evaluating the success of deer management in forests similar to those at Valley Forge NHP, and the best management strategies available to Valley Forge NHP. Following the science team's final meeting, an internal report was prepared to document the group's discussions and recommendations (NPS 2007h). This report was used to inform the alternatives meeting described above.

The second science team, which focused on CWD, was composed of regional and national wildlife management experts from the NPS and PGC (see References: Planning Team, Contributors, and Consultants). The group participated in several phone meetings in 2008 to discuss and review existing literature, studies, and professional experience related to CWD. The group's discussion focused on the park's proposed response to CWD within the park and its consistency with Pennsylvania's Chronic Wasting Disease Response Plan (PCWDTF 2007, 2008). A summary memorandum was prepared to document the results of the group's discussions and recommendations (NPS 2008d). This memorandum was used to inform the CWD Response Plan for Valley Forge NHP (see Appendix C).

On November 8 -9, 2006, two public meetings were held. The first meeting was held at the park's Education Center, and the second was held at the Tredyffrin Township building. These meetings were advertised in local papers and on the park's web site, and a brochure with background information and meeting times and locations was mailed to over 3,000 area residents and known stakeholders. Attendees were provided with an information packet on the proposed project, as well as the opportunity to review large scale graphics and posters explaining different details of the project. Park staff provided a short presentation on the background of deer research at the park, issues related to the deer population, and issues related to managing the deer population. Attendees were then divided into small groups where they discussed goals, issues, and concerns with NPS staff and their consultants. Public comments were recorded on flipcharts and later transcribed for further analysis. Additional comments were received through official public comment forms. Following the meeting, the NPS held a 30-day public comment period. Upon the conclusion of the public comment period, all of the comments received at or following the meeting were included in the Public Comment Analysis Report (NPS 2007g). This report was used to inform the alternatives development process and was also posted for public review on the NPS Planning, Environmental, and Public Comment (PEPC) web site, <<http://parkplanning.nps.gov/vafo>>.

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## Acronyms

<b>ACHP</b>	Advisory Council on Historic Preservation
<b>APHIS</b>	Animal and Plant Health Inspection Service
<b>ARS</b>	Asbestos Release Site
<b>ASMIS</b>	Archeological Sites Management Information System
<b>BRMD</b>	Biological Resource Management Division
<b>BSE</b>	bovine spongiform encephalopathy
<b>CCPRD</b>	Chester County Parks and Recreation Department
<b>CESS</b>	Cost Estimating Software System
<b>CEQ</b>	Council on Environmental Quality
<b>CFR</b>	Code of Federal Regulations
<b>CJD</b>	Creutzfeldt-Jakob disease
<b>CLI</b>	Cultural Landscape Inventory
<b>CLR</b>	Cultural Landscape Report
<b>cm</b>	centimeter(s)
<b>CMA</b>	Centennial and Memorial Association
<b>CWD</b>	Chronic Wasting Disease
<b>dbh</b>	diameter at breast height
<b>DCNR</b>	Pennsylvania Department of Conservation and Natural Resources
<b>deer/km<sup>2</sup></b>	deer per square kilometer
<b>deer/mi<sup>2</sup></b>	deer per square mile
<b>DMAP</b>	Deer Management Assistance Program
<b>DOI</b>	U.S. Department of the Interior
<b>EHD</b>	Epizootic Hemorrhagic Disease
<b>EPA</b>	U.S. Environmental Protection Agency
<b>EPMT</b>	Exotic Plant Management Team
<b>EQD</b>	Environmental Quality Division (National Park Service)
<b>FDA</b>	U.S. Food and Drug Administration
<b>FIA</b>	Forest Inventory and Analysis
<b>FMP</b>	Fire Management Plan
<b>FPC</b>	Fairmount Park Commission

<b>GMP</b>	general management plan
<b>GnRH</b>	gonadotropin releasing hormone
<b>HR</b>	House Report
<b>HSUS</b>	Humane Society of the United States
<b>I&amp;M</b>	Inventory and Monitoring Program
<b>INAD</b>	Investigational New Animal Drug
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>IPM</b>	Integrated Pest Management
<b>kg/ha</b>	kilograms per hectare
<b>kmh</b>	kilometers per hour
<b>LCS</b>	List of Classified Structures
<b>LEAD</b>	Letterkenny Army Depot
<b>m</b>	meter(s)
<b>MIDN</b>	Mid-Atlantic Inventory and Monitoring Network
<b>mph</b>	miles per hour
<b>NEPA</b>	National Environmental Policy Act
<b>NHP</b>	National Historical Park
<b>NHPA</b>	National Historic Preservation Act
<b>NPOMA</b>	National Parks Omnibus Management Act of 1998
<b>NPS</b>	National Park Service
<b>NRHP</b>	National Register of Historic Places
<b>PADLS</b>	Pennsylvania Animal Diagnostic Laboratory System
<b>PDA</b>	Pennsylvania Department of Agriculture
<b>PEPC</b>	Planning, Environment, and Public Comment
<b>PGC</b>	Pennsylvania Game Commission
<b>PGF<sub>2α</sub></b>	Prostaglandin F <sub>2α</sub>
<b>plan/EIS</b>	White-tailed Deer Management Plan/Environmental Impact Statement
<b>PRS</b>	Pennsylvania Regeneration Study
<b>PSU</b>	The Pennsylvania State University
<b>PZP</b>	Porcine Zona Pellucida
<b>ROD</b>	Record of Decision

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<b>SHPO</b>	state historic preservation officer
<b>TSE</b>	transmissible spongiform encephalopathies
<b>USC</b>	United States Code
<b>USDA</b>	U.S. Department of Agriculture
<b>USFS</b>	U.S. Forest Service
<b>USFWS</b>	U.S. Fish and Wildlife Service
<b>VFCD</b>	Valley Forge Citizens for Deer Control
<b>VFPC</b>	Valley Forge Park Commission
<b>WDNR</b>	Wisconsin Department of Natural Resources
<b>WMU</b>	Wildlife Management Unit

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