

**U.S. Department of the Interior
National Park Service**

**Record of Decision
White-tailed Deer Management Plan and Environmental Impact Statement
Valley Forge National Historical Park
Pennsylvania**

The Department of the Interior, National Park Service (NPS) has prepared this Record of Decision on the *White-tailed Deer Management Plan/ Environmental Impact Statement* (plan/EIS) for Valley Forge National Historical Park (Valley Forge NHP) in accordance with the requirements of the National Environmental Policy Act of 1969, as amended (NEPA), its implementing regulations (40 CFR 1500-108), and Director's Order #12, Conservation Planning, Environmental Impact Analysis and Decision-Making and accompanying DO-12 Handbook. This Record of Decision includes a summary of the purpose and need for action, a description of the selected alternative, a listing of measures to minimize environmental harm, synopses of other alternatives considered, the basis for the decision, findings on impairment of park resources and values, summary of the consistency with Section 101(b) of NEPA, a description of the environmentally preferred alternative, and an overview of public and agency involvement in the decision-making process.

PURPOSE AND NEED FOR TAKING ACTION

Significant changes have occurred across Pennsylvania's landscape in recent decades, including the landscape in and around Valley Forge 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 white-tailed deer is an adaptable animal that has favorably exploited changes in habitat and hunting pressure brought about by changes in land use patterns and a decrease in areas available to hunters associated with suburban development. Between 1983 and 2009, the deer density at Valley Forge NHP increased from 31-35 deer per square mile to 241 deer per square mile. Deer are considered by many researchers and ecologists to be a "keystone" herbivore, a species that "(1) affects the distribution or abundance of many other species, (2) can affect community structure by strongly modifying patterns of relative abundance among competing species, or (3) affects community structure by affecting the abundance of species at multiple trophic levels" (Waller and Alverson 1997). To maintain natural forest regeneration, estimates of appropriate deer density provided in the scientific literature range from 10 to 40 deer per square mile. The range in deer density recommendations reflects the diversity of forest types across Pennsylvania and the Mid-Atlantic Region as well as differences based on forest management goals. Current deer density at the park far exceeds all recommendations in the scientific literature related to appropriate deer density for maintaining natural forest regeneration.

The purpose of the plan/EIS is to develop a white-tailed deer management strategy that supports long-term protection, preservation, and restoration of native vegetation and other natural and cultural resources while maintaining a deer population at Valley Forge NHP. Action is needed at this time because 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. Furthermore, browsing of tree seedlings and shrubs by deer in the park has prevented successful forest regeneration. Forest regeneration has been selected as the primary measure of plan success. Although other factors may affect forest regeneration, such as the forest canopy, nonnative

invasive species, pests/disease, fire, and forest fragmentation, 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.

The secondary purpose of the plan/EIS is to provide appropriate response to chronic wasting disease (CWD) at Valley Forge NHP. CWD is a fatal, neurological disease identified in free-ranging and captive mule deer, white-tailed deer, elk, and moose. 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. It should be clearly stated that CWD is not currently known to be present in the park or the Commonwealth of Pennsylvania and that integration of CWD response represents an effort on the part of the NPS to be proactive and fully prepared given the high level of risk of the park for exposure to and amplification of CWD. The direct relationship between the white-tailed deer management strategy and CWD response make integration both feasible and cost-effective. Response to CWD was developed cooperatively with the Pennsylvania Game Commission (PGC). A cooperative approach to CWD response was necessary due to the scale identified as necessary to address CWD (minimum 79 square miles) relative to park size (5.3 square miles).

The following objectives related to deer management at Valley Forge NHP were developed for the plan.

Vegetation

- 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

- 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

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

Cultural Resources

- 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.

DECISION (SELECTED ALTERNATIVE)

The NPS has selected Alternative D, (Combined Lethal and Nonlethal Actions), which was described as the NPS preferred alternative in the Final White-tailed Deer Management Plan/Environmental Impact Statement (Final plan/EIS), released to the public for the required 30-day no-action period beginning August 28, 2009 and ending September 28, 2009. The selected alternative continues current park deer

management actions including vegetation and deer population monitoring, small fenced areas, roadkill removal, public education, coordination with the PGC, and CWD monitoring and response. In addition, the selected alternative will incorporate lethal and nonlethal actions to quickly reduce and then maintain the deer population in the park to protect native plant communities and promote forest regeneration. Initially, the selected alternative will use lethal reduction via sharpshooting and capture/euthanasia to quickly reduce the deer population and achieve the initial deer density goal. Maintenance of population levels will be conducted via reproductive control when an acceptable agent becomes available. Until an acceptable and effective reproductive control agent becomes available, population maintenance will be conducted using lethal methods.

The selected alternative includes measures to respond to detection of CWD. 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, will be accelerated to achieve the target deer density more quickly. If use of a reproductive control agent is already being implemented, then the park will return to lethal removal actions. Lethal removal actions will continue 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, if an appropriate reproductive control agent is available, the park will reinstitute 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 will 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.

Threshold for Taking Action

The point at which action will be needed is called the “threshold for taking action” or “action threshold.” Forest regeneration has been selected as the primary measure of plan success, therefore tree seedlings will be monitored to determine at what point the browsing impacts will warrant implementation of the management actions contained in the selected alternative.

Herbaceous cover also will be monitored but not used initially as an action threshold. After data exist to aid in determining how and which herbaceous indicators should be used, herbaceous cover could be added as an action threshold through adaptive management, referenced below and described within the selected alternative.

The appropriate action threshold for tree regeneration at Valley Forge NHP is based on available research on forest regeneration and the regeneration standard adopted by the Pennsylvania Regeneration Study. This study is a component of the Forest Inventory and Analysis Program being implemented nationwide by the U.S. Forest Service. Monitoring to determine when the threshold has been reached will be conducted in 28 forest vegetation plots, each containing twelve 1-square-meter quadrats. Acceptable tree seedling recruitment levels occur when at least 70% of the forest plots (20 of 28 plots) have 24 seedlings or more in their twelve 1-square-meter quadrats, equivalent to 8,079 tree seedlings per acre.

Threshold for CWD Response

Response to a confirmed case of CWD is defined by the distance of the confirmed case from the park boundary and location of the park relative to a state-established CWD containment zone. Three implementation zones have been established reflecting appropriate thresholds for increasing CWD response. CWD response actions associated with each implementation zone will only occur within the park boundary. The three CWD response thresholds for the park are: (1) closest confirmed case of CWD

is greater than 60 miles from the park boundary (Implementation Zone 3); (2) closest confirmed case of CWD is less than or equal to 60 miles but more than 5 miles from the park boundary and the park is not within a state-established CWD containment zone (Implementation Zone 2); (3) closest confirmed case of CWD is less than or equal to 5 miles from the park boundary or the park fell within a state-established CWD containment zone (Implementation Zone 1). CWD response includes disease surveillance (detection) actions, actions to assess disease prevalence and distribution, actions to minimize the likelihood of spread to surrounding communities and amplification within local deer populations, and actions to promote elimination of CWD, if possible.

Initial Deer Density Goal

The deer density goal at Valley Forge NHP refers to an appropriate density of deer that will allow for natural forest regeneration. The selected alternative establishes a range of 31 to 35 deer per square mile as the initial deer density goal. This deer density is consistent with the density range reported in the scientific literature as necessary for adequate tree regeneration and reflects the documented deer density at the park in 1983, when habitat was considered in good condition. Up to four years will be required to reach this goal given the limited accessibility of some areas and increased difficulty in locating deer as the population size decreases.

Several factors could influence the number of years to reach the initial deer density goal. As the deer population decreases through successful reduction efforts, deer might become adapted to the sharpshooting operations and become more evasive, increasing the effort necessary to reach the target number of removals in any year. Existing reproductive and mortality rates might differ from the estimate documented in the plan/EIS. If reproductive rates are higher and mortality lower than estimated, the rate of population growth will be higher and more deer will need to be removed. This also may result in an increase in time required to achieve the initial deer density goal. Conversely, lower reproductive rate and higher mortality than estimated in the plan would result in fewer deer being removed and a potential decrease in the time required to achieve the deer density goal. Adaptive management will be used to determine annual removal goals.

Adaptive Management

Adaptive management is a systematic approach for dealing with uncertainty inherent in natural systems in order to improve resource management by learning from management outcomes. An adaptive management strategy will be implemented to better manage based on the uncertainty concerning the impacts the change in deer population densities will have on vegetation recovery. The management actions described in the selected alternative will be followed by monitoring to evaluate the results of the action. By using an adaptive management approach, park managers will be able to change the timing or intensity of management treatments to better meet the goals of the plan as new information is obtained.

The number of deer to be removed annually will be adjusted based on the results of the previous year's removal effort, monitoring of forest regeneration and deer population size, and estimates of population growth. When a management action is first triggered, the number of deer targeted for removal will be defined by the difference between the existing deer density and the initial deer density goal selected. Using this example, if the existing deer density is 241 deer per square mile, then between 206 and 210 deer per square mile will be removed. However, because this density goal may not be achieved in one year, annual removal goals will be revised based on the number of deer remaining in the herd after each year's removal efforts and factoring in annual estimated population growth. This process of determining the number of deer to be removed will continue until the initial deer density goal is achieved or the target level of tree regeneration is reached.

Because the goal is to manage for successful forest regeneration within the park and not for deer density, the results of removal would be documented annually through monitoring of forest regeneration so that the number of deer to be removed could be adjusted based on the response of the vegetation to a lower deer density. If monitoring indicated that vegetation was not regenerating, management actions would be adjusted.

Methods

Sharpshooting

Qualified federal employees or contractors with demonstrated expertise and training in the implementation of successful wildlife reduction/deer management actions including firearms handling, storage, and proficiency, lethal removal techniques, and wildlife capture and handling will be used to implement this action. Volunteers may participate in actions that do not involve the use of firearms with the appropriate training (e.g. closing of park roadways, deer processing, wildlife capture).

Sharpshooting will primarily occur at night (between dusk and dawn) when the park is closed and during late fall and winter months when deer are more visible and few visitors are in the park. In some restricted areas, sharpshooting may be done during the day if needed, which could maximize effectiveness and minimize the length of time visitors experience restrictions. In this case, the areas will be closed to park visitors. The public will be notified of any park closures in advance, exhibits related to deer management will be displayed at the Welcome Center, and information will be posted on the park's website to inform the public of deer management actions.

Sharpshooting actions will occur from elevated positions (e.g., tree stands) or in clearly marked, high clearance vehicles on park-owned roadways, trails, or other areas as appropriate. Sharpshooting will be conducted using high-power, small caliber rifles from close range. Noise suppression devices and night vision equipment will be used to reduce disturbance to the public and park neighbors and promote safety. Spotlights also may be used during night operations. NPS personnel will patrol public areas to ensure compliance with park closures and public safety measures. Activities will be conducted in compliance with all federal firearm laws administered by the Bureau of Alcohol, Tobacco, Firearms, and Explosives. Additionally, every effort will be made to ensure humane treatment of individual deer. Deer injured during the operation will be euthanized as quickly as possible to minimize suffering.

Bait stations will be used to attract deer to safe removal locations and will consist of small grains, apples, hay, or other food placed on the ground. The stations will be placed in park-approved locations, away from public use areas, to maximize the efficiency and safety of the reduction program. The amount of bait placed in any one location could range from 20 to 100 pounds, depending on the bait used and the number of deer in the immediate area.

Qualified federal employees or contractors will be expected to work with park staff to coordinate all details related to sharpshooting actions, including establishment of appropriate safety measures, setting up bait stations, locating deer, sharpshooting, and preparation of carcasses for disposal/donation. NPS Public Health Program guidance pertaining to the donation of meat will be followed. As long as CWD is more than 60 miles from the park boundary, all carcasses will be processed and donated to local food pantries, etc. for the purposes of human consumption.

Gender Preference

Focus on female deer or does is necessary to stabilize or reduce populations. However, due to the size of the deer population, during the first two years of sharpshooting, both female and male deer across age classes will be removed based on opportunity. Thereafter, at least 15 does should be taken for every 10 bucks. There will be a preference for removing does because this will reduce the population level more efficiently over the long term. Buck-only removal will not control population growth.

Records will be kept on the age and gender of all deer removed from the park to aid in defining the local population composition. This information will be compared with data used in population models to improve model accuracy.

Capture and Euthanasia

Because capture and euthanasia will typically result in increased stress levels in captured deer compared to sharpshooting, this method of population control will only be used in select situations where sharpshooting is not appropriate due to safety or security concerns, such as within close proximity to an occupied building. This is expected to be used for 1% or less of the total number of deer removed. The preferred technique for this method will be for qualified federal employees or contractors to trap deer, approach them on foot, and euthanize them. Activities will occur at night (between dusk and dawn) when the park is closed and during late fall and winter months when there are few visitors in the park.

Deer will be captured with traps and euthanized as humanely as possible. Euthanasia methods could include a combination of penetrating captive bolt gun and potassium chloride, firearm technique, or other humane technique. Several methods of wildlife trapping could be used, including but not limited to box traps. Most trapping methods involve using bait to attract deer to a specific area or trap. Box traps involve a confined space that will safely hold the deer so that staff could approach it. The method of capture will be selected based on the specific circumstances (location, number of deer, accessibility, and reasons why sharpshooting was not advised) for each deer to be removed.

Deer also could be immobilized by darting with a tranquilizer gun. This method could be used in cases where deer had not been successfully attracted to a trap area. Similarly, if for some reason the penetrating captive bolt gun or firearm technique could not be used to euthanize a trapped animal, injecting a lethal dose of a drug (under supervision of a veterinarian or trained and certified NPS park practitioner) could be used. However, when chemicals are used for either immobilization or for euthanasia, the meat from that animal may not be donated as food. If this is the case, the carcasses will be disposed of at a local landfill. In limited situations where access to the carcass will be difficult or not in a highly visible area, surface disposal may be acceptable. In these circumstances, every effort will be made to reduce the visibility of the carcass by visitors or park neighbors.

Qualified federal employees or contractors trained in wildlife capture and immobilization including the use of penetrating captive bolt guns, firearms, and/or tranquilizer guns will perform these actions. Training will include safety measures to protect both visitors and NPS employees. Federal employees or contractors also will be qualified to handle live deer in order to prevent disease transmission and prevent any harm to an animal or an employee. Appropriate safety measures will be followed when setting traps.

The number of deer removed by capture and euthanasia will be recorded, including the age and sex, location of removal, circumstance requiring capture and euthanasia, and lethal method used.

Reproductive Control of Does

The current status of research related to chemical reproductive technologies (e.g. immunocontraceptives, non-immunological methods) provides results that are highly variable related to key elements such as contraceptive efficacy and duration of contraceptive effect. There are also logistical issues related to the administration of these drugs that can have implications related to the success of implementation and sustainability of a reproductive control programs. Therefore, only when the following criteria are met will reproductive control of does be implemented to maintain the lowered deer population level after lethal methods have reduced the overall deer population size to the initial deer density goal. Currently, an agent that fully meets these criteria is not available.

- (1) It would have multiple-year efficacy (3-5 years at 85-100% efficacy) to minimize the cost and labor required to administer the drug to a large number of deer every year.
- (2) It would be able to be delivered remotely (darting) to avoid capturing the animal and to increase the efficiency of distribution.
- (3) It would not leave hormonal residue in the meat which would prevent the meat from being used for human consumption. Successful achievement of this criterion would be represented by either U.S. Food and Drug Administration or Environmental Protection Agency regulatory approval, including product labeling.
- (4) It would have limited behavioral impacts on the deer population.

To effectively reduce population size, treatment with a reproductive control agent must decrease the reproductive rate to less than the mortality rate. Based on research on reproductive controls in free-ranging deer populations, it will be necessary to treat at least 90% of the does annually in order to halt population growth and maintain the deer population at the desired density.

Reproductive control will be initiated when the park's deer density goal is achieved. At the density goal of 31-35 deer per square mile, the park's total deer population will be an estimated 165-186 animals. Assuming that the sex ratio composition of the reduced deer population is approximately 50:50, there will be a maximum of 93 does in the population. The majority of the does (90% or 84 does) will need to be treated to maintain the population at the desired density. Experience with capture and tagging at Valley Forge NHP suggests that it requires approximately 4.6 hours to dart, treat, and release a single deer. Therefore, it is estimated that up to four deer per day will be treated (taking an estimated 21 days). The population will continue to be monitored for growth. If the deer population increased during the reproductive control application under this alternative, periodic lethal reduction will be initiated to maintain the population density at the identified goal.

Initial treatment will include the need to anesthetize and permanently mark individual deer to facilitate identification of which does have been treated, assess the success of reproductive control, and identify individuals for re-treatment. Depending on the reproductive control agent to be used, treated does will be marked for non-consumption. This can be accomplished using ear tags stating "Not for Human Consumption." However, previous experience at Valley Forge NHP indicates that a large proportion of ear tags can be accidentally pulled out. Therefore the park will use both ear tags and vinyl collars. With the ear tag/vinyl collar technique, each doe must be captured and handled at least once initially. Subsequent years may require less time for each deer as they will already be tagged and will only require additional fertility treatments administered using a remote delivery mechanism.

Telemetry darting will be the primary capture method used for the purposes of this plan. With this method, a tranquilizer is fitted with a radio transmitter, which allows the animal and the dart to be located after the tranquilizer has taken effect. The dart is then recovered, the doe marked, the reproductive control agent administered, and the doe released. Some handling-related mortality can occur under this method,

due to tranquilizer use and stress on the doe; however, no more than 5% mortality is expected based on previous studies. Remote delivery of the reproductive control agent in subsequent years (booster shots) will reduce stress to the deer related to capture and handling and minimize safety risks for federal employees/contractors.

Bait piles will be used as appropriate to concentrate does in certain locations so that the darting can be done as efficiently as possible. As many does as possible will be treated daily until 90% of the does have been treated. The areas targeted for treatment will be chosen based on maximizing deer presence and accessibility, while minimizing visitor inconvenience. The timing of fertility control treatments will be dictated by the reproductive control agent selected. Treatment actions will be conducted during off-peak visitor hours (dusk to dawn) and weekdays to minimize inconvenience to visitors to the extent possible.

CWD Response Plan

Under the selected alternative, Valley Forge NHP will continue the current CWD response actions, which includes opportunistic surveillance as long as the closest confirmed case of CWD is greater than 60 miles from the park boundary (Implementation Zone 3). If a case of CWD were confirmed within 60 miles of the park boundary but greater than 5 miles outside the park boundary and the park did not fall within a state-established CWD containment zone (Implementation Zone 2), the park would continue to implement opportunistic surveillance and also will implement targeted surveillance. Actions will be coordinated with the PGC CWD program.

If CWD is documented within 5 miles of the park boundary, or the park falls within a state-established CWD containment zone (Implementation Zone 1) then enhanced targeted surveillance and active lethal surveillance (lethal removal of deer for the purposes of assessing disease presence, prevalence, and distribution) also will be implemented. Active lethal surveillance actions may minimize the likelihood of CWD becoming established, minimize the likelihood of amplification and spread if the disease is introduced, and promote elimination of CWD, if possible. Specific actions associated with active lethal surveillance include rapid reduction of the deer population to achieve the initial target deer density (31-35 deer per square mile) and a one-time reduction in population to a density consistent with the surrounding environment, but not less than 10 deer per square mile. All actions will be closely coordinated with the PGC and the Pennsylvania Department of Agriculture due to the scale identified as necessary to address CWD (minimum 79 square miles) relative to park size (5.3 square miles).

Active lethal surveillance will allow for a more rapid reduction of the deer population to achieve the initial target deer density of 31-35 deer per square mile. It is estimated that this action will achieve the initial target deer density approximately twice as fast as population reduction will occur using lethal reduction methods. Achieving the initial target deer density more quickly will minimize the probability of amplification within local deer populations and reduce the probability of spread to other deer populations. A deer density of 31-35 deer per square mile, as established in the selected alternative, is considered appropriate as an initial target related to CWD because it is consistent with deer density in the surrounding community and therefore, is not likely to create a refuge for deer or their associated diseases. Data collected by NPS staff during the spring 2009 deer count estimated deer density outside the park boundary at 35 deer per square mile. This data also indicates an average deer density outside the park boundary of 28 deer per square mile between 2001 and 2009. Reducing the number of deer to a density far below that outside the park may increase the likelihood of potentially CWD-positive deer repopulating the park from surrounding areas.

Implementation of a one-time reduction of the deer population to not less than 10 deer per square mile would be based on the state's success in reducing deer populations within the CWD containment zone outside the park boundary. The one-time reduction action promotes the park's ability to provide CWD

response commensurate with state actions in the areas surrounding the park and to contribute to CWD management efforts at a broader scale. A deer density of 10 deer per square mile is considered appropriate as a lower limit for this action because it is consistent with recommendations in the scientific literature related to appropriate deer density to ensure adequate forest regeneration, which range from 10-40 deer per square mile.

Rapid and one-time (if appropriate) reduction of the deer population will be carried out as described under the sharpshooting and capture/euthanasia actions described above. More rapid reduction will be achieved by increasing the number of individuals or teams conducting lethal removal activities within the park. Sharpshooting activities will initially target areas closest to the positive case to ensure removal of animals that may have been in contact with CWD-positive animals and potentially decrease local prevalence of CWD. Areas where deer movements across the park boundary into surrounding communities are frequent (southeastern, southwestern, and northwestern boundaries), and areas with high concentrations of deer (central and southwestern areas) may also be targeted for removal activities to reduce the probability of spread and to promote elimination of CWD, if possible. During initial stages of active lethal surveillance efforts, both male and female adult deer will be targeted due to the increased probability of infection in older animals and the spread potential posed by males. Additional removals in years one and two will be based on available staffing and resources. This action is consistent with the level 1 response described in *Pennsylvania's Chronic Wasting Disease Response Plan*.

Disposal

As long as the closest confirmed case of CWD is more than 60 miles from the park boundary, Valley Forge NHP will continue to use a contractor to dispose of roadkill deer via landfill. All deer carcasses resulting from lethal reduction actions will be transported to a central location for temporary storage, preparation for processing (gutting, skinning), and the collection of biological data and tissue samples for CWD testing. Suitable deer will be transported on a daily basis to a butcher (potentially several meat processing facilities will be needed depending on capacity) for daily processing. The meat from these deer will be provided directly from the meat processing facility to a local food bank or food pantry for the purpose of redistribution for human consumption. In limited situations where access to the carcass is difficult or not in a highly visible area, surface disposal may be acceptable. In these circumstances, every effort will be made to reduce the visibility of the carcass by visitors or park neighbors. If for some reason, other than the occurrence of CWD, a deer is unsuitable for donation and surface disposal is excluded, then disposal will occur via landfill.

If a case of CWD is confirmed within 60 miles of the park boundary but greater than 5 miles outside the park boundary or the park falls within a state-established CWD containment zone (within Implementation Zone 2), then carcass disposal will occur in accordance with NPS Public Health Program guidelines for donation of meat from an "Area Affected by CWD". These guidelines require that those persons actually consuming the meat be fully informed and take full responsibility for any long-term unanticipated effects of eating meat from animals coming from a CWD-affected area. Donation of meat to food pantries will likely prohibit the park from being able to obtain informed consent from final consumers. If a CWD-positive deer is confirmed within 5 miles of the park boundary (within Implementation Zone 1), these guidelines clearly preclude the donation of meat to food pantries, soup kitchens, or any entity that intends to redistribute the meat for the purpose of human consumption.

Therefore, within Implementation Zones 2 and 1, disposal of carcasses will follow guidelines provided by the Pennsylvania CWD Response Plan. The Pennsylvania CWD Response Plan identifies three disposal methods appropriate for CWD-positive carcasses: landfilling, incineration, and tissue digestion. Landfilling is currently the preferred disposal method however, it is acknowledged that guidelines provided by the commonwealth's plan are considered preliminary and are expected to be more fully

developed over time. Developing science is expected to dictate the disposal of CWD-positive deer in Pennsylvania. Park staff will remain in close contact with appropriate state agencies regarding disposal of CWD-positive deer and integration of the park and state approach to carcass disposal.

Monitoring

Vegetation Monitoring

The same monitoring protocol will be used for sharpshooting and capture and euthanasia. Ongoing vegetation monitoring will continue to document any changes in forest regeneration that might result from a reduced deer population. It is expected to take up to 10 years to observe significant changes in tree regeneration after achieving the initial deer density goal. The number of deer to be removed will be evaluated annually based on the success of previous removal efforts, refinement of the park population model and projected growth of the population, and vegetation and deer monitoring results.

Monitoring data will be collected annually from a subset of plots to provide interim information on vegetation recovery. Monitoring data will be summarized every five years. Every five years after the deer density goal was reached, a full cycle of monitoring will be completed to measure the effect the reduction in the deer population has on vegetation regeneration. If the park objectives are met and forest regeneration is successful at the deer density goal, removal efforts will be maintained at the level necessary to keep the deer population at the target density. Adjustment of the initial removal goal, in either direction, could be made based on monitoring results of the park's forest regeneration or other environmental conditions.

Deer Population Monitoring

Deer population numbers will be monitored through the ongoing monitoring efforts. Fall spotlight counts will be used to document trends in population size. Spring compartment counts will be used to estimate deer population size and density and determine if deer were congregating in specific areas. In addition, basic biological information and data needed to refine the accuracy of the population model will be collected from as many deer as possible during processing of carcasses. Basic measurements will include live weight, chest girth, total body length, hind leg length, age, and sex. When possible, information related to reproductive rate (number of fetuses per doe) will be collected.

Reproductive Control of Does

The ability to achieve target levels of infertility in the deer population will require knowledge of the fertility status of individual deer that had been treated. To monitor treated animals, the park will continue its fall spotlight surveys and spring compartment surveys, at which time observations will indicate if population growth had occurred. Additional observations will be made through the collection of data from deer carcasses related to the number of fetuses present, which will indicate if reproduction occurred. Using protocols being implemented by the PGC to estimate deer reproductive rates state-wide, reproductive tracts from dead female deer will be removed and each uterus examined. The number and sex of fetuses present will be recorded. Age of fetuses will be determined based on measurement of crown-to-rump length and be used to calculate conception dates. Pregnancy rate will be defined as the percentage of does sampled that were pregnant. Reproductive rate will be defined as the average number of fetuses per doe.

CWD Response

Monitoring is an integral element of the CWD response strategy, as summarized in the surveillance actions (opportunistic, targeted, enhanced targeted, and active lethal surveillance) and associated implementation zones above and described in the selected alternative. CWD monitoring will be conducted as long as the risk of CWD is evident.

Mitigation Measures

In addition to those measures noted above in the selected action and monitoring activities, a number of mitigation measures will be implemented as part of the selected alternative to ensure protection of park resources and reduce the risk of injury to employees, park visitors, and adjacent landowners during implementation of population reduction and maintenance activities. These actions include:

- Fencing will be maintained around small areas that contain sensitive vegetation or in areas where management actions involving vegetation require fencing for successful establishment and/or maintenance.
- Sharpshooting activities will be conducted during periods of low visitation and while the park is closed (night); in compliance with all federal firearm laws administered by the Bureau of Alcohol, Tobacco, Firearms, and Explosives; prohibited within 300 feet of any open roadway or building; and conducted from an elevated position (e.g. tree stand) when possible.
- When necessary, areas of the park will be closed when lethal reduction or reproductive control activities are being conducted. The public will be notified of any park closures in advance and information will be provided to inform the public of deer management actions taking place in the park. NPS personnel will patrol public areas to ensure compliance with park closures and public safety measures.
- Bait may be used to attract deer to safe removal/darting locations that will be approved by NPS personnel and located away from public use areas.
- Capture and euthanasia will only be used in select situations due to the potential for increased stress to animals during this activity.
- Does treated with a reproductive control agent will be appropriately marked and/or tagged to facilitate identification of treated individuals and prevent human consumption if necessary.
- Darts fitted with a radio transmitter will be used during initial treatment with a reproductive control agent to facilitate dart recovery.
- Reproductive control activities will be supervised by a qualified veterinarian.
- If a confirmed case of CWD is documented within five miles of the park boundary or the park falls within a state established CWD-containment zone additional measures will be taken to prevent disease transmission and environmental contamination. These measures include eliminating the use of bait to concentrate deer, temporary storage of carcasses and handling of deer on plastic tarps or other impervious surface, elimination of surface disposal as a carcass disposal method, and gutting and removing deer carcasses (obtained through lethal actions or other circumstances) from the landscape immediately. Additionally, if reproductive control was already being implemented, then the park would return to lethal removal actions to maintain the deer population until CWD monitoring revealed no additional CWD-positive deer.

OTHER ALTERNATIVES CONSIDERED

Alternative A: No-action

The 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. 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. 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 enhanced surveillance actions would include using live testing (via tonsillar biopsy) of deer and removal of 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 direct reduction of the deer population and maintenance at an appropriate deer density. Population reduction and maintenance would be implemented through sharpshooting and capture and euthanasia of individual deer in certain circumstances where sharpshooting would not be appropriate.

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 to assess disease presence, prevalence, and distribution and to promote elimination of CWD, if possible. Lethal reduction actions already being taken 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 based on the state's success in reducing deer populations within the containment zone outside the park boundary.

BASIS FOR DECISION

To identify the selected alternative, the planning team ranked each alternative based on: 1) the ability to meet the individual plan objectives; and 2) the potential impacts on the environment. The rankings were added up to determine which alternative best met the objectives. Alternatives C and D were closely ranked in their ability to meet all of the objectives. The NPS also considered the safety of implementing each alternative in identifying the selected alternative. Under Alternative D, the time that shooting would occur in the park would be less than under Alternative C. Because Alternative D maintains the efficiency of Alternative C in meeting the plan objectives and further improves safety by reducing the time that sharpshooting activities would occur in the park, Alternative D has been selected for implementation.

Alternative B only partially meets each of the objectives because of the lack of immediate reduction in deer numbers and the uncertainty that the deer density goal would be achieved even over an extended period of time.

Alternative A fails to meet the objectives, since no action would be taken to reduce deer numbers or effect a change in conditions that are the basis of the purpose of and need for this plan.

FINDINGS ON IMPAIRMENT OF PARK RESOURCES AND VALUES

As stated in *NPS Management Policies 2006* section 1.4.7:

“Before approving a proposed action that could lead to an impairment of park resources and values, an NPS decisionmaker must consider the impacts of the proposed action and determine, in writing, that the activity will not lead to an impairment of park resources and values. If there would be an impairment, the action must not be approved.”

As stated in the *NPS Management Policies 2006* section 1.4.5:

“The impairment that is prohibited...is an impact that, in the professional judgment of the responsible National Park Service manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values...”

An impact to any park resource or value may, but does not necessarily, constitute an impairment. An impact would be more likely to constitute impairment to the extent that it affects a resource or value whose conservation is:

- 1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park, or
- 2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or
- 3) identified as a goal in the park’s general management plan or other relevant NPS planning documents as being of significance.”

The NPS has determined that implementation of the selected alternative will not result in impairment of park resources and values at Valley Forge NHP. In reaching this determination, the plan/EIS was reviewed to reaffirm the park’s purpose and significance, resource values, and resource management goals and desired future conditions. Based on a thorough analysis of the environmental impacts described in the plan/EIS, the public comments received, and the application of the provisions of the *NPS Management Policies 2006*, the NPS concluded that the implementation of the selected alternative will

not result in impairment of any of the resources and values of Valley Forge NHP. Although the selected alternative entails reducing the number of deer, a deer population will be maintained as a resource of Valley Forge NHP. The target population of 31 to 35 deer per square mile is sustainable in that it will maintain a deer population while reducing deer browsing pressure to a level that will allow for the protection and restoration of native plant communities and regeneration of forest, and preserve the pattern of field and forest that are an important component of the cultural landscape, as described in the park's General Management Plan.

CONSISTENCY WITH SECTION 101(b) OF THE NATIONAL ENVIRONMENTAL POLICY ACT

The National Environmental Policy Act requires an analysis of how each alternative meets or achieves the purposes of the act, as stated in Section 101(b). Each alternative analyzed in a NEPA document must be assessed as to how it meets the following purposes:

- 1) Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
- 2) Assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings;
- 3) Attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences;
- 4) Preserve important historic, cultural, and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice;
- 5) Achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities; and
- 6) Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

How well the proposed alternatives meet each of the six purposes above is discussed below.

Alternative A: No-action

Alternative A would meet the purpose of NEPA to some extent because limited protection of certain rare species and habitats would be continued. However, this alternative would not fulfill the responsibilities of each generation as the trustee of the environment for succeeding generations and preserving important aspects of our national heritage (criteria 1 and 4), because damage to forest vegetation, rare species, historic structures, and archeological resources would continue as a result of excessive browsing by high numbers of deer. The expected long-term, adverse impacts to resources would not ensure healthful, productive, or aesthetically pleasing surroundings (criterion 2). The park would continue to attain a wide array of beneficial uses (criterion 3), although there would be continued degradation of natural and cultural resources. There would be an adverse impact on resources by allowing excessive deer browsing, which would not do anything to maintain a balance between population and resources (criterion 5). Alternative A would not enhance the quality of renewable forest resources (criterion 6).

Alternative B: Combined Nonlethal Actions

This alternative would meet some of the criteria within the life of the plan, primarily in the latter years, as fencing and reproductive controls took effect. Members of the planning team noted that the fencing would protect part of the environment. However, it would provide only limited direct protection for forest

resources (only 10-15% of the forested area of the park would be protected by exclosures over the life of the plan). This alternative would also rely heavily on a technology (reproductive control) that might not be successfully implemented for a large free-ranging deer population.

Members of the planning team believed that the gradual progress this alternative provides would meet some but not all of the criteria. In particular, the lack of protection for a large percentage of the park, and the time it would take for any reproductive control to be effective, would mean that succeeding generations might not see desired results for some time (criterion 1), and probably not within the 15-year life of this plan. The large-scale exclosures would detract from aesthetically pleasing surroundings (criterion 2). The installation and movement of fencing could result in damage and loss of resources (e.g., archeological resources) and this alternative would rely on technology (chemical reproductive agents) that has not been proven in large, free-ranging deer populations as a population management tool, both potentially leading to undesirable consequences (criterion 3). The rotational fencing would limit the choices available to the public as fenced areas would be inaccessible to the public (criterion 4). This alternative would minimally help by maintaining a balance between population and resources by reducing adverse browsing impacts (criterion 5). The limited history of reproductive control success in a large, free-ranging population such as the park's and the limits on how much forest vegetation can be included in exclosures means that it would not be possible to completely approach the maximum attainable recycling of resources (criterion 6).

Alternative C: Combined Lethal Actions

Alternative C would succeed to some extent in meeting all of the criteria within the life of the plan. By immediately reducing deer browsing pressure, the alternative would allow vegetation in the park to regenerate for the benefit and enjoyment of future generations (criterion 1). The planning team noted that the immediate reduction in the deer population and subsequent improvements in the natural environment provided a great deal of benefit. There would be some safety concerns associated with implementing Alternative C. By implementing proper controls, however, these concerns could be minimized. The result would be safer conditions on local roads and more aesthetically pleasing conditions throughout the park (criterion 2). Alternative C would require closures of some areas of the park during reduction activities during the life of the plan, which would limit their use by visitors. However, these closures would occur at times and places that were not high visitation periods and primarily at night when the park is closed. This alternative also would avoid undesirable consequences (e.g., behavioral changes from reproductive controls) and maximize forest regeneration by immediately reducing deer browsing (criterion 3). The closures within the park would limit individual choice, but only for limited periods of time. These closures would allow for the reduction of the deer population, which would protect the park's natural and cultural resources and provide greater choices in the future (criterion 4). This alternative would help to achieve a balance between population and the surrounding park resources by allowing for regeneration to occur at a higher rate than is currently occurring (criterion 5). Finally, by immediately reducing the deer browsing pressure and promoting forest regeneration, this alternative would enhance the quality of renewable resources (criterion 6).

Alternative D: Combined Lethal Actions and Reproductive Control

Alternative D is similar to Alternative C in the extent to which it would meet the intent of NEPA. The evaluation of these alternatives by the planning team showed that both would fulfill the responsibilities of each generation as a trustee of the environment for succeeding generations (criterion 1) to a large degree, because both would immediately reduce deer numbers and sustain that reduction through maintenance actions. As with Alternative C, Alternative D also would result in safer conditions on local roads and more aesthetically pleasing conditions throughout the park (criterion 2). As with Alternative B, Alternative D involves some concern about unintended consequences (criterion 3), because it would rely

on technology that has not been proven in large, free-ranging deer populations as a maintenance tool. Although the planning team recognized the uncertainties associated with reproductive control agents, it was recognized that the science associated with this technology is developing rapidly and would provide additional information in the near future. Any safety concerns would be reduced through proper safety controls. As with Alternative C, Alternative D would also preserve important historic, cultural, and natural aspects of our national heritage in the long term (criterion 4). Alternative D would help to achieve a balance between population and the surrounding park resources by allowing for regeneration to occur at a higher rate than is currently occurring. Finally, although through a different manner than Alternative C, Alternative D would approach the maximum attainable regeneration of depletable resources (i.e., forest vegetation) by reducing and maintaining the deer population density (criterion 6).

ENVIRONMENTALLY PREFERRED ALTERNATIVE

The NPS is required to identify the environmentally preferred alternative in its NEPA documents for public review and comment. Guidance from the CEQ states that the environmentally preferred alternative means it is “the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources” (CEQ 1981). Alternative C has been selected as the environmentally preferred alternative because it is the alternative that would best protect the biological and physical environment by ensuring an immediate reduction in deer population numbers that could be sustained with proven methods over the 15-year life of the plan. Alternatives C and D would best protect, preserve, and enhance the historic, cultural, and natural processes that support the park’s cultural landscape and forest through various management options to maintain low deer numbers. Although Alternatives C and D are very close in meeting the goal that identifies the environmentally preferred alternative, Alternative C was selected primarily because it provides the park with the ability to select the least environmentally damaging option. Alternative A was not considered environmentally preferred because of its lack of effect on deer population numbers, which would result in potential adverse impacts on the biological and physical resources of the park over the life of the plan. Alternative B was not considered as the environmentally preferred because of the length of time required before deer numbers would be reduced, thus continuing the adverse impact of deer browse on vegetation within the park. Also, Alternatives B and D include the introduction of a chemical agent within the white-tailed deer population to reduce population size. Although this would be beneficial to the vegetation and other resources currently impacted by the deer population, the introduction of a chemical agent into the herd could have adverse impacts.

PUBLIC AND AGENCY INVOLVEMENT

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 was 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 helped the NPS gain important guidance in developing alternatives for the plan/EIS.

Scoping

The NPS divides the scoping process into two parts: internal scoping and external or public scoping. Internal scoping involves discussions among NPS personnel regarding the purpose of and need for management actions, issues, management alternatives, mitigation measures, the analysis boundary,

appropriate levels of documentation, available references and guidance, and other related topics. Internal scoping also includes early contact with federal, state, and local agencies; and Indian tribes with jurisdiction by law or special expertise over some aspect of the proposed action.

Public scoping is the early involvement of the interested and affected public in the environmental analysis process. This helps to ensure that people have an opportunity to comment and contribute early in the decision-making process. For this plan/EIS, project information was distributed to individuals, agencies, and organizations at the initiation of the scoping process, and people were given opportunities to express concerns or views and to identify important issues or suggest other alternatives. The following sections describe the various ways scoping was conducted for this plan/EIS.

Internal Scoping

An internal scoping meeting was held on September 12 and 13, 2006 to discuss 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 discussed. The results of the meeting were captured in an Internal Scoping Report, which is on file as part of the administrative record for the plan/EIS. Internal scoping meetings also were held to further develop alternative management strategies and review the draft documents prior to public release.

For many years, Valley Forge NHP staff has coordinated with technical experts and researchers to develop and use methods and protocols for monitoring white-tailed deer population size and forest regeneration within the park. A number of the same scientists and technical experts were invited to become part of the science teams that provided technical background information and researched references during preparation of the deer management plan. The team participants were limited to persons with scientific background in deer management and research, vegetation management and monitoring, and CWD; NPS staff; and others who have background experience with the park or park ecosystems.

The purpose of the science team discussions was to provide a technical framework for the development of alternatives for the deer management plan and the CWD response plan. The first team focused on the deer management plan and convened via conference calls, meeting five times over a three-month period (January-March, 2007). The topics of discussion included existing conditions at the park, existing data and monitoring, desired forest composition, population goals for deer, approach to establishing action thresholds and indicator species, and logistics required for various management methods. Following the science team's final meeting, an internal report was prepared to document the group's discussions and recommendations. 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. The group participated in several phone meetings in June 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*. A summary memorandum was prepared to document the results of the group's discussions and recommendations. This memorandum was used to inform the CWD Response Plan for Valley Forge NHP.

Public Scoping

Since the beginning of the planning process for the plan/EIS, the NPS has reached out to stakeholders including the general public, interested individuals, local governments, organizations, and agencies having jurisdiction by law or expertise for assistance in determining the scope of the plan. At different

points in the development of the plan/EIS, the NPS provided information and updates via newsletters, news releases, public meetings, the park website, and briefings. A Notice of Intent to prepare an EIS was published in the *Federal Register* on September 7, 2006, initiating a 90-day public scoping period between September 7, 2006 and December 8, 2006.

Two public scoping meetings were held to facilitate the public involvement process early in the planning stage and to obtain community feedback on the initial concepts for deer management at Valley Forge NHP. The first meeting was held on November 8, 2006 at the park's Education Center in King of Prussia, Pennsylvania. On November 9, 2006 a second meeting was held at the Tredyffrin Township Building. The public scoping meetings were advertised through a mass mailing of the public scoping brochure to over 4,000 individuals. They were also announced on the park's web site, posted on park kiosks, announced through press releases and newspapers, as well as postings at public libraries. A total of 153 meeting attendees signed in during the two meetings. During the comment period, 165 pieces of correspondence were received, with 365 comments. Correspondence was received by one of the following methods: e-mail, hard copy letter via mail, or entered into the NPS's web-based Planning, Environment and Public Comment (PEPC) system. Approximately 44% of the comments received related to the objectives in taking action, public hunting, lethal reduction with firearms by professionals, reproductive control, and new alternatives or elements. These comments were summarized in a Public Comment Analysis Report which was provided for public review on the park web site (<http://www.nps.gov/vafo>) and the PEPC web site (<http://parkplanning.nps.gov/vafo>).

Public Review and Comment

A Notice of Availability of the Draft plan/EIS for Valley Forge NHP was published in the *Federal Register* on December 19, 2008. The Draft plan/EIS was available for a 60-day public and agency review from December 19, 2008 through February 17, 2009. Copies of the document were distributed to individuals, agencies, organizations, and local libraries. Public meetings were held January 14-15, 2009 in the same locations and format as the previous meetings. During the 2009 meetings, the NPS presented the alternatives analyzed in the Draft plan/EIS and identified the preferred alternative. Attendees were then divided into small groups where they discussed the proposed alternatives 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.

A total of 83 meeting attendees signed in during the two meetings. Attendees could fill out the forms and submit them at the meeting or mail them to the park at any time during the public comment period, which ended February 17, 2009. During the comment period, 1,168 pieces of correspondence were received. Correspondence was received by one of the following methods: email, hard copy letter via mail, comment sheet submitted at the public meetings, recorded on flipcharts during the public meetings, or entered directly into the web-based PEPC system. Letters received by email or through the postal mail, as well as the comments received from the public meetings, were entered into the PEPC system for analysis. Each of these letters or submissions is referred to as correspondence.

Once all the correspondence was entered into PEPC, each was read, and specific comments within each correspondence were identified. A total of 3,884 comments were derived from the correspondence received. Approximately 46% of the comments received related to general lethal reduction, objectives in taking action, and the preferred combined lethal and nonlethal alternative. The majority of these comments were nonsubstantive. Comments in support of Alternative D: Combined Lethal and Nonlethal Actions were the second most common comment, representing over 12% of the total comments made. Comments received on the Draft plan/EIS resulted in only minor factual changes to the text. In addition, Appendix E: Review of White-tailed Deer Reproductive Control was updated with current literature,

expert review and comments, and more detailed explanation of criteria for an acceptable chemical reproductive control agent. Associated sections of the Final plan/EIS were updated to reflect changes to Appendix E. A summary of public comments and NPS responses is contained in Appendix F of the Final plan/EIS.

A Notice of Availability of the Final plan/EIS was published in the *Federal Register* on August 28, 2009. The 30-day no-action period ended on September 28, 2009.

Agency Consultation and Coordination

Throughout the development of the plan, the park consulted with state and federal agencies, either informally or as required by law. The details of the consultation and coordination efforts are summarized below.

Pennsylvania Game Commission

The movements and impacts of white-tailed deer extend beyond the park boundaries; therefore, throughout the planning process the park coordinated closely with the Pennsylvania Game Commission, the agency responsible for managing the state's white-tailed deer population. PGC staff served on both the general science team, as well as the CWD science team. In order to maintain consistency with state efforts, the park closely coordinated with PGC staff on development of the CWD Response Plan. Close coordination with the PGC was needed due to the scale of the area identified as necessary to address CWD (minimum of 79 square miles) relative to park size (5.3 square miles). To further these efforts, PGC staff assisted with facilitation of the public meetings held on the Draft plan/EIS. PGC staff also provided guidance related to capture and relocation of white-tailed deer and the marking of deer treated with chemical reproductive control agents that may travel beyond the park boundary.

The agency was provided with a copy of the Draft plan/EIS and submitted formal comments in an email correspondence dated February 19, 2009. In addition to editorial suggestions, comments related to the impact of deer on adjacent lands, deer-vehicle collisions, concerns with tonsillar biopsy for CWD detection, and more clearly defining the selection of Alternative D over Alternative C.

Section 7 Consultation

In a letter dated December 12, 2006, Valley Forge NHP initiated informal consultation with the U.S. Fish and Wildlife Service (USFWS) about the presence of federally listed rare, threatened, or endangered species in the vicinity of the park. The agency replied in a letter dated January 11, 2007. In the letter, the USFWS noted that the proposed project is within the range of the bog turtle (*Clemmys muhlenbergii*), but that the project scope and activities are not likely to adversely affect the species. There were no other federally listed species identified within the area.

In a letter dated December 12, 2006, Valley Forge NHP initiated consultation with the Pennsylvania Natural Heritage Program (PNHP) about the presence of state listed rare, threatened, or endangered species in the vicinity of the park. The agency replied in a letter dated April 18, 2007. The letter included a list of seven state-listed species that may occur within the project area. It also noted that several of these species were threatened by deer browse.

The park will continue to coordinate with the USFWS and PNHP to ensure that no additional species are listed prior to or during the implementation of deer management actions.

Section 106 Consultation

The NPS consulted with the Advisory Council on Historic Preservation (ACHP) and the Pennsylvania Historical and Museum Commission, Bureau for Historic Preservation (SHPO) in compliance with Section 106 of the National Historical Preservation Act of 1966, as amended (NHPA). In separate letters dated December 12, 2006, Valley Forge NHP initiated consultation with the ACHP and SHPO and made them aware of Valley Forge NHP's intention to use the NEPA documentation to comply with Section 106. In separate letters dated August 15, 2009, the park requested review and formal comment on the NPS determination of effect related to cultural landscapes, historic structures, and archeological resources as presented in the plan/EIS. In their response letter dated September 15, 2009, the ACHP indicated concurrence with the NPS determination of effect related to cultural landscapes, historic structures, and archeological resources. The SHPO did not provide a response to the consultation letter sent by the park.

Tribal Consultations

Consultation was conducted with the following tribes: Oneida Indian Nation, Oneida Nation of Wisconsin, Delaware Nation, and the Stockbridge-Munsee Community. The Oneida were present during the 1777-78 encampment of George Washington's army and maintain an oral tradition of their experiences with the soldiers. Twice a year, the Oneida visit Valley Forge NHP to present interpretive programs focused on their experiences during the encampment. The park has enjoyed a long-standing relationship with all of these tribes and will continue to include them in future park planning efforts. In separate letters, Valley Forge NHP invited tribes to provide information on any features in the park that may hold cultural or religious significance and, if so, to initiate consultation on the plan/EIS.

The Oneida Indian Nation responded in a letter dated November 27, 2006. The Oneida noted that the project did not propose to threaten any cultural or religious bonds the tribe holds with Valley Forge.

The Stockbridge-Munsee Community responded in a letter dated January 17, 2007. The tribe noted the potential for archeological sites to exist within the park that may contain human burial remains and associated funerary objects. The tribe referred the NPS to the State Archeologist and SHPO for guidance on archeological resources and surveys. The tribe requested to be notified of any unexpected archeological resource that may be discovered during the course of the project.

The Oneida Nation of Wisconsin and the Delaware Nation did not provide a response to the consultation letters sent by the park.

U.S. Environmental Protection Agency

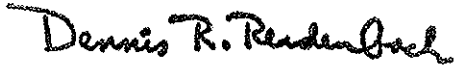
In accordance with the National Environmental Policy Act and Section 309 of the Clean Air Act, the U.S. Environmental Protection Agency reviewed the Draft and Final plan/EIS. In their response letter dated February 13, 2009, the agency rated the Draft plan/EIS as Lack of Objections (LO). In their response letter dated September 3, 2009, the agency indicated they have no objections to the proposed plan.

CONCLUSION

The selected alternative fully meets all of the plan objectives and has the most certainty of success in supporting forest regeneration and providing long-term protection, preservation, and restoration of native vegetation and other natural and cultural resources at Valley Forge NHP. The selected alternative incorporates all practical means to avoid or minimize environmental harm. In addition, none of the impacts related to the implementation of the selected alternative will affect a park's resource or value.

whose conservation is necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park; key to the national or cultural integrity of the park; or identified as a goal in the park's general management plan or other relevant NPS planning documents. Therefore, the selected alternative will not result in the impairment of park resources or values or violate the NPS Organic Act.

Approved:



Dennis R. Reidenbach
Regional Director, Northeast Region, National Park Service

10/1/09
Date