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BY ELECTRONIC AND REGULAR MAIL

Superintendent
Valley Forge National Historical Park
1400 North Outer Line Drive
King of Prussia, PA 19406

Superintendent,

On behalf of the Animal Welfare Institute (AWI), I submit the following comments on the White-Tailed Deer Management Plan, Draft Environmental Impact Statement, Valley Forge National Historical Park, Pennsylvania (73 Fed Reg 72832) (hereafter Draft EIS).

AWI is unalterably opposed to Alternative D as the National Park Service (NPS) preferred alternative for the management of deer in Valley Forge National Historical Park (VFNHP). This alternative, if selected, would result in the unnecessary, large-scale reduction in the white-tailed deer population at VFNHP ostensibly to improve forest health and regeneration, to benefit other wildlife species (including special status plant and animal species), to enhance visitor use, to protect public safety, and to improve park operations. AWI is also unalterably opposed to Alternative C.

It is no surprise that the NPS has selected Alternative D as its preferred alternative considering the blatant bias inherent throughout the Draft EIS against deer in VFNHP. Indeed, it is rather remarkable the lengths to which the NPS has gone to vilify deer and to, for all intents and purposes, blame deer for everything from colliding with vehicles to threatening the park visitors with Lyme disease.

While there is clearly a disdain for deer within those responsible for preparing the Draft EIS, the selection of Alternative D or C at the conclusion of the planning process will violate federal law. Simply put, the Draft EIS, the process used to prepare the Draft EIS, the content of the Draft EIS, and the analysis contained within the Draft EIS is not consistent with federal law. As will be discussed in greater detail throughout this comment letter the NPS has:

- predetermined the outcome of this planning process;
- failed to properly define the scope of the EIS;

- illegally segmented portions of the analysis from consideration in a single environmental document;
- completely misinterpreted its legal mandate under the Organic Act;
- failed to provide sufficient documentation to justify the killing of deer within VFNHP;
- failed to substantiate the purpose and need for the proposed action;
- failed to disclose critical information and neglected to conduct important analyses;
- provided information that demonstrates a bias against deer and/or which is entirely contradictory, or otherwise not consistent with the available evidence;
- failed to consider a reasonable range of alternatives;
- failed to provide other information or analyses as required by federal law.

Some of these deficiencies are more serious than others but all need to be rectified. It is not sufficient to attempt to correct these errors or to fill in the missing information in a Final EIS. Certain inadequacies are so serious that they can't be fixed without the NPS, at a minimum, engaging in a new environmental impact planning process that would provide a fresh, objective look at deer and vegetation management within VFNHP. Indeed, if the NPS intends to comply with federal law, particularly the National Environmental Policy Act (NEPA), it must withdraw the Draft EIS and initiate a new planning process should it remain convinced that active deer management (lethal or non-lethal) is required within VFNHP.

Based on the evidence, or lack thereof, presented in the Draft EIS, AWI is not convinced that the massive removal of deer through sharpshooting or capture and euthanasia is necessary to properly manage the VFNHP. That evidence, as presented in the Draft EIS, demonstrates that the park's deer population is decreasing in size, that the deer population is in the process of reaching an equilibrium consistent with the park's ecological carrying capacity, that the park has sustained and continues to sustain a high density deer population, that park deer occupy relatively small home ranges (suggesting higher quality habitat), that Chronic Wasting Disease is not an immediate threat to deer in VFNHP, that the NPS may not have the legal authority to eradicate the disease, that non-lethal reproductive controls can be implemented immediately, and that mitigation measures are available and would be successful in addressing the alleged threats to special status plant species.

Based on the alternatives discussed in detail in the Draft EIS, AWI supports a modified version of Alternative B which would implement non-lethal reproductive control in deer through the use of contraceptive agents as a long-term strategy to reduce the number and density of deer in the park. This is not to suggest that there are currently too many deer in VFNHP but, rather, is intended to ensure the humane management of deer while allowing the NPS to achieve its other management objectives more quickly than would

be possible if the no-action alternative were selected. The modification to this alternative that AWI believes must be made is to eliminate the proposal to test and cull CWD positive deer (See Draft EIS at 2-16). Additional discussion of CWD and evidence to support this request is included in this comment letter.

Ultimately, given the multiple legal deficiencies inherent in the Draft EIS, the NPS would be well advised to withdraw the Draft EIS, establish an advisory committee to engage in further discussions about deer management, to identify studies that should be undertaken in VFNHP, and to develop a comprehensive and effective non-lethal management plan to address many (and perhaps all) of the concerns of NPS biologists/scientists and of residents who live near VFNHP in regard to deer impacts on vegetation, forest regeneration, cultural resources, archeological resources, public safety, visitor use, special status species, and park operations. AWI would be pleased to provide a representative to serve on this committee if provided the opportunity.

As mentioned in the Draft EIS, VFNHP is not the only unit of the NPS that is grappling with the issue of deer management. Draft EIS at 1-18. Fire Island National Seashore and Gettysburg National Military Park implemented their deer management plans years ago as did Point Reyes National Park for its tule elk. Rocky Mountain National Park completed its elk management planning process in 2008. Catoctin Mountain Park recently issued its Final EIS on deer management while Rock Creek Park, Cuyahoga Valley National Park, Indiana Dunes National Lakeshore, and Theodore Roosevelt National Park are all in various stages of developing their management plans for deer or elk.

With the exception of Point Reyes National Seashore and Fire Island National Seashore where non-lethal management options (*i.e.*, immunocontraception) were selected as the preferred management option, the other parks have either elected to pursue lethal control and/or are likely leaning in that direction. This -- the use of lethal control -- is a disturbing trend within the NPS. Though there are a handful of parks where lethal control, including hunting, are permitted by statute, the NPS is supposed to be different than other federal agencies in regard to wildlife management. National parks, by law, are required to protect, not lethally persecute, wildlife within park borders.

Human interventions for the purpose of manipulating park wildlife is, by law, limited to those rare circumstances when, as explained below, wild species are detrimental to the use of the park. That is not the case in VFNHP. Instead, the NPS has completely misinterpreted its own statutory authority and policies to claim that it can act when elk, deer, or other species are too large in number and eat too much grass, browse, and or otherwise adversely impact their own environment. The concept of "natural regulation" has apparently been forgotten or ignored. The implications of this decision and the trend

toward using bullets as a management tool is of significance to the long-term management of wildlife within all national parks.

VFNHP is in a position to break this trend and to rediscover and reembrace the true intent of the NPS Organic Act, its implementing regulations, and NPS policies, which is to protect wildlife and to rely on “natural” factors to control populations. Establishing an advisory committee and directing that committee to rapidly find an effective non-lethal alternative to humanely manage the VFNHP deer population could set a precedent that could be employed in other parks when or where needed. Admittedly, such a management strategy may not involve active management (i.e., not be entirely consistent with the concept of “natural regulation”) but, as evidenced by the situation in VFNHP and the rapid development of its surrounding lands, “natural” conditions are no longer entirely relevant in VFNHP and other suburban units within the national park system. This is not justification to initiate a wide-scale deer killing program, rather it demonstrates the need for a more holistic and comprehensive non-lethal management plan.

The remainder of this comment letter will address the legal and scientific deficiencies in the Draft EIS. Considering that the Draft EIS was prepared pursuant to NEPA and, given the requirements of that law, nearly all of the deficiencies have a legal nexus. There are other deficiencies that are entirely scientific in nature and, finally, other non-substantive errors (i.e., typographical errors, contradictory information) are also identified.

As a preface to specific comments on the legal and scientific inadequacies inherent to the Draft EIS, AWI must protest the decision by the NPS not to extend the deadline for public comment on this document. AWI and The Humane Society of the United States submitted a letter, dated February 13, 2009, seeking a 30-day extension in the comment deadline. The letter provided a number of justifications for the requested extension. In its reply, also dated, February 13, the NPS denied this request claiming that the 60-day comment period is standard and because the NPS had already received over 500 public comments.

Neither of these arguments withstand even minimal scrutiny. While a 60-day comment period may be a standard that agencies rely on when seeking public participation in a Draft EIS planning process, many agencies, including the NPS, recognizing that public participation is “essential” to the NEPA process, provide additional time for the public to review, analyze, and prepare substantive comments in response to draft impact statements. Even the VFNHP has been willing to provide far more time for public comment on its previous draft planning documents. For example, it provided over 150 days for the public to submit comments on its Draft General Management Plan and EIS. GMP/EIS/RoD at 12. Yet, when asked to provide an additional 30 days for the public to comment on the Draft EIS – a document that includes a preferred action that would result

in a massive slaughter of native deer – it says no. This is yet another example of the bias of the NPS against deer.

In addition, the fact that the NPS has received over 500 public comments already on the Draft EIS is irrelevant. AWI predicts that the majority of those comments are generic, form letter and that the number of substantive comments received by the NPS is small. For these reasons, AWI again asks the NPS to consider reopening the comment period on the Draft EIS for an additional 30 days.

As a consequence of the NPS decision not to extend the comment deadline, AWI has not been able to address all of the deficiencies in the Draft EIS. Consequently, AWI reserves the right to submit supplemental comments if deemed necessary.

1. The NPS has predetermined the outcome of the NEPA process:

The Council on Environmental Quality’s NEPA implementing regulations require that “environmental information is available to public officials and citizens before decisions are made and before actions are taken.” 40 C.F.R. §1500.1(b). This requirement is to ensure that public participation in the decision-making process is meaningful by ensuring that the agency has not already made a decision and is only engaging in NEPA compliance as a make-work exercise designed to give the appearance of compliance with federal law.

In this case, while the Draft EIS is clearly biased in favor of the preferred alternative and lethal deer control, there is nothing overt in the document that would suggest that the NPS has already decided to implement lethal management. Where the NPS erred, however, is in its General Management Plan/Environmental Impact Statement (GMP/EIS) planning process. In particular, in its GMP/EIS Record of Decision completed in September 2007, the NPS selected action includes the following decision:

The park’s biological resources will be managed to promote preservation and restoration of the natural abundances, diversities, dynamics, and distributions of native plants and animals. This will be accomplished through active environmental restoration. GMP/EIS/RoD at 2 (emphasis added).

This is an affirmative decision. The NPS did not say that the biological resources “may” or “could” be managed to promote preservation and restoration of the natural abundances, diversities, dynamics, and distributions of native plants and animals. Instead, the NPS made a decision in September 2007 that those biological resources “will” be managed to achieve those objectives.

In describing the basis for its decision, the NPS provides the following explanation:

Within forested and other naturally occurring biological communities, the NPS will actively manage the park's biological resources in order to preserve and restore natural abundances, diversities, dynamics, and distributions of native plants and animals. In cases in which species populations occur in unnaturally high or low concentrations as a result of human influences or extirpations of predators, and these occurrences cause unacceptable impacts on natural resources and processes, the NPS will take action to accelerate natural recovery through biological and physical remedial actions. This includes a future vegetation management plan that will determine the best means to manage infestations of exotic invasive plants, as well as how to achieve subsequent revegetation of forests and meadows. A future deer management plan/EIS will determine the best means to manage the size of the white-tailed deer herd. GMP/EIS/RoD at 8 (emphasis added).

While the NPS may claim that the last sentence in this cited paragraph demonstrates that it has not predetermined the outcome of the Draft EIS, this claim cannot withstand even limited scrutiny. Most importantly, it is contradicted by the affirmative decision reflected in use of the word “will” in the GMP/EIS/RoD. In other words, the NPS decided that it will use physical remedial actions to manage the deer herd to “accelerate natural recovery” and to “to promote preservation and restoration of the natural abundances, diversities, dynamics, and distributions of native plants and animals.”

The Draft EIS relies on similar language in describing the NPS objectives in taking action to manage the deer population. Specifically, the NPS objectives include protecting and promoting the restoration of the “natural abundance, distribution, structure, and composition of native plant communities by reducing deer browsing” and maintaining “a white-tailed deer population within the park that allows for protection and restoration of native plant communities.” Draft EIS at 1-3. The Draft EIS, not surprisingly, concludes that Alternatives A and B will not meet these objectives since “implementation of any of the nonlethal actions alone would be insufficient to address forest regeneration and would not meet the objectives of the plan/EIS,” Draft EIS at 2-23. In other words, only Alternatives C or D can, according to the NPS, achieve the objectives delineated in the Draft EIS. This conclusion should be of no surprise since this outcome was identified and decided in the GMP/EIS/RoD.

The decision about deer management and the use of lethal deer control is not pending but, in fact, was made in September 2007. The NPS cannot argue otherwise. If the NPS selects Alternative A or B at the conclusion of this planning process, it would be violating an affirmative decision made in the GMP/EIS/RoD since, as the NPS itself concedes, Alternatives A and B cannot meet the objectives in the Draft EIS. Consequently, the

selection of Alternative A and B would not comply with the decision made during the GMP planning process.

Had the NPS referenced the Draft EIS within its GMP/EIS but not made any decisions about the management of biological resources, including deer, through that decision-making process, the Draft EIS would represent a meaningful decision-making process. However, since this is not the case, the Draft EIS is meaningless and any public comments submitted are inconsequential since the decision has already been made. Predetermining the outcome of any NEPA process, as the NPS has done here, is illegal. This blatant violation of federal law can only be rectified by withdrawing the Draft EIS, rescinding the decision in the GMP/EIS pertaining to the management of biological resources, and initiating a new, objective planning process.

2. The NPS has failed to properly define the scope of the Draft EIS:

Under NEPA “scope consists of the range of actions, alternatives, and impacts to be considered in an environmental impact statement.” 40 CFR §1508.25. To determine the scope of an EIS, agencies must consider three types of actions (connected, cumulative, and similar), alternatives, and impacts (direct, indirect, and cumulative). In this case, the three types of actions are of relevance in defining the scope of the Draft EIS but were not properly considered by the NPS.

These actions include “connected actions” which are actions that are “closely related and therefore should be discussed in the same impact statement.” 40 CFR §1508.25(a)(1). Actions are connected if they automatically trigger other actions which may require an EIS, cannot or will not proceed unless other actions are taken previously or simultaneously, and/or are interdependent parts of a larger action and depend on the larger action for their justification. *Id.* at §1508.25(a)(1)(i-iii). “Cumulative actions” are action which “when viewed with other proposed actions have cumulatively significant impacts and should therefore be discussed in the same impact statements.” *Id.* at §1508.25(a)(2). Finally, “similar actions” are those actions which “when viewed with other reasonably foreseeable or proposed agency actions, have similarities that provide a basis for evaluating their environmental consequences together.” *Id.* at §1508.25(a)(3). Agencies should analyze similar actions in the same impact statement when it is the best way to “assess adequately the combined impacts of similar actions or reasonable alternatives to such actions is to treat them in a single impact statement.” *Id.*

In this case, all three types of actions are relevant and should have been considered by the NPS when it was determining the scope of the Draft EIS. The NPS admits in the Draft EIS that transportation issues, air quality, integrated pest management, fire, nonnative invasive species, silvicultural/forest management practices, cultural resource management activities, new construction, land acquisition, activities outside the park

borders all impact, directly or indirectly, vegetation and special status plant species, white-tailed deer population, other wildlife, wildlife habitat, special status animal species, cultural landscapes, visitor use and experience, socioeconomic resources and adjacent lands, and public safety. See e.g., Draft EIS, Chapter 4.

For example, in regard to the impact of transportation corridor development impacts on park vegetation, the NPS concedes that such developments “resulted in the removal of a number of different woody and herbaceous species from various sites,” “enhanced the probability of invasive species introduction and spread through the region,” and that routine maintenance activities (i.e., mowing, pruning) also impacts vegetation. Draft EIS at 4-18.

In regard to air quality impacts on park vegetation, the NPS states that there are 17 species “sensitive to ozone” that have been identified in the park. Draft EIS at 4-18. These species are susceptible to foliar injury and high ozone levels can result in a 1-2% reduction in their growth. Id.

Activities occurring outside VFNHP have adversely impacted vegetation by reducing cover, reducing diversity of plant species, and increasing the spread of nonnative, invasive plant species. Draft EIS at 4-19.

Within the park, both climate change and inappropriate visitor use may both adversely impact the park’s vegetative communities. Climate change impacts will alter the distribution of tree species with some species expanding into the park while other tree species decline or disappear. Draft EIS at 4-19. Climate change may also increase the stress on tree species making them more vulnerable to pressure from pests, invasive species, and overbrowsing by deer according to the NPS. Id.

The creation of unauthorized “social trails” contributes to trampling impacts leading to a loss of plant cover but also soil compaction which prohibits the re-establishment of vegetation. Draft EIS at 4-19. Social trails also serve as a primary vector for the spread of nonnative plant species. Id. These are just a sampling of these issues on vegetation, deer, other wildlife, special status plant and animal species, visitor use, public safety, etc.

Some of these issues have greater impact on deer, deer habitat, and their management than others. Transportation corridor development and maintenance has direct and indirect impacts on deer including likelihood and frequency of deer-vehicle collisions. Air quality directly impacts vegetation health and productivity. Fire is of critical importance in maintaining certain forest types within and outside VFNHP. Nonnative invasive species management directly impacts deer by eliminating preferred native species and is directly affected by deer browsing activities. Silviculture/forest management activities clearly are of consequence to the management of deer particularly

in VFNHP where forest regeneration has been identified as the litmus test for triggering deer management. New construction can eliminate deer habitat forcing deer to increase their concentration in remaining habitat within VFNHP or to increase their range to include areas outside VFNHP. Finally, many activities outside of the park's borders can and will impact deer, their range, behavior, and their management.

Despite the interactions of all of these issues in regard to deer and their management, the Draft EIS is focused on deer management and the methods used to control, regulate, or otherwise manipulate the park's deer population. The NPS acknowledges that these other issues are relevant and many are addressed in the cumulative impact analysis. However, with few exceptions, the NPS has already made decisions regarding these issues (e.g., transportation corridor development, maintenance), has not made any decision regarding these issues (e.g., activities occurring outside of the park), or has indicated that such decisions are pending (e.g., vegetation management including nonnative, invasive species management, silviculture/forest management).

NPS made decisions about transportation corridor development and maintenance in its 2007 GMP/EIS. These decisions included road closures and the use of traffic calming measures (i.e., reduced speed limits, signage, road surfaces that encourage slower speeds, increased signage and signals to control traffic movements, Draft EIS at 4-4) to slow traffic in certain areas which will, among other things, affect deer-vehicle collisions. Given the concern over deer-vehicle collisions, the fact that public safety issues are one of the factors driving the NPS decision-making process in regard to deer management, and considering that transportation issues clearly qualify as connected (i.e., interdependent parts of a larger action), cumulative (i.e., have cumulative significant impacts), and similar (i.e., have similarities with other proposed agency actions) actions, the NPS should have deferred decisions regarding transportation management, particularly in regard to those specific actions that impact deer, to the Draft EIS process.

Had it done so then, in addition to the traffic calming measures that the NPS has decided to implement, it could have considered other management strategies that would have further addressed the issue of deer-vehicle collisions (i.e., additional road closures, creation of additional speed zones, use of reflectors or other technologies to frighten deer or warn motorists when approaching dangerous road sections, temporary signage to promote caution, altering vegetation planting/maintenance procedures on roadways to discourage deer use, creating deer under or overpasses). Inexplicably, though the NPS could have included such additional options in the Draft EIS, it has elected to simply defer to the decision made as part of the GMP planning process.

Of greater concern is the fact that the NPS failed to acknowledge in the Draft EIS that it has decided to prepare a vegetation management plan at some time in the future. This decision was made in 2007 as part of the NPS GMP/EIS (see GMP/EIS/RoD at 8).

Specifically, the NPS, in order to “take action to accelerate natural recovery through biological and physical remedial actions” decided to, among other things, develop in the “future” a “vegetation management plan.” GMP/EIS/RoD at 8. The vegetation management plan “will determine the best means to manage infestations of exotic invasive plants, as well as how to achieve subsequent revegetation of forests and meadows.” GMP/EIS/RoD at 8.

The failure of the NPS to disclose in the Draft EIS that it intends to prepare a vegetation management plan is particularly egregious considering that the Draft EIS establishes forest regeneration as the “primary measure of plan success.” Draft EIS at iii, 1-2, 2-1.¹ Moreover, the NPS also admits that other factors affecting forest regeneration include the forest canopy (closed/open), nonnative invasive species (Draft EIS at 1-23),² pests/disease (Draft EIS at 1-24),³ and fire (Draft EIS at 1-25),⁴ Draft EIS at iii; all elements likely to be included in a vegetation management plan.

Considering that forest regeneration, or lack thereof, is the primary measuring stick being used by the NPS to justify the proposed large-scale slaughter of deer, forest management is a critical component of deer management. Indeed, the NPS concedes that “forests at the park are even-aged and unharvested, therefore they exhibit fairly closed canopy conditions, reducing the amount of light reaching the forest floor.” Draft EIS at 2-27. This condition, the NPS explains, “may slow recovery start time and regeneration may be expected to occur more slowly and only in patches, due to the localized availability of light.” Id. It is the “amount of light reaching the forest floor (that) is the primary

¹ The NPS also plans to monitor herbaceous cover but it will not, at least initially, use herbaceous cover as an action threshold. Draft EIS at 2-1. Once data is collected on herbaceous cover, it could be added as an action threshold through adaptive management. Id. Despite this claim, the NPS is considering impact to herbaceous vegetation in assessing each of the Alternatives evaluated in the Draft EIS. See e.g., Draft EIS at 4-16, 4-17, A-7. This apparent contradiction between claiming that herbaceous cover will not be used as an action threshold and the NPS decision to judge the suitability of the offered alternatives, in part, on the impacts to herbaceous cover must be explained.

² NPS reports that the spread of nonnative plant species may impact native plant and animal communities by reducing the amount of light, water, nutrients, and available space. Draft EIS at 1-23. These changes, in turn, decrease habitat quality for native wildlife, alter hydrological patterns, soil chemistry, moisture-holding capacity, and erodibility, and may cause changes in the fire regime. Id.

³ Insect and disease problems identified that may impact forested communities in the future are: gypsy moth, hemlock wooly adelgid, emerald ash borer, elongate hemlock scale, ash yellows, and ash decline. Draft EIS at 1-24.

⁴ The NPS reports that periodic is a key factor promoting oak regeneration; it discourages insect predators of acorns, nuts, and seedlings; exposes the humus or mineral soil layers to draying, which do more harm to seedlings with less-robust root systems than oaks and hickories; improves germination conditions by consuming leaf litter and other forest floor organic matter; and kills seedling of most other tree species allowing oaks to dominate the advance regeneration pool. Draft EIS at 1-25. Fire suppression activities favor thin-barked, shade tolerant species such as red maple and it has been predicted that Dry Oak forests existing in the park today may be replaced by red maple dominated forests. Draft EIS at 1-25, 1-26.

determinant of recovery start time – which occurs when light conditions can support reestablishment and growth of free seedlings and other forest understory species.” Id.

In addition to these statements which clearly demonstrate that the NPS is well aware of the impact of forest structure (canopy structure) on forest regeneration, the NPS even concedes that if, after the large-scale deer slaughter campaign is implemented forest regeneration objectives have not been met, adjustments could be made to existing vegetation management strategies. Draft EIS at 2-47. Such adjustments could include:

... silviculture, nonnative species management, or responses to the effects of global warming. Silviculture would be used if it were determined that the existing forest structure was preventing sunlight and/or water from reaching new seedlings. If this were the case, additional actions would be taken to provide the necessary resources to promote forest regeneration, such as the creation of canopy openings. Draft EIS at 2-47.

Given these statements and recognizing that many of the forests in VFNHP are, according to the NPS, closed canopy forests, the NPS would be well advised to consider the option of selective tree removal to increase sunlight access to the forest floor to stimulate forest production. Indeed, it must consider such an option before it implements a massive deer kill as proposed or, at a minimum, those options should be considered together. That would not change the opinion of AWI in regard to its opposition to the lethal deer control proposal but it would reflect a recognition on the part of the NPS that there are an abundance of factors, not just deer, that are likely affecting forest regeneration. Indeed, though the NPS use of the impairment standard to justify its lethal deer control program is wrong, it could just as easily make an argument that the lack of active management of the park's forests are also impairing forest regeneration. Admittedly, while it is uncommon for the NPS to engage in timber harvest, it is even more unusual for the NPS to propose to slaughter thousands of deer over the lifetime of this plan to stimulate forest regeneration when its own evidence suggest that there are a variety of other factors affecting forest regeneration.

In addition, the NPS also concedes that park forests with the greatest number of long-term monitoring plots are located in the dry oak forest type and in the successional tuliptree forest type. Regeneration in such forests may be related to the periodicity of seed production by overstory trees. Draft EIS at 2-27. For example, the NPS cites to the tuliptree (yellow poplar) as an example of a tree species that has good seed crops almost annually but whose seed viability is seldom more than 5 percent. Conversely, oaks have a good seed crop at 3-5 year intervals but, bumper acorn crops occur irregularly and may be as infrequent as 10 years apart. Id. Thus, in addition to the impact of closed canopies on forest regeneration, the species of tree present, its seed production, and its seed

viability also may impact regeneration. Deer, it appears clear, are only one of many factors potentially impacting forest regeneration.

Indeed, with the exception of the apparent concern over CWD (which is addressed in detail later in this comment letter), the alleged impacts of the park's deer herd on forest regeneration, overall vegetation viability (composition, abundance, productivity, quality), and on special status plant species, are the primary issues that are driving this deer management decision. Vegetation management and deer management are, therefore, inextricably intertwined and must be considered in the same environmental document. These issues meet all of the criteria as connected, cumulative, and similar actions.

Not only did the NPS fail to properly define the scope of the Draft EIS, particularly by failing to combine deer and vegetation management decisions in the same document, but it didn't even disclose the fact that it has decided to prepare a vegetation management plan which, by definition, will include efforts to manage infestations of exotic species and to revegetate forests and meadows. As a consequence, the NPS has illegally segmented the action into smaller component parts thereby simplifying the environmental analysis. By so doing, the NPS has attempted to avoid the preparation of a comprehensive EIS evaluating both deer and vegetation management (and arguably other issues) in the same document as required by NEPA.

Independent of any other deficiencies in the Draft EIS, the only way for the NPS to rectify this illegal action is to withdraw the Draft EIS and prepare a white-tailed deer and vegetation management plan and subject said plan to analysis in a new, more comprehensive Draft EIS.

3. The NPS has misinterpreted the language and intent of the NPS Organic Act:

The NPS was created in 1916 with the promulgation of the NPS Organic Act. The Organic Act provided the following fundamental mandate to the NPS:

The service thus established shall promote and regulate the use of the Federal areas known as national parks, monuments, and reservations hereinafter specified, except such as are under the jurisdiction of the Secretary of the Army, as provided by law, by such means and measures as conform to the fundamental purpose of said parks, monuments, and reservations, which purpose is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations. 16 USC §1, Draft EIS at 1-37.

The language of the Organic Act requires the NPS to: 1) both promote and regulate the use of national parks, monuments, and reservations; 2) conserve the scenery and natural and historic objects and the wild life therein; and 3) to provide for the enjoyment of the parks, monuments and reservation but only in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.

Of particular relevance here are the second and third of these requirements. The second requirement imposes a conservation mandate on the NPS. This mandate applies to scenery, natural and historic objects, and the wild life therein. There is nothing in this second mandate that can be interpreted to allow one element (e.g., scenery) to be favored over another (e.g., wild life) in regards to conservation. Moreover, considering the “natural regulation” mandate of the NPS where nature is supposed to be permitted to regulate ecological dynamics of park unit, the mere fact that deer may be affecting forest regeneration and/or the composition, abundance, distribution, and structure of vegetation in a park is not sufficient to justify the wholesale slaughter of a particular species.

In the Draft EIS, the NPS contends that the third element, the impairment standard, is the basis for its authority to engage in a large-scale lethal deer kill within VFNHP. Draft EIS at 1-37, 4-1. This interpretation of the Organic Act is simply wrong. At best, it is a self-serving attempt to use the Organic Act’s impairment standard to justify plans such as VFNHP’s deer kill, Rocky Mountain National Park’s elk shooting program, and other actions in other parks targeting wildlife for lethal control. At worst, the NPS is intentionally manipulating the historic interpretation of the Organic Act to permit actions to occur within units of the national park system that are entirely contrary to intent of Congress when it established the NPS.

As is clearly and indisputably articulated in the Organic Act, the impairment standard is associated solely with the regulation of human use of the parks. The use of the conjunction “and” between “wild life” and the remainder of the language in Section 1 of the Organic Act separates the impairment standard and makes it applicable only to the manner and means employed by the NPS to permit humans to enjoy the parks.

The NPS interpretation of the Organic Act, as contained in the Draft EIS, is of considerable concern due to its potential adverse precedent on the management of wildlife within units of the national park system. For example, under this interpretation, the Great Smoky Mountains National Park could lethally remove black bears if they girdled so many trees that they began to impact on park’s forest landscape. Everglades National Park could initiate a lethal alligator control program if alligators became so numerous that they began to have adverse impacts on birds or turtles within the park. A park with a large goose population could engage in lethal goose control if needed to prevent the geese from defiling beaches, fields, or monuments of value to humans and other wildlife. While these examples are merely hypothetical, they demonstrate the

slippery slope that the NPS is on when it attempts to apply its impairment standard – which is only applicable to human uses/actions in parks -- to the expected and natural impacts of a native herbivore.

Deer are a native species throughout the United States and certainly within VFNHP. As a native species and a species that is a dominant herbivore within occupied range, deer are expected to browse trees and herbaceous vegetation, they may or may not stay within the boundaries of a park for their entire lives, they may be involved in deer-vehicle collisions, and they will have direct and indirect impact on their habitat and other wildlife species. To suggest that such impacts, at a particular subjective level of severity, constitute an impairment is non-sensical and it entirely contradicts the wildlife preservation mandate of the NPS.

The actual intent of the impairment standard is to ensure that those public uses of the parks allowed by the NPS will not adversely impact the natural and historic objects and wild life to the detriment of future generations. This standard, for example, is appropriately applied to oversnow motorized recreation in Yellowstone National Park, whether dogs should be permitted in the Golden Gate National Recreation Area, and whether ice fishing should be permitted in Grand Teton National Park.

Because the NPS mistakenly applies the impairment standard to deer impacts within VFNHP, its alternative-specific determinations of impairment are also incorrect. See e.g., Draft EIS, Chapter 4. In this case, the NPS relies on its policy language regarding the impairment standard. Even that language, however, makes clear that the impairment standard is applicable to public use/human actions and not the natural behaviors of native wildlife. Thus, attempting to apply its own impairment policies to assess the alternatives contained in the Draft EIS in regard to the impacts of a native ungulate on forest health, other vegetation, and potential for disease transmission is inconsistent with both the Act and NPS policies.

This is not to suggest that the NPS has no authority to remove, including through lethal means, animals and plants from parks. This authority exists in 16 USC §3 which permits the Secretary of the Interior to “provide in his discretion for the destruction of such animals and of such plant life as may be detrimental to the use of any of said parks, monuments, or reservations.” Though this language explicitly gives the Secretary of the Interior the discretion to destroy animal and plant life in parks, he can only do so when such animal and plant life is determined to be detrimental to the use of any of said parks, monuments, or reservations.

Neither the Organic Act, NPS regulations, nor NPS policies define the phrase “detrimental to the use of.” In the context of the entire Organic Act, however, it is clear that this phrase refers to human use of the parks, monuments and reservations.

Consequently, to use this authority to justify the destruction of park animals, the Secretary of the Interior must determine that the animal is detrimental to human use of the park.

It is presumably under this authority that parks justify the killing of grizzly bears who have mauled or killed a park visitor and of black bears who have become so accustomed to human food that they have become a risk to public safety. It is this authority that was presumably used by Grand Canyon National Park several years ago to lethally remove deer from the canyon who had become so accustomed to human handouts that they became a danger to public safety.

In the case of deer management at VFNHP, the NPS cannot rely on this statutory authority to implement its proposed large-scale slaughter of the park's deer herd because it has no evidence to demonstrate that the deer are adversely impacting the public's use or enjoyment of the park. If anything, the evidence provided in the Draft EIS indicates that the park's deer are actually enjoyed and favored by park visitors.

The NPS concedes that "some visitors to the park view deer sightings as an integral part of their visit" but also suggests that there are "visitors who come to the park to enjoy other resources, such as songbirds." Draft EIS at 31. Routine visitor surveys conducted by the NPS in 2006, 2007, and 2008 do not provide any evidence relevant to how visitors view the park's deer population (surveys available on the VFNHP website). Similarly, a survey conducted in 2001, the first visitor study within VFNHP in 15 years, did not provide any data (based on what was reported in the Draft EIS) relevant to the public's perceptions of the park's deer herd. Draft EIS at 3-32. Another survey conducted in 2007 was explicitly conducted to "assess the role of the park's deer population on the visitor experience." Draft EIS at 3-32. The results of that survey was summarized in the Draft EIS as follows:

Although survey respondents recognized the damage that the deer cause through overbrowsing and vehicle collisions, deer still are considered an attractive resource at the park. Many respondents noted that deer watching was one of the enjoyable activities they experienced at Valley Forge National Historical Park. Many respondents did believe that the sight of malnourished, sick, or injured deer detracted from their experience.⁵ Draft EIS at 3-31.

⁵ Considering that the NPS claims that there is no clear trend to suggest that the physical condition of the deer in VFNHP has declined, the basis for the concluding statement in this quote is unclear. Without reviewing Leong and Decker (2007) it is assumed that it was merely a question assessing public opinion about malnourished, sick, or injured deer and was not referring to the actual deer-viewing experience in VFNHP.

Additional information about the survey results are provided on page 4-69 of the Draft EIS. There, the NPS reports that approximately 50% of the respondents to the 2007 survey “believed the presence of deer at Valley Forge NHP created positive wildlife viewing opportunities, despite adverse impacts to vegetation.” Draft EIS at 4-69.⁶

Moreover, in regard to overall visitor use, the NPS’s own statistics demonstrate that visitor use of VFNHP has fluctuated with an increase from 1 million to 1.3 million visitors between 2004 and 2007, Draft EIS at 3-31, but with peak visitation reached in 1999 at 1.9 million visitors. *Id.* For 2004/2005, when comparing visitation figures for January through June during those years, park visitation increased by 29 percent. *Id.* Considering the increased development of the lands surrounding VFNHP, it is of no surprise that visitation is increasing as people take advantage of the recreational and educational opportunities available within this island habitat surrounded by development.

If the deer were damaging the landscape to the extent claimed by the NPS, if they posed an unacceptable public safety risk (*i.e.*, deer vehicle collisions, Lyme disease), or if they degraded the value of the educational experience at VFNHP, then presumably visitor numbers would have declined, not increased. Conversely, considering the relative tameness of the deer within VFNHP (*e.g.*, see picture of woman jogging on a park trail with deer grazing within feet of the trail (Draft EIS at 3-31)) many visitors may gain significant enjoyment from being able to observe deer at such close range since most of their interactions with deer outside the park (assuming they are fortunate enough to see deer outside the park) involve deer who are much more skittish of humans. Indeed, though the NPS concedes that the deer behavior may change as a result of the proposed lethal control, it fails to seriously evaluate how such behavioral changes could drastically impact the visitor experience at VFNHP.

Despite all of this evidence documenting the value of deer to park visitors, the NPS, in its assessment of the impact of Alternative A on visitor use, draws the remarkable conclusion that “an increase in deer numbers could also adversely affect the health of the herd, and if the deer population drastically declined due to disease or malnutrition, or if visitors saw ill or emaciated deer, visitor experience could be adversely affected.” Draft EIS at 4-69. What’s telling about this statement is that the NPS is predicting an adverse impact to the visitor experience if the deer population drastically declines due to disease or malnutrition but not as a consequence of the proposed lethal slaughter of deer.

Without evidence that visitor use has been adversely impacted because of the deer population and since the impairment standard cannot be legally applied to a native

⁶ Interestingly, though the NPS cited to Leong and Decker (2007) in regard to the 2007 survey results, it failed to disclose more details about the study; details that may have further demonstrated just how important deer are to the visitor experience at VFNHP.

herbivore in a national park, the NPS has no legal authority to implement the preferred alternative and slaughter a large number of deer. In fact, the NPS may not have the legal authority, regardless of any evidence documenting the detrimental impact of an animal on public use, to engage in a large-scale slaughter of a native animals. Again, if the Organic Act is read and interpreted in its entirety, the only way the “destruction of animals” authority provided in 16 USC §3 is consistent with the conservation mandate contained in 16 USC §1 is if the former was intended to be used sparingly and only against specific animals.

In addition to its inappropriate reliance on the impairment standard to justify the large-scale slaughter of deer, the NPS also claims that its management policies further substantiate its authority to engage in the lethal control of wildlife. Specifically, the NPS cites to NPS Policy 4.4.2 which requires the NPS “whenever possible” to rely on “natural processes .. to maintain native plant and animal species and (to) influence natural fluctuations in populations of these species.” Draft EIS at 1-4. The policy allows the NPS to intervene “to manage populations or individuals of native species only when such intervention will not cause unacceptable impacts to the population of the species or to other components and processes of the ecosystems that support them.” *Id.* Further restrictions imposed on the NPS by policy only allow the NPS to intervene under certain conditions including when “a population occurs in an unnaturally high or low concentration as a result of human influences and it is not possible to mitigate the effect of the human influences.” *Id.*

Given the lack of natural deer predators in VFNHP and the claim that the park and surrounding areas provide high quality deer habitat, the NPS believes, based on policy, it is permitted to engage in the lethal management of the park’s deer herd. Assuming NPS policies were limited to those cited above (and that the policies themselves were consistent with NPS statutory and regulatory authority), the NPS must prove that its intervention will not cause “unacceptable impacts to the population of the species or to other components and processes of the ecosystems that support them” and that it is unable to mitigate the “human influences” that created the unnaturally high or low population concentration.

The NPS has not proven that its proposed alternative would not result in unacceptable impacts to the deer population and/or that it won’t adversely impact any components and processes of the ecosystem that support them. Furthermore, the NPS has not proven that it can’t mitigate for the “human influences” that created the alleged overabundance of deer in VFNHP. In this case, while the NPS can’t undo the excessive development that has occurred outside of VFNHP, it can engage in mitigation measures (*i.e.*, use of rotational fencing within the park, planting of unpalatable ornamental species when needed for landscaping or commemorative purposes, acquisition of additional lands, support for conservation easements with local landowners to provide additional/improved

deer habitat, use of various non-lethal techniques to reduce deer-vehicle collisions, use of non-lethal reproductions controls, and extensive educational efforts to increase tolerance for deer both within and outside of VFNHP.

Of course, these are not the only relevant NPS Policies. Other relevant policies dictate that the NPS maintain as parts of the natural ecosystems of parks all native plants and animals. Draft EIS at 1-37. The NPS is directed to achieve this objective by “preserving and restoring the natural abundances, diversities, dynamics, distributions, habitats, and behaviors of native plant and animal populations and the communities and ecosystems in which they occur.” *Id.* Furthermore, NPS Policies specify that the NPS must “adopt park resource preservation, development, and use management strategies that are intended to maintain the natural population fluctuations and processes that influence the dynamics of individual plant and animal populations, groups of plant and animal populations, and migratory animal populations in parks.” *Id.* Admittedly, given the small size of VFNHP and the significant development surrounding the park, restoring a completely naturally functioning ecosystem may not be possible. That does not, however, provide a green light for engaging in massive manipulation of the ecosystem rather, it poses a challenge, to develop management strategies that allow natural process, fluctuations, and dynamics to function, to the fullest extent possible, given the circumstances.

4. The NPS has failed to provide a legitimate purpose and need for the action:

The NPS defines the purpose of the “this action (as) 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.” Draft EIS at cover page, 1-2, .

For this purpose to be valid there must be, in addition to the legal authority for the NPS to act, evidence that the deer population within VFNHP is damaging the native vegetation and other natural and cultural resources to such an extent that action is necessary to protect, preserve, and restore these resources by regulating, including potentially by lethal means, the park’s deer herd. The NPS has failed to meet this burden.

The need for the action is “to address declining forest regeneration and to ensure the production and restoration of native vegetation, wildlife, and the cultural landscape.” Draft EIS at iii, 1-2. This need is further defined by the increasing number of deer in the park causing unacceptable changes in the species composition; structure, abundance, and distribution of native plant communities and associated wildlife; prevention of successful forest regeneration; and an elevated risk of chronic wasting disease occurrence within the park. Draft EIS at iii, 1-2.

For this need to be valid, the NPS has to disclose sufficient evidence that forest regeneration is declining and that native vegetation, wildlife, and the cultural landscape is in need of restoration as a result of damage attributable to deer. The NPS has also failed to meet this burden.

Though the NPS has attempted to highlight the alleged adverse impacts of deer within VFNHP throughout the Draft EIS, it has failed to disclose sufficient data or to provide adequate analysis to substantiate the purpose of this action. While the NPS cites to a number of studies, many are not of deer in VFNHP. Thus, while those studies may provide information and evidence about deer impacts to forests and other resources elsewhere, it is unknown how similar those study sites are to VFNHP and whether the two sites are comparable. For those studies that involve deer in VFNHP many are more than 10 years old and may no longer accurately reflect deer biology/ecology or impacts on their habitat.

Fundamentally, the NPS fails to consider in its analysis that white-tailed deer are keystone species within any occupied habitat. Consequently, depending on habitat quality and the corresponding number and density of deer, deer will impact ecosystem structure, function, and dynamics. This is not unnatural or inappropriate but, rather, represents an entirely expected outcome when deer are present in an area, particularly when they are the dominant herbivore as is the case in VFNHP. The fact that the VFNHP area has been subject to significant residential and industrial development with a burgeoning human population, complicates deer management by (in most cases) reducing the quality and quantity of habitat for deer outside of VFNHP. The deer can hardly be blamed for adapting to these human-induced changes by seeking refuge and survival within VFNHP.

Despite its failure to consider deer as a keystone species, it admits that deer are, in fact, “keystone” herbivores. Draft EIS at 4-38. A keystone herbivore is, as reported by the NPS, an animal 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.” *Id.* This is precisely the role of deer within VFNHP. With this concession, the failure of the NPS to consider the dominant ecological role of deer within the VFNHP in its analysis, suggests either an attempt to downplay or disregard its own information or is another example of intentional bias against the deer and in favor of lethal control to rapidly achieve other VFNHP management objectives.

The NPS claims that the VFNHP deer population density exceeds 193 deer per square mile. Draft EIS at vi, 1-13. Though this density is so large to appear impossible, this is actually lower than the estimated density of deer in the park only a few years ago. These

densities and the associated population estimates are a product of two different deer survey tools used at VFNHP (i.e., spotlight counts in the fall, and spring compartment counts) (Draft EIS at A-1, A-2). These survey tools are the primary methods used by the NPS to determine trends in deer abundance and assess changes in deer population size over time. Draft EIS at vi. Based on the survey results, the NPS claims that, on average, the deer population has increased about 10% each year with significant fluctuations occurring after 1996 (Draft EIS at 1-14, 3-12) with the actual population size increasing from an estimated 772 to 1,023 individuals between 1997 and 2007. A maximum count of deer was recorded in 2003 (1,398 deer). Draft EIS at 1-14, 3-12. Spotlight counts are notoriously inaccurate and, therefore, such data is, at best, only possibly indicative of population trend.

Spring compartment counts involve the simultaneous counting of deer in five compartments designated within and outside of VFNHP. The total number of deer observed is then multiplied by a sighting index of 0.58 which ostensibly represents the proportion of the population not observed during counts to generate an estimate of the deer population size within the park. Draft EIS at 1-14, A-2.

This sighting index was calculated based a mark-recapture methodology used when spring compartment counts were first initiated in the park. At that time, a number of deer were captured and marked and, in subsequent counts, the number of marked animals was noted. Based on this count, Lovallo and Tzilkowski (2003) determined that a sighting index of 0.58 was needed to correct for deer not seen during the counts. In other words, 58 percent of marked deer were not observed in subsequent counts. There are several problems with the calculation and use of this sighting index.

Of particular concern is the reliability of the sighting index. Though the original sighting index was based on a mark-recapture methodology, the Draft EIS suggests that observers participating in spring compartment counts should indicate if a marked deer is observed during the survey. Draft EIS at A-3. Considering that the original mark-recapture research was done years ago, it is unclear if whatever markers were used then are still in place. If not, then the 0.58 sighting index is based on old data and may no longer be relevant. Indeed, considering the significant decline in the number of deer observed during fall spotlight surveys from 2002 to 2007, continuing to use an old sighting index to estimate the park's deer population size is likely producing significant overestimates. If this methodology is to be used in the future, a new sighting index must be established annually or, at a minimum, biannually to improve the accuracy of the population estimates.

Not only is the accuracy of the survey methods potentially suspect, but the NPS presents evidence in the Draft EIS that calls into question the veracity of these deer population

estimates. Some of this evidence is presented here while additional evidence is included in other sections of this comment letter. For example:

A. The NPS states that the VFNHP supports over 1,300 species of flora and fauna and a variety of habitats within the park, including oak/tulip forests, tall grass meadows, wetlands, and forested floodplains. Draft EIS at v, 1-4. Considering the alleged size and high density of the deer population, the fact that, according to NPS estimates, the park's deer population was even larger in the past, and the litany of adverse impacts that the NPS attributes to deer, it is rather remarkable that VFNHP supports that diversity of flora and fauna.

B. The average home range for female deer who have greater than 50 percent of their home range area within the park is 0.46 square miles (Draft EIS at 1-7, 1-15, 3-11) compared to 0.35 square miles for female deer with "less than 50% of their home range area outside the park."⁷ Draft EIS at 1-15, 3-11. The majority of the female deer (79%) spent most of their time within the park traveling, on average, only 401 feet beyond the park border. Draft EIS at 1-15. For those female deer with the majority of their range outside the park, they traveled an average of 1,325 feet beyond the park boundary. Draft EIS at 3-11.

Considering that the statewide average home range size for female deer is 1.0 square miles, this would suggest that habitat quality within VFNHP is better than the average habitat quality in the remainder of Pennsylvania. Considering that most of the deer populations throughout the state are controlled by hunting and that the average estimated density of deer statewide is approximately 30 deer per square mile, it is inconceivable that VFNHP deer maintain such small range sizes given the estimated high density of deer in VFNHP, the claim that the deer have persisted at such densities for years, and the alleged impacts of those deer on VFNHP habitats (including forest and meadow habitat). Thus, the density and home range estimates in the park are wrong, the density and home range estimates outside the park are wrong, or allegations that the VFNHP deer herd is decimating the park's habitat conditions are wrong.

C. The NPS has assessed the condition of deer over several decades. Studies in 1983-84 determined that the VFNHP deer were in "good physical condition." Draft EIS at 1-15, 3-20. Survey efforts by park staff between 1992 and 1995 resulted in no trends in body size in fawn, yearling, or adult deer. Draft EIS at 1-15, 3-20. Yet, when certain body size statistics were compared with other Pennsylvania deer populations, the NPS found that park deer were generally smaller. Draft EIS at 1-16, 3-20. A second

⁷ This statement (Draft EIS at 1-15) would appear to be in error. Presumably the NPS meant to state that the 0.35 square mile deer home range was for deer with "more than" 50 percent of their home range area outside the park. For comparison, see Draft EIS at 3-11, "approximately 21% of females had less than 50% of their home range area within the park..."

assessment in 1997-99 indicated that adult deer within the park were similar in size to other Pennsylvania deer populations. Draft EIS at 1-15. However, based on body measurements, female deer in the park exhibited a decreasing trend between 1997 and 1999 compared to non-park deer and male fawn weight also decreased between 1997 and 1999. Draft EIS at 3-21, 4-28.

Despite these trends and the fact that the most recent deer condition assessment was conducted ten years ago, the NPS claims that “there is no clear indication that the health of the deer at Valley Forge NHP is declining.” Draft EIS at 3-21. Conversely, in citing data more than ten years old, the NPS claims that “signs of declining condition are just being detected in yearlings and fawns ... which may be a first indicator of change in habitat quality for deer,” Draft EIS at 4-34. Similarly, when assessing the impact of Alternative A on the park’s deer population, the NPS contends that “it is assumed that the physical condition of deer at Valley Forge will decline/continue to decline over time.”

Either the health of the deer at VFNHP is declining or it’s not. The NPS cannot make both claims in the same environmental document. Doing so demonstrates, at best, a lack of care in proofreading the document or, at worst, a purposeful attempt to make the public support the proposed alternative by suggested that, at present, the existing deer are unhealthy and suffering. Even if the condition of the deer is declining, this should be interpreted as a sign that the population is coming into a sort of equilibrium with its habitat and not a trigger for lethal control.

D. Information contained in the Draft EIS in regard to some of the floral habitat and communities in VFNHP contradict the NPS claim that the deer are causing significant damage to park vegetation. For example, the Draft EIS reports that the “park’s tall grass meadows represent one of the largest occurrences of remnant open grasslands in eastern Pennsylvania and have been identified as important habitat for breeding grassland bird species.” Draft EIS at 3-5. It goes on to report that, in 2007, an inventory of this meadow habitat “documented the presence of 337 plant species, dominated by warm and cool season grasses” with the “warm season meadow community ... dominated by native grasses.” *Id.* Though nonnative species are also found in this community type, the large proportion of native species calls into question whether the park’s deer are adversely impacting such habitats.

The NPS does report that “deer are not known to have a significant impact on grasses (native or nonnative).” Draft EIS at 4-17, 4-21. Yet, it claims that native meadow flowers and other nectar plants, which represent a critical habitat component for wildlife such as insects (e.g., butterflies), would be expected to be present at low densities and with relatively low diversity due to selective browsing by deer. 4-17, 4-21. This claim, however, is inconsistent with the NPS concessions that no “formal studies on the park’s grasslands have yet to be completed.” If the NPS hasn’t engaged in the formal study of

its grasslands, how can it conclude that certain native meadow flowers and other nectar plants exist at relatively low density?

E. The NPS provides information about the relationship between habitat quality and deer productivity. This information indicates that “on good range containing abundant food, deer tend to produce more than one young, usually twins, and sometimes triplets,” Draft EIS at 3-11, while on ranges where “food is limited, the number of births is typically restricted to a single fawn, and sometimes the doe does not ovulate.” *Id.* As indicated in the Draft EIS, in a high density deer herd in Indiana, reproduction virtually ceased in yearling females when the deer density exceeded 30 deer per square kilometer. Draft EIS at 4-29. Consistent with the Indiana example, yearling does on submarginal range are more likely to remain sexually immature while doe fawns “on nutritious range possibly become reproductively active as early as six or seven months of age.” Draft EIS at 3-11.

Though no productivity data is available for park deer, PGC data for deer surrounding the park indicates low reproduction in yearlings (0.4 fawns per doe) and relatively high reproduction in adult females (1.8 fawns per doe)⁸ while the average reproductive rate for does across the state is 1.0 fawns per doe. Draft EIS at 4-29, 2-37 (referring to embryos per doe or fawn).

Assuming that these statistics can be applied to park deer is a mistake since the density of deer inside and outside the park are, according to the NPS, so different. The density outside the park is estimated at 29 deer per square mile, Draft EIS at 2-17, while the NPS claims its deer density is at 193 deer per square mile. Though the latter estimate is likely a significant overestimate, the higher the deer density in the park, the lower the deer reproduction rate unless park habitats are of exceedingly high quality.

Of course, if park deer were producing 1.8 fawns per doe or if the quality of the park habitat maintained such high levels of productivity in the deer herd (despite the herd’s estimated large number, high density, and so-called adverse impacts to the park), then the NPS proposal to engage in a large-scale deer slaughter would have not legitimate justification and would purely be the product of an inherent bias against deer, an unwillingness to wait for the deer population to stabilize itself around a dynamic equilibrium, and a wanton disregard for NPS legal mandates.

F. The NPS’s own spotlight survey data demonstrate that the park’s deer population size has declined rather dramatically from 2002 to 2007. According to the data, graphically illustrated in Figure 10 (Draft EIS at 3-12) the number of deer observed on fall spotlight surveys have declined from nearly 600 in 2002 and 2003 to approximately

⁸ According to the most recent PGC report on deer in unit 5C the actual estimated reproduction rate for adult female deer is 1.6 fawns per doe.

350 in 2007. This nearly 50 percent decline in deer observed during spotlight surveys combined with the declining condition of park deer would suggest that the park's deer population is in decline as it naturally adjusts to the ecological carrying capacity within VFNHP.

The foregoing evidence provides sufficient cause to question the assertions made by the NPS that the VFNHP deer population is "overabundant," that its density is too high, or that it is causing excessive or unacceptable impacts to vegetation, forest health, other wildlife species, special status plant and animal species, park operations, visitor use, and public safety.

5. The NPS has failed to consider a range of reasonable alternatives:

NEPA regulations require federal agencies to "rigorously explore and objectively evaluate all reasonable alternatives ..." 40 CFR 1502.14(a). The range of "reasonable alternatives" must include a no action alternative, id. at 1502.14(d), and "reasonable alternatives not within the jurisdiction of the lead agency." Id. at 1502.14(c). The NPS has failed to meet this requirement in the Draft EIS.

The Draft EIS offers four alternatives; Alternative A (no action); Alternative B (combined nonlethal action); Alternative C (combined lethal actions); and Alternative D (combined lethal and nonlethal actions). While each of these alternatives includes different components, in many cases the alternatives are so similar in structure and impact that they are effectively the same.

Alternatives C and D, for example, both call for a significant slaughter of deer to reduce the deer density from the estimated 193 deer per square mile to 31-35 deer per square mile (with the possibility of reducing the population to 10 deer per square mile if CWD is detected in or near the park). Draft EIS at viii. The only difference between these alternatives is the Alternative C relies on lethal action to maintain deer numbers while Alternative D would rely on non-lethal reproductive control (if successful) to maintain post-slaughter deer numbers. Since the methods employed to reduce the deer population (i.e., sharpshooting and capture and euthanasia) are the same and the impacts of the slaughter are the same for Alternatives C and D, they are effectively a single alternative.

Alternatives A and B, as previously stated, do not meet the self-serving management objectives established by the NPS in the Draft EIS. While this would not disqualify Alternative A from consideration (since it is the no-action alternative) it would suggest that Alternative B should never have been considered since it would qualify as being unreasonable since it cannot meet the plan's management objectives.

While three alternatives (recognizing that Alternatives C and D are the same) cannot possibly constitute a “reasonable range” of alternatives, the NPS also erred in failing to consider other reasonable alternatives. Such other alternatives would include a more rapid and aggressive non-lethal alternative (i.e., a modified version of Alternative B), a non-lethal/research alternative, and a emphasize management actions outside the park alternative. It should be noted, as conceded by the NPS, that even its offered alternatives only “meet, to varying degrees, the management objectives for Valley Forge NHP.” Draft EIS at vii. In other words, regardless of the legitimacy of the management objectives or the process used to develop them, reasonable alternatives do not have to precisely satisfy each objective to warrant serious analysis in the Draft EIS.

A brief description of the other alternatives that the NPS should have considered is provided below:

Aggressive non-lethal alternative:

This alternative would employ non-lethal contraceptive agents to regulate and reduce the park’s deer population. Unlike Alternative B, this alternative would drastically increase the number of employees, contractors, or volunteers available to rapidly administer the appropriate vaccine/agent to a maximum number of female deer each year until the population objective is achieved. At that point, non-lethal management would continue, though the number of employees/contractors/volunteers needed to implement the program would decline.

Non-lethal/research alternative:

The NPS rejected consideration of an alternative that would have used VFNHP and its deer population as a research herd to study and document the impact of continuing a policy of no active management. Draft EIS at 2-52. That is a reasonable suggestion that would provide badly needed long-term data and it should have been more carefully considered by the NPS. The NPS rejected that alternative claiming that, after 25-years of research in VFNHP, continuing a research oriented path would not meet the plan/EIS objectives. This may be true but it’s only because the plan/EIS objectives were purposefully established to achieve a particular outcome – the selection of Alternatives C or D allowing the lethal control of the deer population.

The alternative proposed here is not the same as the alternative rejected by the NPS. This alternative would utilize non-lethal management strategies, including contraceptive agents, forest/vegetation management practices, fencing as part of an organized experiment to study the logistics, costs, and effectiveness of such strategies. This would both help non-lethally reduce the deer population but it would also generate considerable knowledge on the applicability of using such strategies on a free-ranging deer population.

Management actions outside the park:

In this alternative the NPS would cooperate with the PGC, other agencies, and interest groups to maximize the effectiveness of deer management and education efforts outside of the park. The NPS has the legal authority to consider such an alternative under NEPA. The components of such an alternative could include expanded hunting opportunities for deer outside the park, increased public outreach and education to increase tolerance for deer, installation of various technologies to reduce deer-vehicle collisions, enactment of county ordinances prohibiting the supplemental feeding of deer, and the creation of regulations or voluntary agreements to close or relocate the captive cervid facilities that existing in Chester and surrounding counties to reduce the potential for CWD transmission to native wildlife. This is not to suggest that AWI would necessarily support this alternative or its individual components, but it is a reasonable alternative that could help address many of the concerns associated with deer in VFNHP.

Instead of thinking outside the box and considering these and other reasonable alternatives, the NPS illegally limited its consideration of alternatives in the Draft EIS.

6. The NPS has failed to disclose all relevant data, evidence, or other information pertaining to the management of deer or deer habitat:

Throughout this comment letter a number of deficiencies have been identified. Many of these deficiencies involve a failure by the NPS to disclose critical information or to provide a proper analysis of the information that is disclosed. Other key information that the NPS failed to disclose in the Draft EIS, not previously mentioned, is identified below.

A. Climatic data. The NPS includes limited information about climate change and its expected impacts on Pennsylvania and its forests and other habitats in the Draft EIS. It also reports that the Piedmont physiographic province of Pennsylvania, where VFNHP is located, receives average annual precipitation of 46 inches. Draft EIS at 3-1.

No additional information about precipitation amounts, precipitation patterns, precipitation trends, ambient air temperature, temperature extremes, and/or temperature trends are disclosed in the Draft EIS. Considering the direct link between precipitation, temperature, and vegetation viability, composition, abundance, and quality, this omission of information is glaring and illegal. In addition, considering that a reduction in precipitation or an increase in temperature can impact vegetation growth characteristics, reduce soil moisture, or increase evapotranspiration, these changes can have a drastic impact on vegetation, including forest health. Even if average precipitation amounts have remained the same over time, changes in the timing of precipitation events with a

reduction of precipitation during the growing season, can drastically impact vegetation health and productivity.

Consequently, while deer inevitably will impact the habitat in which they live, climatic factors can have an even more dramatic impact to vegetation viability. Indeed, depending on climatic data and patterns in the VFNHP area over time, the NPS may be blaming deer for the alleged impacts to forest health when it should be blaming, in part, the weather.

NEPA requires that agencies disclose all information relevant to its analysis of the environmental impacts of its actions. In this case, in regard to climatic data and trends for the VFNHP area, the NPS failed to meet this burden.

B. Chronic Wasting Disease: With the exception of the NPS concern over the alleged impacts of deer on forest regeneration and vegetation health within VFNHP, the NPS seems particularly concerned about the potential for disease, and specifically chronic wasting disease (CWD), impacts to the park's deer population. This concern appears to be largely a product of the NPS decision to cooperate with the PGC to engage in CWD surveillance activities and to, if necessary, comply with state CWD response plans should CWD be found in park deer or if the park becomes a part of a CWD containment zone. It is worth noting, however, that the NPS concedes that its actions in regard to CWD must be consistent with "NPS or park mission and mandates" and that the NPS can take actions within the boundary of the park that are independent of any actions taken by the PGC. Draft EIS at 2-13.

According to the Draft EIS, CWD response action include "disease surveillance, 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, promote elimination of CWD." Draft EIS at 2-3.

Considering that the closest known CWD case to VFNHP is over 200 miles away in West Virginia, the NPS level of focus on this disease is entirely inappropriate given the limited risk of the disease afflicting park deer. Indeed, as disclosed in the Draft EIS, the PGC, as of May 2008, has tested 18,070 deer and 260 elk with no cervids testing positive for CWD. Draft EIS at C-5.

Though the NPS spends an inordinate amount of space in the Draft EIS discussing CWD, it completely failed to provide sufficient information about CWD, its origins, its epidemiology, its pathogenesis, its persistence in the environment, its expected biological (not political or social) impact on free-roaming ungulate populations.

While our knowledge of CWD is not complete, there is an abundance of information available in the scientific literature about the disease and its potential impact on deer and other cervids. Indeed, the NPS cannot even declare with certainty that a reduction in the park's deer population will reduce the potential for the spread of CWD if it were deterred in or near the park. Not only is there the problem with the persistence of the prion in the environment, but the NPS can only "hypothesize(d) that increased animal density and increased animal-to-animal contact enhances the transmission and spread of CWD." Draft EIS at C-12. Consequently, decreasing animal densities "may" decrease the transmission and incidence of the disease." Id.

Considering the apparent importance of CWD to the NPS and the fact that CWD in or near VFNHP would trigger, depending on the alternative selected at the conclusion of this planning process, the rapid reduction of the deer population to a density as low as 10 deer per square mile, the NPS was required to provide a far more detailed review of the CWD literature. Such a review would have ensured that the public would be better able to assess the likelihood of a CWD outbreak in park deer, the mechanisms that would permit such an outbreak to occur, and the long-term implications of such an incident.

Instead, the NPS elects to limit its disclosure about CWD to information about symptoms of the disease, time to death for deer once exhibiting clinical symptoms, the spread of CWD from the West to the Midwest and then to the Eastern United States, Draft EIS at 2-13, the rate of disease transmission, factors influencing such transmission, and the relationship between deer density and disease susceptibility. Draft EIS at 2-17. Draft EIS at 2-13. Interestingly, the NPS also claims that "although the precise origin of CWD will probably never be determined, it is strongly suspected that CWD is a nonnative disease among cervids." Id., C-1.

While AWI questions the conclusion that CWD is a nonnative disease among cervids, of greater consequence for the NPS is whether CWD is a native organism. If it is, NPS Policies and legal mandates may not permit its extirpation. This is not to suggest that AWI desires to see CWD spread throughout this nation's deer or other ungulate population but, rather, it is to make the point that the NPS cannot simply elect to extirpate a native species solely because it is consistent with state policy. It is, in fact, common knowledge that disease is one of nature's mechanisms to limit animal and plant populations. That is a fundamental lesson learned by every student of wildlife biology, ecology, and conservation biology. While some desire to create a world where disease is rare to non-existent, disease performs an important evolutionary function in wildlife population. The PGC has developed a CWD surveillance program not, primarily, because it is concerned about the well-being of deer but because it wants to avoid the financial consequences that may result from CWD both associated with its efforts to eradicate the prion, if found, and the potential backlash from hunters who may elect not to purchase hunting licenses due to fear of the disease.

While the emphasis on CWD in the Draft EIS is excessive, the NPS erred in failing to disclose more information about the disease including, but not limited, information about the native or nonnative status of the disease in the United States.

C. Climate change. To its credit the NPS does address climate change in the Draft EIS. Though it claims that the specific effects, rate of changes, and the severity of climate change impacts are not known, Draft EIS at 1-35, it concedes that it is “reasonable to expect that, given some of the climate changes that have been documented in Pennsylvania to date, park resources are already experiencing changes and stresses associated with climate change, and that climate change can be expected to affect the park during the life of this plan and beyond.” *Id.*, 4-11. Specific changes disclosed by the NPS include:

- Winters have warmed the most, and in many Pennsylvania cities the number of extremely hot (over 90°F) summer days has increased since the 1970s. Decreasing snow cover – a statewide trend – has accelerated its decline in the past few decades. These trends are expected to accelerate over the next several decades (2010-2039) ... Draft EIS at 4-11.
- In Pennsylvania, suitable forest habitat for maple, black cherry, hemlock, and others is expected to shift northward by as much as 500 miles by late century under a higher –emissions scenario. *Id.*
- Global warming may indirectly add to the pressures and uncertainties facing the region’s forests by changing the distribution of forest pests, pathogens, and invasive plant species, and potentially the frequency or intensity of ice storms, droughts, wildfires, and other major disturbances. *Id.*
- Warming climate and shifting distributions and quality of forest habitat is expected to cause substantial changes in bird life. As many as half of the 120 bird species modeled in Pennsylvania could see at least 25-percent reductions in their suitable habitat.

It fails to disclose, however, any evidence of whether and how climate change has or is impacting vegetation, wildlife, or other attributes (natural and cultural) within VFNHP.

D. Special status plant species. The NPS reports that there are eight state listed (or proposed for listing) plants that are known or expected to occur within the park. Draft EIS at 3-7. In reality, as documented in Table 8 in the Draft EIS (Draft EIS at 3-7), only four special status plant species confirmed within VFNHP are actually state-listed. The legal status of the four remaining species is “tentatively undetermined” or the species have “no current legal status.” *Id.* Three of these four have been proposed for listing while the last is “under review” for a future listing. *Id.*

Though the NPS claims that it has a duty to consider state-listed or protected species when making management decisions, the NPS fails to disclose the legal significance of a state listing. In other words, what specific prohibitions apply to the management of use of lands where state-listed species exist under state law? This question is not intended to discount the significance of the state-listing of these species and/or their fragility, but only to seek additional information about the legal significance of a state-listing.

The NPS has also failed to disclose critical information about these species and their status throughout the state. For example, while the NPS provides information about several of these species in regard to their presence/absence in VFNHP, it is unclear whether or where the species exist outside of the park and/or what efforts are underway by the state to protect and recover these species.

The information about the species in the park is interesting. See Draft EIS at 3-7. The single known population of possumhaw in the park is fenced and, therefore, is no longer threatened by deer browsing. The broadleaf ironweed is allegedly known from one location in the park but its population will not be fenced until 2009. Why the NPS is delaying the protection of this population is unclear but suggests a lack of serious concern over the potential impacts of deer browsing. The sundial lupine is believed to be extirpated from the park (whether deer browsing caused this extirpation is unknown) and, therefore, is not relevant to the discussion in the Draft EIS. The netted chainfern has only recently been identified in the park and has yet to be fenced. Again, the delay in fencing this species is of concern given the alleged high susceptibility of this species to deer browsing. The toothcup may be removed from the state list because it may be more common than once thought. If so, it also should not be of concern in regard to deer management issues. The remaining species, bush bluestem, Elliott's broomsedge, and sand blackberry, though documented in the park, face less of a threat from deer browsing due to palatability issues and/or their location in the park environment. Draft EIS at 3-8.

E. Invasive nonnative plant species: The NPS reports that over 180 nonnative plant species have been documented within VFNHP with 32 (18%) of these species considered to be of high priority due to their level of environmental threat and likelihood for successful control or eradication. Draft EIS at 1-23, 3-8. The fact that these high priority species can be successfully controlled or eradicated without requiring the massive slaughter of the deer population provides evidence that there are alternatives the NPS can (and should) pursue to improve the overall health of the park's floral community. The NPS also claims that 35 percent of the plants identified in a 1985 flora and fauna study were found to be non-native though it was not disclosed what proportion of these nonnative species were invasive nonnative plants. Draft EIS at 3-8.

The NPS also claims that the nonnative stiltgrass, which was identified in the 1985 survey, is now a dominant species and covers much of the forest floor potentially

preventing the establishment and growth of other plants. What is not discussed is the impact of the structure of the forest canopy, particularly those closed canopy areas, in the competition between native and nonnative species. Considering that the park's forest habitats include closed canopy areas, the lack of sunlight may be, in part, responsible for the expansion of nonnative plant species. These species may simply be better able to survive and thrive in such shaded habitats compared to native species.

F. The NPS Agricultural Leasing Program: Remarkably, despite the concerns that the NPS has regarding deer at VFNHP, it continues to permit agricultural use of VFNHP lands north of the Schuylkill River. Draft EIS at 4-7. Considering the benefits that such agricultural lands may provide to deer in regard to providing an easily accessible food source, the failure of the NPS to terminate this lease and to rehabilitate this land to restore it to more natural conditions is disconcerting. While the NPS claims that the high deer density in VFNHP has led to only wheat and hay being grown in these fields during the last several years, Draft EIS at 4-7, these crops remain palatable to deer and, consequently, this operation likely increased the ecological carrying capacity for deer in VFNHP. It is unconscionable that the NPS would even contemplate the mass slaughter of park deer while continuing to permit an agricultural operation in VFNHP.

G. The NPS repeatedly claims that the high number and density of deer within VFNHP is adversely impacting other wildlife, wildlife habitat, and special status plant and animal species.

The alleged impacts of deer on special status plant species was previously addressed (see above) and largely discounted as an issue of serious concern given the availability of management measures (*i.e.*, fencing) to protect the species, the status of the species in the park (*i.e.*, at least one has been extirpated while another may be removed from the list as it is more common than once thought), the fact that only four (and not 8) species are actually listed, and the lack of information disclosed by the NPS (*i.e.*, in regard to the legal protections afforded the species under state law).

For other wildlife species, the NPS reports that records of wildlife sightings have been kept in the park since the 1970s. Draft EIS at 3-23. Comprehensive inventories of various species, including a three-year bird survey, a herpetofaunal survey, a fish survey, a survey of small terrestrial mammals, and a survey of bats have all been completed since 2001. *Id.*

For small mammals, the NPS offers not evidence to suggest that any mammal species has declined as a result of deer presence and browsing within VFNHP. Instead, relying on a series of other studies conducted in other places, it suggests that such impacts are possible.

In regard to birds, the NPS reveals that approximately 227 bird species have been documented in the park including 82 species that are confirmed to have bred in the park. Draft EIS at 3-24. The three-year bird survey conducted in six national park units in Pennsylvania found the highest number of bird species (163) in VFNHP suggesting that the deer population may be having less of an impact on bird species than the NPS has proposed. *Id.* Of 91 species observed during the 1999-2000 breeding season, most were categorized as “abundant” and “common” with only three species, ground-nesting birds (black-billed cuckoo, hooded warbler, and white-eyed vireo, being categorized as least prevalent. *Id.*

Though 29 species of reptiles and amphibians were found in the park as a result of surveys, the NPS offers no evidence that any of these species are currently being adversely impacted or are likely to be adversely impacted by deer. Draft EIS at 3-26. Similarly, of the five state-listed animal species, only one, the red-bellied turtle, is considered a park resident and no evidence is offered to suggest that deer are adversely impacting this species. Draft EIS at 3-26.

With the exception of identifying three ground-nesting bird species that have been determined to be least prevalent in VFNHP, the NPS has offered no other compelling data to suggest that the diversity or abundance of wildlife species in the park has declined due to the impacts of deer. Instead, the NPS relies on statements of concern to try to prove its point. For example, it claims that the removal of forest understory vegetation leads to a decline in food, cover, and nesting sites for forest bird communities and some insect communities. Draft EIS at 3-27. In addition, the NPS states that densities of the black-billed cuckoo, hooded warbler, and white-eyed vireo will remain low within the park unless the herbaceous and shrub layers are restored. *Id.*, 4-40. It goes on to claim that the loss of native nectar plants in both forests and grasslands may especially impact butterflies and other pollinators, *id.*, and that the loss of the forest understory may affect woodland birds (migratory and resident) and other species that require ground cover to maintain viable populations (box turtles, American toads, gray tree frogs, hognose snakes) most seriously. Draft EIS at 4-40. Yet, the NPS offers not a single shred of evidence to actually demonstrate that such impacts are occurring in VFNHP.

Though the NPS often cites to studies to substantiate these claims, few of the studies involve VFNHP. For example, the NPS cites a study (deCalesta 1994) from northwestern Pennsylvania that documented a reduction in bird species richness and abundance of 27% and 37%, respectively, for intermediate-canopy-nesting bird species at higher deer densities (presumably referring to 38 and 64 deer per square mile). Draft EIS at 3-27, 4-40. While that study may be perfectly legitimate, it has little to do with VFNHP and whether deer populations in the park are causing similar impacts. Moreover, though some studies have documented a decline in eastern chipmunks, gray squirrel, and white-footed mice as a result of competition with deer for mast crops, Draft EIS at 3-27,

4-41, there's no evidence offered that such impacts are occurring in VFNHP. Nor does the NPS provide any VFNHP-specific data to demonstrate that nonnative species are adversely affecting the native biota. Instead, again, the NPS relies on other studies conducted elsewhere to speculate about such impacts. Frankly, even the NPS claim that deer browsing is adversely impacting the least prevalent bird species is entirely speculative since it has offered no historic data to suggest that said species were more abundant in the park anytime in the past.

Despite this wholesale lack of evidence of any adverse impact of park deer on other wildlife species, the NPS claims that the impact of Alternatives A and B on these other wildlife species would be long-term, major, and adverse. Draft EIS at 4-41, 4-44. Conversely, not surprisingly, the NPS declares that the impacts of Alternatives C and D on other wildlife species will be long-term and beneficial. Draft EIS at 4-46.

This is based on, among other things, the presumption that as the forest herbaceous and shrub layers return, forests experience successful regeneration, and nectar plants return to meadows, the wildlife communities would be provided with more, high quality forage. Draft EIS at 4-45. This presumption ignores the wide range of other factors influencing forest regeneration (canopy structure, seed production, seed viability, temperature, precipitation, soil moisture holding capacity), wildlife species recovery (assuming they are in need of recovery at all)(increase in predators, edge effects, microhabitat conditions), and meadow production (temperature, precipitation, soil conditions, erosion, public use). To claim that by simply initiating a large scale reduction in the deer population will solve all other factors that may be at play in controlling the ecological dynamics and processes within VFNHP is nonsensical.

H. The NPS contends that "data on demographic factors such as sex ratio, age structure, and abundance are easily collected by natural resource managers and are used in modeling wildlife population dynamics." Draft EIS at 4-26. Such demographic factors also include productivity, survival, harvest rate/mortality rate, and rate of population growth." Id.

Despite the apparent ease in collecting demographic data on deer, the NPS has failed to disclose much of that data for VFNHP deer either because it hasn't collected such data or because it simply ignored its legal obligation to disclose such information.

The only data that the NPS disclosed that is actually applicable to the VFNHP deer herd is the estimated population density (193 deer per square mile), the estimated number of deer (1,023), the assumption of a 50:50 sex ratio, an annual mortality rate of 29 percent (survival rate of 71%), and that deer-vehicle collisions represent the most significant cause of deer mortality in the VFNHP. Draft EIS at 3-19, 3-20.

Other demographic data disclosed for deer is based on studies of other deer populations and may not be relevant to the deer in VFNHP. For example, citing to PGC data, the NPS assumes for modeling purposes that deer production is 0.4 embryos/fawns per fawn and 1.8 embryos/fawns per doe, Draft EIS at 2-37, 3-19, that first year survival is 0.65, *id.*, and that annual adult survival is .85, *id.* The NPS even cites to data from another suburban, non-hunted deer population to demonstrate that the sex-ratio could be as high as 2:1 (or 1.4:1) in favor of female deer (far different than the 50:50 ratio assumed for VFNHP deer). Draft EIS at 4-28, 4-34.

The NPS fails to provide any data on the herd's age structure, age-specific mortality or productivity rates, it provides contradictory data on the sex-ratio of the population, and it fails to disclose the full complement of deer data that it has collected. For example, instead of disclosing all of its spring compartment count or fall spotlight count data collected over time, the NPS simply summarizes that data. By doing so, the NPS makes it impossible to compare deer demographics to, for example, climatic data to identify potential patterns linking a particularly severe winter or extended drought conditions to changes in deer demographics.

7. The NPS assessment of the Environmentally Preferred Alternative is in error:

The NPS engages in a rather bizarre exercise in its attempt to identify the Environmentally Preferred Alternative. It does so by using language contained in the NEPA statute (42 USC 4331) regarding the nation's declaration of national environmental policy. Draft EIS at 2-53. The policy in question refers to the "profound impact of man's activity on the interrelations of all components of the natural environment, particularly the profound influences of population growth, high-density urbanization, industrial expansion, resource exploitation, and new and expanding technological advances and recognizing further the critical importance of restoring and maintained environmental quality to the overall welfare and development of man," and thereby declares that it is the "continuing policy of the Federal Government ... to use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans." *Id.* In order to carry out this policy, the Federal Government is responsible to improve and coordinate Federal plans, functions, programs, and resources consistent with six criteria or objectives delineated in the statute.

These are the objectives that the NPS attempts to use in defining an environmentally preferred alternative. The problem is that the objectives related to the policy which pertains to the profound impact of man on the environment. Thus the objectives are

applicable to human impacts and influences on the environment. For example, the fifth objective, which calls for achieving a balance between population and resource use, is referring to the human population not, as the NPS attempts to claim in the Draft EIS, to the deer population in VFNHP. Similarly, the third objective does not apply to any alleged degradation of the environment caused by a wildlife species, like deer, as it applies to degradation attributable to human use of the environment. While some of the objectives can be more easily applied to wildlife than others, doing so represents a complete misinterpretation of the objectives and their intent as specified in the statute. Thus the NPS assessment of the environmentally preferred alternative in the Draft EIS is entirely useless as it is based on a misinterpretation of the statutory language.

8. The NPS has mischaracterized or purposefully downplayed the potential for the use of non-lethal reproductive controls to reduce and regulate the park's deer herd:

Alternatives B and D in the Draft EIS include the option of using non-lethal reproductive control of deer through the use of contraceptive agents. For Alternative B, non-lethal reproductive control would be the primary means of regulating and reducing the deer population over time. For Alternative D, non-lethal reproductive control will only be used once the population is substantially reduced through lethal means. The Draft EIS identifies four criteria that any prospective non-lethal control vaccine would have to meet before its use would be permitted. These are:

- It would have multiple-year efficacy to minimize the cost and labor required to administer the drug to a large number of deer every year;
- It would be able to be delivered remotely (darting) to avoid trauma to the animals and to increase the efficiency of distribution;
- It would not leave hormonal residue in the meat which would prevent the meat from being used for human consumption;
- It would have limited behavioral impacts on the deer population(Draft EIS at 2-28)

The NPS has relied on these criteria to contend that there is no non-lethal reproductive control product that can meet these standards at this time and, therefore, any potential use of such controls has to be deferred to a later date. This contention is simply wrong and, again, demonstrates a bias within the NPS against any management option other than using lethal control. It is important to note that the Draft EIS makes clear that any non-lethal reproductive agent option does not have to precisely meet each of these criteria.

Moreover, the origin of these criteria is not disclosed. Considering that the NPS has elected to utilize contraceptive agents in horses (Assateague Island National Seashore), deer (Fire Island National Seashore), and Tule Elk (Point Reyes National Seashore), these

criteria must have been developed specific for VFNHP. This raises concerns of potential bias in crafting these criteria as mentioned previously.

Since the NPS elected not to extend the deadline for public comments on the Draft EIS, AWI was unable to undertake a substantive review of the most recent scientific evidence pertaining to wildlife contraceptives to assess the accuracy of the information presented by the NPS in Appendix E. Nevertheless, if it is assumed that the information contained in Table E-1 is correct and we compare it to the non-lethal reproductive control agent criteria contained in the Draft EIS, it becomes clear that several existing agents sufficiently satisfy the criteria to justify their immediate use in the park.

For example, the PZP Vaccine and the GnRH Vaccine sufficiently satisfy the given criteria. Both are effective for up to two years satisfying the first criteria that the agent have multiple year efficacy. Both vaccines can also be delivered remotely in darts and, likely, in the form of biobullets thereby meeting the second criteria. According to the information in Table E-1 neither the PZP Vaccine nor the GnRH vaccine leave any hormonal residues in the meat thereby meeting the third criteria. In regard to the fourth criteria, the NPS claims that the PZP Vaccine may result in repeated cycling of female deer potentially leading to out-of-season breeding, Draft EIS at 4-33, Table E-1, while the only identified behavior consequence relevant to the GnRH vaccine is the possibility that the vaccine may remove primary and secondary sexual characteristics.

For all intents and purposes, the GnRH vaccine sufficiently satisfies the four criteria. Moreover, AWI calls into question the claim that the PZP Vaccine is likely to result in the recycling of female deer. That impact has occurred though it is unclear how common that impact may be. Moreover, if the goal of the NPS is to reduce the deer population, out-of-season births and the increased expenditure of energy by male and treated female deer could lead to increased deer mortality which would be consistent with the NPS objective. AWI makes this observation to simply make a point, not because it endorses using non-lethal reproductive control that may contribute to such secondary or indirect mortalities. AWI does strongly support the use of a non-lethal reproduction control methodology to achieve the regulation and reduction in the park's deer population to a level that permits the NPS to achieve some of its other management objectives recognizing that AWI believes the goal of achieving a deer density of 31-35 deer per square mile is far too small and is not justified by the available evidence.

Finally, the NPS claims that it "would monitor the status of ongoing reproductive control research," Draft EIS at 2-29, but it provides no explanation of how this would be done, how frequently the literature would be reviewed, and how the NPS would announce its decision regarding the use of non-lethal reproductive control options. Even if, for the sake of argument, the NPS has correctly determined that none of the currently available vaccines or agents meet its stated criteria, research on these agents is being conducted

fast and furious. At a minimum the NPS must, therefore, specify that it will evaluate the new wildlife contraception literature at least yearly and will publish a summary of those new developments along with a new decision regarding the use of non-lethal reproduction control in VFNHP each year.

9. The management objectives disclosed in the Draft EIS are not justified:

The Draft EIS includes a number of so-called “objectives” for deer management at VFNHP. These objectives include:

- Protect and promote restoration of the natural abundance, distribution, structure, and composition of native plant communities by reducing deer browsing;
- Reducing 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;
- 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. Draft EIS at iv, 1-3.

The NPS states that “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.” Draft EIS at iii.

A careful review of each of these criteria reveal that they do not support the proposed lethal destruction of large numbers of deer in VFNHP, that they are silent on the issue of deer management and control, or that the NPS has effectively manufactured select criteria to use them to justify its proposed management action.

For example, the enabling legislation for VFNHP authorized the Secretary of the Interior to establish VFNHP “to preserve and commemorate for the people of the United States the area associated with the heroic suffering, hardship, and determination and resolve of General George Washington’s Continental Army during the winter of 1777-1778 at Valley Forge ...” 16 U.S.C. 410aa.

The purpose of VFNHP, as specified in the enabling legislation, is “to authorize the Secretary of the Interior to enter into an agreement with the Valley Forge Historical Society ... to construct and operate a museum within the boundary within the boundary of Valley Forge National Historical Park ...” PL 106-86, Sec. 201 (October 13, 1999). Section 202 of this public law includes details regarding the development and operation of the museum. Section 203, pertain to the preservation and protection of VFNHP, and specifies that neither the Secretary nor the Society (Historical Society) can take any actions “in derogation of the preservation and protection of the values and resources of Valley Forge National Historical Park.”

None of this language, including the language in Section 203 of PL 106-86, authorizes the NPS to permit the proposed massive slaughter of deer within VFNHP. The language in Section 203 pertains to actions taken by the Secretary and/or the Society in regard to the affirmative decisions it makes to develop and operate the museum which is the primary purpose of the VFNHP. While the NPS may attempt to claim that Section 203 provides it with the authority to engage in the lethal control of deer, the Public Law must be read in its entirety in order to understand its meaning. When this is done it is clear that Congress, in 1999, was solely establishing the purpose of the VFNHP to construct and operate a museum to educate the public about the historical significance of George Washington’s occupation of this area in 1777-1778. Even if Section 203 could be interpreted to apply to deer, it would apply to actions taken by the NPS (i.e., decisions to construct roads, trails, concession stands, renovation of historical structures) to ensure that those decisions don’t adversely impact the preservation and protection of park resources not to decisions not made by the NPS (i.e., electing not to engage in any active management of deer).

While the purpose of VFNHP as contained in the park’s enabling legislation is not relevant here, the purpose of the Draft EIS, as previously referenced, “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.” Draft EIS at 1-2. As this purpose statement was concocted as part of the NEPA planning process, it has no relevance to the “purpose” of VFNHP. Consequently, though the NPS may attempt to claim that the “purpose” referenced as a basis for the management objectives is the purpose of the Draft EIS, this makes no sense since it has no relevance to the fundamentally legal mandates governing the management of VFNHP.

The significance and mission of the VFNHP could not be immediately determined though, considering the purpose of the VFNHP as specified in the park’s enabling legislation, it is unlikely that either the significance or mission of the park justifies these management objectives. Furthermore, given time restraints, these objectives could not be compared to the standards included in the VFNHP’s 2007 GMP. However, even if there is agreement between the standards articulated in the GMP and these management

objectives, that does not, by itself, suggest that these objectives are justified since the GMP was likely revised as, in part, the foundation for implementing a deer management plan, and specifically, lethal deer control.

Moreover, though it is clear that the management objectives are not consistent with VFNHP's enabling legislation, purpose, significance, or its mission goals, it is also clear that they were developed largely to be self-serving by justifying the NPS preferred alternative which calls for the large-scale slaughter of deer. Not surprisingly, the NPS uses the management objectives as a measure of the reasonableness of the various alternatives evaluated in the Draft EIS with Alternatives A and B determined not to meet the objectives while Alternatives C and D do satisfy the objectives. Furthermore, these objectives provide additional evidence of the bias of the Draft EIS against deer and of the predetermined outcome of this decision-making process.

10. Miscellaneous comments:

A. The Draft EIS reports that the NPS relied on two science teams while preparing the document. The first team included regional and national experts on forest regeneration, vegetation management, wildlife management, and individuals with specific experience in deer management. Draft EIS at x. The second team was composed of regional and national wildlife management experts from the NPS and PGC with knowledge about CWD. Draft EIS at xi, 1-27. The Draft EIS claims that the composition of both teams is reported in the Draft EIS, yet only the composition of the second team (the CWD team) is included in Table C-1 of the Draft EIS. Draft EIS at C-3. The composition of the first team (the deer team) was not disclosed in the Draft EIS. Moreover, in regard to the composition of the CWD team, with the exception of the wildlife veterinarian, it is not clear that any of the participants have any specialized knowledge about CWD.

B. The Draft EIS reports that the plan is based on the concept of adaptive management. This term is defined as "an adaptive approach ... exploring ways to meet management objectives, predicting the outcomes of alternatives based on the current state of knowledge, implementing one or more of these alternatives, monitoring to learn about the impacts of management actions, and then using the results to update knowledge and adjust management actions." Draft EIS at 2-44. Adaptive management has become the favorite buzzword of federal agencies over the past decade or more. Though it is subject to various interpretations, few agencies have actually figured out how to effectively implement this concept to direct and modify its management decisions. Unfortunately, many agencies simply refer to adaptive management to placate those who may be not entirely supportive of an agency plan by convincing them that as the plan is implemented and new information is collected, the agency will amend the plan accordingly. In reality, unless forced to document how new information translated in to adaptive management

changes, agencies, once a project has been initiated, are loath to detract from the original plan regardless of whatever new information is learned because change can be hard, time consuming, expensive, and may require new environmental analyses and other paperwork.

In this case, VFNHP claims that it will rely on adaptive management to modify its management plan as new information, monitoring data results, and other evidence is collected. Inexplicably, instead of establishing an adaptive management approach that would routinely consider the new evidence/information and adapt the plan accordingly, the NPS is proposing to only engage in such adaptive adjustments on a periodic basis. Vegetation recovery monitoring would only occur every five years, Draft EIS at 2-41, and, thus, adaptation of the plan as a result of vegetation monitoring data could only occur every five years at a minimum.

C. The NPS claims that deer are damaging cultural landscapes, historic structures, and archeological resources. Draft EIS at 1-30, 1-31. More specifically, the activities of high numbers of deer “may affect” the character of the cultural landscape, “heavy browsing” may increase thereby resulting in the potential loss of these “important character-defining features of the cultural landscape,” and the “use of fencing could represent a visual intrusion to the cultural landscape.” *Id.* To blame deer for impacts to a cultural landscape that is not substantially reflective of the landscape that existed at the time of General Washington’s encampment is not a compelling argument. Despite the purpose of VFNHP to educate the public as to the historical importance of encampment period of 1777-1778, the modern day VFNHP looks nothing like the area where General Washington and his troops encountered wretched conditions and survived undue hardships.

According to the Draft EIS, at that time the area had been cleared of all trees so that the timber could be used for hut construction, earthworks, or burned as fuel. Draft EIS at 3-28. Since then the NPS concedes that the character of the park has changed and it has elected to not to return the cultural landscape to the conditions of 1777 but to instead manage to preserve certain historical landscapes along with subsequent changes to the park’s landscape. Since the current cultural landscape is very different than the landscape of the encampment period, both because of industrial/residential development outside VFNHP and also because of management decisions within the park, it is inappropriate to blame deer for damage done to the cultural landscape.

Furthermore, the NPS has failed to seriously consider alternative strategies to mitigate some of these alleged impacts such as the use of non-palatable species when needed for landscaping or commemorative purposes, the installation of fencing systems that may better blend into the surrounding landscape to reduce any visual impacts, or the preparation of educational materials explaining the history of white-tailed deer in

America and, specifically, in the Valley Forge area to make the deer part of the park's history lesson.

In regard to historic structures, the primary concern is with the earthworks that the NPS claim are being damaged by deer resulting in trampling, compaction of soil, and erosion. Draft EIS at 31. The NPS has failed to disclose sufficient information about these impacts. For example, there is little information contained in the Draft EIS identify the location of these earthworks, explaining what specific areas have been subject to the alleged damage by deer, the severity of the damage, whether mitigation measures have been employed to halt the alleged damage, and whether those measures have been successful. The Draft EIS does concede that trampling attributable to people also pose a threat to the earthworks, Draft EIS at 4-8, though it fails to specify what proportion of the alleged existing damage is attributable to humans versus deer. Indeed, the Draft EIS contains no pictures of damaged earthworks. Without such evidence, including visual evidence, it is not entirely clear how significant this alleged impact is or whether the NPS is exaggerating this impact as another example of its inherent bias against deer.

Recognizing the historical significance of VFNHP, the possibility for archaeological damage exists as a result of any activity within VFNHP. In this case, the NPS claims that the installation of fence posts associated with the construction of protective fencing (Alternative A) or rotational fencing (Alternative B) could impact archaeological resources. It could, but do such impacts negate these alternatives as valid management options and/or justify the large-scale slaughter of deer in VFNHP? Moreover, such impacts can be minimized or eliminated by ensuring that a qualified archaeologist is on site during construction activities, imposing construction plans that require the reporting of any potential archaeological resource, and requiring the cessation of construction activities if such resources are found.

D. The NPS claims that the park's deer impact the socioeconomics of the area as a result of "deer browsing damage to crops and landscaping on private lands adjacent to the park" and because "collisions with deer ... affect vehicular maintenance costs." Draft EIS at 1-32. Again, while the NPS is quick to blame the deer for these alleged impacts, it fails to disclose sufficient information to allow the public to assess or gauge the severity of these impacts.

For example, with the exception of a reference to VFNHP being contacted by local landowners about deer issues including concerns about deer consuming landscaping plants, Draft EIS at 3-33, the Draft EIS contains no specific information about location of hotspots of deer damage to industrial/residential properties outside of the park, the type of damage document, the extent or severity of such damage, or the economic impact of such damage. Instead of providing such local evidence, the NPS cites to a 1997 survey of 60 million households that estimated deer-related damage to plants and landscape results in

\$251 million a year. Draft EIS at 3-33. Either the study was bogus or the NPS description of it is wrong since it suggests that of the 60 million households participating in the study (a preposterous number of people) each experienced over 4 million dollars worth of damage to plants and landscaping. Frankly, such results are inconceivable and cannot be accurate.

Similarly, in regard to deer vehicle collisions, the NPS provides virtually no data relevant to the frequency, location, severity, human injury/mortality rate, or the estimated costs to repair damage to vehicles that strike deer. It does concede that deer-vehicle collisions represent the primary cause of deer mortality for park deer. Draft EIS at 2-10. It also fails to disclose what the current speed limits are for vehicles using the various roads within and surrounding VFNHP, traffic volume data and trends over time, whether any speed zones have been established in an attempt to reduce deer vehicle collisions, what educational efforts are made by the NPS or PGC to caution drivers to be alert for deer crossings during the most dangerous times of the year, or if other alternatives/techniques are used to reduce deer-vehicle collisions.

Instead, the NPS cites to statewide statistics for deer-vehicle collisions (Draft EIS at 1-32, 3-34) potentially deceiving the public into believing that the significance and severity of deer-vehicle collisions in and around VFNHP is more serious than it really is.

E. The NPS also claims that deer pose a risk to public safety as a result of their alleged role in the transmission of Lyme disease to humans. The NPS fails to provide any data on the number of confirmed Lyme diseases cases in humans in the local area or region yet it continues to vilify deer because they may act as a host for the deer tick during a portion of the tick's life. To its credit, the NPS does concede that "deer cannot transmit the disease to humans or ticks," Draft EIS at 1-32, that white-footed mice – the primary carrier of the disease – are abundant in the park, that even in the absence of any deer within the park, Lyme disease would likely still occur, Draft EIS at 3-35, and that only 3 percent of the tick population sampled in 1995 revealed the presence of Lyme disease. *Id.* Yet, it claims, without citing to any evidence, that "a high deer population provides more hosts and may support a higher than normal tick populations compared to lower deer densities." Draft EIS at 1-32.

F. In its analysis of the impacts of its proposed action and the other alternatives on the park's white-tailed deer population, the NPS bases its analysis on population impacts. It completely fails to provide any analysis of the impacts of the action/alternatives on individual deer despite a clear requirement to do so as articulated in NPS management policies. This is a significant omission given the potential for cruelty and suffering associated with the proposal to implement a large-scale deer slaughter in the park.

G. Statements pertaining to the use of CWD surveillance activities included on page C-14 of the Draft EIS are contradictory. First, the NPS states that live-testing and culling of CWD-positive animals is included as a surveillance technique within Implementation Zone 1 under Alternative B ...” Draft EIS at C-14. In the very next paragraph, the NPS states that “active lethal CWD surveillance is only included in alternatives in the plan/EIS that include lethal reduction methods (Alternatives C and D). Alternative A (no-action) and Alternative B (combined nonlethal actions) described in the plan/EIS do not allow for lethal surveillance methods.” Id. This discrepancy must be corrected.

H. Throughout Chapter 4 of the Draft EIS the NPS frequently neglects to assign a particular threshold category to the impacts of a particular action. For example, in regard to Alternative C and its impact on deer reproductive rates, the NPS claims that those impacts are long-term and beneficial. Draft EIS at 4-35. Yet it failed to assign an impact category (i.e., negligible, minor, moderate, major) to this finding. This same omission was made in regard to the overall impacts of Alternative C, Draft EIS at 4-36, the cumulative impacts of Alternative C, id., the overall impacts of Alternative D, id., and throughout the remainder of the document. Interestingly (and perhaps suspiciously), the omission of impact thresholds are consistently found in regard to Alternative C and D but not Alternative A and B.

I. The NPS demonstrates just how far it is willing to go to deceive the public into supporting its preferred alternative in its analysis of the impacts of the project on public safety. In its analysis of Alternatives A and B, despite no reported human injury attributable to a deer vehicle collision and no evidence as to the number of visitors or employees who have encountered a deer tick or acquired Lyme disease, the NPS claims that Alternatives A and B would pose a long-term, major, and adverse impact on public safety. Draft EIS at 4-84, 4-86. There is no evidence to substantiate the classification which, therefore, can only be attributed to the extreme bias inherent with the NPS and, specifically, those from VFNHP who created this document, against deer. A national park is not supposed to be free of all threats to public safety. Indeed, if that were a criteria for opening a park to public use, no park would be open. There are risks to visiting a national park. Instead of attempting to further vilify deer and to use such inaccurate assessment to persuade people to support the predetermined outcome of this process, the NPS should consider, at a minimum, embarking on a massive educational campaign to educate park visitors and those living outside the park on how to live in harmony with deer including how to protect themselves against Lyme disease and how to reduce the risk of a deer-vehicle collision.

J. Another error in the Draft EIS is made on pages 4-46 and 4-47. First the NPS states that “when added to the impacts of Alternative C, the overall cumulative impacts would likely remain long-term and adverse.” Draft EIS at 4-46. Yet, on the next page, the NPS states that “these project, along with Alternative C would result in a long-term

beneficial cumulative impact on other wildlife and wildlife habitat.” Draft EIS at 4-47. The cumulative impact of Alternative C cannot be both long-term and adverse and long-term and beneficial. This needs to be corrected

K. In regard to the impacts of the preferred alternative on cultural resources, the NPS claims that Alternative A would cause the loss of integrity of the cultural landscape. Draft EIS at 4-51. The NPS makes this claim, in part, because “any new plantings would be at risk of deer browse and most likely would not be successful.” *Id.* This ignores the possibility, as stated in other sections of the Draft EIS, of using plants that are less or non-palatable to deer for said plantings.

L. In regard to the assessment of the impacts of the proposed action on park operations, the NPS specifies that it assumes that under all alternatives the park’s annual budget would be increased to implement a particular alternative but that this funding is not guaranteed. Draft EIS at 4-90. As a result, the NPS states that each alternative discussed the impacts of receiving or not receiving additional funding. *Id.* This was not done. In its assessment of the impact of the proposed alternative on park operations, the NPS assumed that it would not have sufficient funding thereby necessitating the reallocation of funds from other park programs and thereby reducing the effectiveness of those programs. See e.g., Draft EIS at 4-91. While that may be a reality given current budget limitations, suggesting that other park programs may suffer because of funding shortfalls to implement deer management serves only to garner greater condemnation for the park’s deer herd among those park loyalists who may be concerned that they may be deprived of unique educational, cultural, and historical experiences in the park because of deer.

In regard to the cost of purchasing and installing rotational fencing (despite the assumption made by the NPS that it would receive full funding to cover the cost of the alternative selected), it claims that costs associated with the construction, maintenance, and moving the rotational fencing would be in addition to the park’s present budget resulting in a long-term, major, adverse impact. Draft EIS at 4-93. This doesn’t make sense. If there is an assumption that funding will be sufficient to cover the cost of whichever alternative is selected, then the impact to the park’s present budget would be inconsequential. If there were no such increase in the park’s budget, then the impacts could be significant though this distinction is not made in the analysis.

The NPS should amend its estimate of the cost of administering non-lethal reproductive controls to 460,000 to 920,000 dollars (see Draft EIS at 4-93) since the low per deer estimate is \$1,000 and the objective is to treat 460 deer per year. By citing only the larger figure the NPS is, again, attempting to dissuade the public from seriously considering and advocating for non-lethal reproductive control due to the costs. This claim is based solely on the cost per deer estimated in the Draft EIS. AWI is not

suggesting that said estimate is correct. Indeed, even the NPS reports in the Draft EIS that the cost of administering non-lethal reproductive control treatments to deer has been documented to be as low as \$200 per deer with handling/processing costs not included. Draft EIS at D-4.

Conclusion:

For all of the reasons articulated above, the NPS must, preferably, withdraw the Draft EIS and, if necessary, initiate a new, objective planning process that is fully consistent with federal law. If the NPS elects not to follow this advice, then it must select either Alternative A or B. The selection of either Alternative C or D will not only result in an unnecessary and unjustified large scale slaughter of park deer, but it will violate federal law.

Thank you in advance for considering these comments. Please send any future correspondence pertaining to this issue to D.J. Schubert, Animal Welfare Institute, 3121-D Fire Road, PMB#327, Egg Harbor Township, NJ 08234.

Sincerely,

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Wildlife Biologist