FINDING OF NO SIGNIFICANT IMPACT

Environmental Assessment of Alternatives for Managing the Feral Horses of Assateague Island National Seashore

BACKGROUND

Assateague Island National Seashore (ASIS) was established in 1965 as a unit of the National Park System. The mission of the National Seashore is to preserve and protect the unique coastal resources of Assateague Island and its adjacent waters and provide high quality resource-based recreational and educational opportunities.

The feral horses (*Equus caballus*) of Assateague Island are one of the park's most well known resources. Thousands of visitors are attracted to the National Seashore each year for the opportunity to view free-roaming horses in a natural setting. Since the National Park Service (NPS) acquired ownership of the horses in 1968, the size of the population has grown dramatically. With this growth has come an increase in the negative effects of feral horses on other natural resources and values. Although the feral horses are an important part of the Assateague experience, there is a need to manage the population in ways that will ensure the long-term health of the herd as well as the natural systems upon which they depend.

The 1982 General Management Plan for ASIS identified the horses as a "desirable feral species" and while acknowledging the importance of the horses, spoke to the need for appropriate management. In 1985, a Feral Pony Management Plan was developed to address these concerns and guide long-term management of the population. The Plan identified the need for continued research into the effects of feral horse grazing and methods of controlling population growth, and recommended that the herd be managed to not exceed 150 horses. In response, the park initiated research in 1985 to develop and test contraceptives. The result of that effort, a contraceptive vaccine, has been used to manage the population since 1994.

PURPOSE AND NEED

As the herd size expanded, park managers observed increasing evidence of resource damage caused by the feral horses. The current population size of approximately 140 horses is the product of intensive efforts to control herd growth through the use of contraceptives. The program has proven to be successful in controlling reproductive rates and reducing the size of the population from its peak of 175 in 2001. However, island resources continue to be impacted by the feral horses at levels that might result in loss of ecological integrity.

Scientific studies have found that the horses can disrupt important native plant communities, such as salt marsh wetlands, by reducing plant vigor, changing species composition, and altering marsh structure and morphology. This, in turn, can reduce the ecological functionality of those communities and their value as habitat for native fauna, thereby limiting biodiversity. Horse

grazing has been shown to also harm rare species, including the beach-dwelling threatened species *Amaranthus pumilus*, by dramatically reducing seed production and limiting the plant's reproductive potential. Natural processes essential to maintaining a healthy barrier island ecosystem have also been affected by a too-large horse population. Favored by horses, the intensive grazing of American beach grass (*Ammophlia brevigulata*) has been demonstrated to alter the processes of dune formation and stabilization. Collectively, the results of a broad array of research indicate that the recommended limit of 150 horses has failed to protect the other natural resources and values of Assateague Island.

It has also become clear that the intensive use of contraceptives is not without consequences for the horses themselves. Extended use of contraceptives at the intensity needed to reduce the size of the herd has altered the age structure of the horse population, thereby reducing its reproductive capacity and potentially increasing the risks from demographic and genetic factors. Thus, it was identified that while there was a need to further reduce the herd size to reduce adverse impacts on other natural resources of the island, any action also needed to be compatible with the maintenance of a healthy horse population.

To help resolve the inherent conflicts between protection of the feral horse population and the ecological integrity of Assateague Island, the NPS engaged the Conservation Breeding Specialist Group (CBSG) to conduct a Feral Horse Population and Habitat Viability Assessment (PHVA) (Zimmerman et al. 2006). The results of the PHVA indicated that a feral horse population maintained in the range of 80-100 would best sustain both herd and ecosystem health.

The NPS is proposing to implement new management strategies for the feral horse population inhabiting the Maryland portion of Assateague Island. It is the goal of the NPS to manage the feral horses in a manner that protects both the long-term health and viability of the population as well as that of the barrier island ecosystem that supports them. To achieve this goal the NPS has prepared an Environmental Assessment of Alternatives (EA) for managing the feral horses. The planning process has included consideration of actions to reduce the size of the horse population, manage reproductive rates, reduce negative human-horse interactions, enhance the health and viability of the herd, and protect the natural resources and values of Assateague Island.

The following objectives were used in developing the range of management alternatives evaluated by the EA:

- Adopt a new herd size goal that improves barrier island health, ecosystem function and biodiversity while protecting feral horse population health.
- Protect the long-term health and viability of the feral horse population.
- Protect the free-roaming nature, and social and behavioral character of the feral horses.
- Develop and implement an appropriate strategy for reducing the size of the herd that is efficient and humane, that minimizes the duration and intensity of feral horse impacts, which safeguards the welfare of affected feral horses, and allows ASIS to achieve its mission.

In developing alternatives, the NPS focused on the twin goals of maintaining a healthy herd of 80-100 horses *and* reducing the harmful effects of too-large horse population on the coastal ecosystem. As such, the EA is limited to evaluating alternatives for reducing the size of the feral

horse population. The EA recognized that the island's resources are also impacted by other causes including, but not limited to, off-road vehicle use, invasive plant and animal species, pedestrian traffic, coastal erosion, grazing by other herbivores, and global climate change. To clarify for the reader the relative impacts of the horse herd and these other factors, in the Impacts Comparison Table, chapter 2.10, and the discussions of individual ecological attributes - soils, vegetation, wetlands, threatened and endangered species, etc. - the relative impacts of the herd and the reduction alternatives are examined. Where pertinent, other impacts on those resources may be described. It was not, however, within the scope of this EA to examine all of the actions and activities impacting all of the park's resources, and the various alternatives to all of those actions and activities. A comprehensive overview of all of the threats to park resources and developing large scale management approaches is properly within the scope of a General Management Plan, which has been initiated for ASIS.

SELECTED ALTERNATIVE

The Selected Alternative is a modified version of Alternative D, which was described in the EA as Intensive Contraception with Periodic Removals/Additions. The Selected Alternative is limited to the use of contraceptives and the potential addition of horses from off-island sources. The Selected Alternative does not include any removals of feral horses from Assateague Island.

The intent of the potential additions is to provide a mechanism to periodically manipulate the genetic and/or demographic composition of the herd, if needed, to safeguard population health and viability. Potential additions of feral horses will be conducted when, and if, measures of population health such as mean kinship (how related to each other any member of the herd is) or reproductive capacity indicate an increased risk to the population from inbreeding or other factors. Additions will involve small numbers (2-5) of horses at any given time. In the event of catastrophic mortality (e.g., from storms or disease outbreaks), a larger addition of horses may be considered.

Horses for potential addition to the herd will originate from other east coast populations. These coastal populations are believed to be primarily from similar early European-American working stock that have experienced some level of transition into a feral or free-roaming condition and also have been exposed to the rigorous living conditions typical of barrier island life. The ability to integrate into a harem band social organization and thrive on typical barrier island resources is critical for potential immigrants. Potential donor populations include NPS-owned horses at Cape Lookout and Cumberland Island National Seashores. Criteria used to select suitable individuals will include age, gender, and physical characteristics similar to the Assateague horses.

Future removals of select feral horses was removed from Alternative D because of potential funding constraints, a lack of capacity to conduct the horse removal and the long-term monitoring required to ensure the health of removed horses, and concerns over impacts to horse behavior and social structure. In addition, the majority of comments received during public review of the EA expressed strong disapproval of any action resulting in the removal of horses. The Selected Alternative addresses this public concern by eliminating any potential for the future removal of feral horses from Assateague Island.

Under the Selected Alternative, the NPS will continue to monitor the status and trends of the feral horse population on ASIS in order to guide herd management and assess population health, including monitoring birth and mortality rates, contraception success, behavior, harem band associations, home range and seasonal activity patterns, habitat utilization, and human-horse interactions. Additional analyses of genetic and demographic characteristics (e.g., mean kinship) will be conducted on a recurring basis to inform contraception decision-making and as a further means of monitoring population health. Other information gathering activities such as new research focusing on the feral horses will be conducted on a non-recurring basis.

The Selected Alternative includes continuation of existing monitoring and establishes new monitoring to document and assess the effects of the slowly decreasing herd size on sensitive habitats, species and ecological processes. Ongoing efforts include: monitoring of low salt marsh vegetation communities to evaluate the long-term effects of feral horse grazing on aboveground primary productivity and species composition; monitoring of piping plover (*Charadrius melodus*) and seabeach amaranth (*Amaranthus pumilus*) to document the effects of feral horses on rare species distribution, abundance and success; monitoring the effects of feral horse grazing in forested and shrub habitats, and; monitoring geomorphological change to understand the effects of grazing on dune vegetation and physical processes. Additional research to further understand the ecological effects of feral horses on the barrier island environment will include long-term monitoring of American beach grass (*Ammophila breviligulata*) abundance in dune communities, and long-term monitoring of Assateague Island's secretive marsh bird communities. The overall objective will be to detect and document improvements in the ecological health of the island in response to lower feral horse grazing pressures in order to inform future herd management decisions.

MITIGATION MEASURES

The following mitigation measures are incorporated as part of the Selected Alternative:

- Reducing the size of the feral horse population to the target range of 80 to 100 will decrease the number of feral horses potentially available for viewing by the visiting public. Because a reduced opportunity to see the horses might affect visitor satisfaction, the NPS will mitigate the potential impacts by developing improved information and guidance on how to find and view horses within the developed portions of the National Seashore and Assateague State Park. The NPS will also develop a new observation platform adjacent to the primary visitor use area that will improve opportunities to see feral horses over a wider area than is currently possible.
- Reducing the size of the herd may increase potential risks to the long-term health and viability of the feral horse population from genetic and demographic factors such as inbreeding effects or loss of reproductive capacity. While analyses have characterized these risks as minimal, the NPS will, if necessary, mitigate threats to genetic and demographic health through periodic additions of small numbers of compatible horses from off-island sources as described in the Selected Alternative.

ALTERNATIVES CONSIDERED

Four alternatives were considered in the EA. Alternative A was the No-Action Alternative, in which no new management strategy or herd size goal would be implemented to manage the feral horse population on ASIS. Alternative B would achieve the purpose and need of the action in the shortest amount of time (approximately 2 years), by implementing a new management strategy involving a one-time capture and removal of a group of select feral horses to immediately reduce the population and achieve the target herd size of 80-100 horses. Alternative C would achieve the purpose and need of the action over a longer time period, approximately 5-8 years, by continuing the intensive use of immunocontraceptives to reduce the population to the target herd size of 80-100 horses. Similar to Alternative C, Alternative D would reduce the herd to the target range of 80-100 horses over a period of approximately 5-8 years by continuing the intensive use of immunocontraceptives, but also included the option to periodically capture and remove select individuals from the herd and replace them with horses from off-island sources. The intent of the proposed removals/additions was to provide a mechanism to periodically manipulate the genetic and/or demographic composition of the herd if needed to safeguard population health and viability

Alternatives A and C were not selected because of their failure to fully meet the purpose and need of the proposed action. Alternative A would manage the population to not exceed 150 horses – a size that is known to be causing unacceptable impacts to the barrier island ecosystem – and would, therefore, not address the need to reduce the current level of horse impacts. Alternative C would reduce the herd to the target size of 80-100 horses, and thereby reduce impacts, but would not provide adequate protection for the long health of the horse population. Unlike the Selected Alternative, Alternative C does not include the potential addition of horses from off-island sources as a means to mitigate future threats from genetic and demographic factors.

Alternative B was not selected because of concerns about impacts associated with the round-up and removal process on the island ecosystem, the effects of the removal on both the displaced and remaining horses, the difficulties associated with finding acceptable off-island facilities for housing the removed horses, the public's reaction to a removal effort and the effects of the removal on participants in the Assateague Foster Horse Program, and the potential impact of removal and long-term monitoring costs on other park programs. Although Alternative B would reduce the ecosystem impacts caused by the horses in the shortest possible time, the potential for other resource, visitor, and administrative impacts were considered to outweigh the anticipated benefits.

ENVIRONMENTALLY PREFERRED ALTERNATIVE

The NPS is required to identify the environmentally preferred alternative in its NEPA documents for public review and comment. The NPS, in accordance with the Department of the Interior policies contained in the Departmental Manual (516 DM 4.10) and the Council on Environmental Quality's (CEQ) *NEPA's Forty Most Asked Questions*, defines the

environmentally preferred alternative (or alternatives) as the alternative that best promotes the national environmental policy expressed in NEPA Section 101(b):

- fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
- ensure for all generations safe, healthful, productive, and esthetically and culturally pleasing surroundings;
- attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences;
- preserve important historic, cultural and natural aspects of our national heritage and maintaining, wherever possible, an environment that supports diversity and variety of individual choices;
- achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities; and
- enhance the quality of renewable resources and approaches the maximum attainable recycling of depletable resources.

In their *Forty Most Asked Questions,* CEQ further clarifies the identification of the environmentally preferred alternative, stating "Ordinarily, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources" (Q6a).

Based on the results of the analysis presented in the EA, Alternative B was determined to be the Environmentally Preferred Alternative. Alternative B would attain the widest range of beneficial uses of the barrier island environment and would avoid the undesirable consequences of a too-large feral horse population on the environment. The barrier island ecosystem would accrue greater benefits from an immediate reduction of feral horses as opposed to the slow reduction over the course of 5-8 years, as outlined in Alternatives C and D. NPS Management Policies state that parks "will strive to understand, maintain, restore, and protect the inherent integrity of the natural resources, processes, systems, and values of the park. Alternative B would allow the Seashore to restore its natural processes more quickly than the other alternatives.

However, after consideration of public comments throughout the planning process, careful review of potential resource, visitor, and administrative impacts, and the development of appropriate mitigation to protect resources and the feral horses, the Environmentally Preferred Alternative was not chosen as the Selected Alternative. As described in the previous section, concerns about stress on the horses from a round-up effort, the challenges in finding acceptable relocation facilities, concerns about visitor reactions to a removal effort, funding constraints, and the likelihood that given the age of many individuals in the current herd that population decline from natural causes will occur within only 3-6 years longer than Alternative B support rejection of the Environmentally Preferred Alternative.

WHY THE SELECTED ALTERNATIVE WILL NOT HAVE A SIGNIFICANT EFFECT ON THE HUMAN ENVIRONMENT

As defined in 40 CFR 1508.27, the significance of impacts is determined by examining the following criteria:

Impacts that may have both beneficial and adverse impacts and which on balance may be beneficial, but that may still have significant adverse impacts which require analysis in an EIS:

Impacts to the eight impact topics that were analyzed in the EA are summarized in the table below. The impacts of other alternatives varied and are described in the EA.

Soils, Topography, Geology	Short-term negligible beneficial impact to soils as grazing on dunes would gradually be reduced. Long-term moderate beneficial impact from reducing grazing pressure in dune habitats resulting in a greater probability of restoring natural dune formation processes.
Vegetation	Short-term negligible beneficial impact to vegetation resources as grazing would gradually be reduced. Long-term moderate beneficial impact from reducing grazing pressure on plant populations and communities.
Wetlands	Short-term negligible beneficial impact to salt marsh habitats as grazing would be gradually reduced. Long-term moderate beneficial impact from reducing grazing pressure resulting in recovery of wetland health, functionality and habitat values.
Feral Horses (including demographics, genetics, behavior, health, and social organization)	Demographics: Short-term minor adverse impacts to demographics resulting from reducing the proportion of reproductively capable mares. Long-term minor beneficial impacts from mitigation of the adverse effects of long-term contraception through periodic additions. Genetics: Short-term minor adverse impacts to genetics resulting from reducing the proportion of reproductively capable mares. Long-term moderate beneficial impacts through periodic additions that reduce the probability of extinction by increasing genetic diversity and reducing the potential for inbreeding. Behavior, health, social organization: Short-term and long-term negligible beneficial impacts resulting from gradually reducing the competition for basic resources.
Other Wildlife and Wildlife Habitat	Short-term negligible and long-term moderate beneficial impacts to wildlife and habitat as disturbance to wildlife would be reduced, and as impacted habitats recover, wildlife populations would become more diverse and robust.
Threatened and Endangered Species	Short-term minor adverse impacts to threatened and endangered species as the slow reduction would provide only minimal relief from existing impacts. Long-term minor to moderate beneficial impacts as a smaller feral horse population would result in reduced impacts on threatened and endangered species.

Park Operations and Administration	Short-term negligible adverse impacts to park operations and administration from personnel time and costs associated with continuing an intensive contraceptive program for approximately 5-8 years. Long-term minor beneficial impacts resulting from a reduction in costs associated with managing a smaller herd.
Visitor Use and Experience (including health and safety)	Short-term and long-term negligible beneficial impact to visitor use and experience as visitors are expected to enjoy the same opportunity to view wild and free-roaming feral horses, with the potential that changes in horse distribution within the developed zone would occur slowly. Short-term and long-term minor beneficial impacts to health and safety from reducing the potential for negative human-horse interactions through a smaller herd.

Degree to which the proposed action affects public health or safety:

The smaller feral horse population that will result from implementation of the Selected Alternative has the potential to reduce negative interactions between horses and the visiting public which, in turn, will have both short- and long-term minor beneficial impacts to public health and safety.

Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas:

The geographic areas potentially affected by implementation of the Selected Alternative are the lands and waters within Assateague Island National Seashore and Assateague State Park. The National Seashore does not contain any prime farmlands or wild and scenic rivers. The area of potential effect does include regionally significant historic and cultural resources as described within the EA. However, as prescribed by the 2008 Programmatic Agreement among the National Park Service, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers, ASIS in conjunction with its Cultural Resource Advisory Team has reviewed the proposed action and determined that *no historic properties will be affected.* The Maryland State Historic Preservation Officer has concurred in this determination.

The affected environment contains federal and state park lands, extensive wetlands, threatened and endangered species habitats, and other ecologically unique resources and values. The impact topics considered by the EA included all of the significant characteristics and attributes of the National Seashore and State Park with potential to be affected by the proposed actions. Based on the analysis presented in the EA, potential impacts resulting from implementation of the Selected Alternative were found to be either beneficial or minor adverse.

Degree to which effects on the quality of the human environment are likely to be highly controversial:

Effects of the Selected Alternative that have potential to be controversial relate to the public's perception of the impacts of a lower herd size on the feral horses. Several comments expressed concern that the target range of 80 – 100 horses might expose the population to excessive risks from genetic and demographic factors. However, experts in population genetics and small population conservation have evaluated the risk and consider it to be minimal. In addition, the

Selected Alternative incorporates the option to add compatible horses to the ASIS herd to mitigate future genetic and/or demographic threats. The addition of new, compatible individuals is a scientifically valid, well established mitigating measure used to conserve and protect small populations of other species from similar threats. Hence, the Selected Alternative will not result in effects that are controversial.

It should be noted that as originally described Alternatives B and D included physical removal of members of the horse herd. This aspect of the proposal generated substantial public opposition and, as such, was "controversial". However, in the NEPA sense of the word, i.e. involving a 'controversy about the effects of the alternative' there was no controversy. With the modification of Alternative D, this concern has been addressed by the Selected Alternative. In addition, the NPS will modify its outreach and education programs to speak directly to public concerns about the effects of the proposed action and highlight the safeguards incorporated within the Selected Alternative.

Another critical commenter suggested that no decision could be reached without conducting a vast amount of scientific research to evaluate the impacts of all other alternatives to any other actions/activities also affecting park resources, advocating that since the effects of all of those other alternatives have not been evaluated, making a decision to reduce the herd to 80-100 animals was premature. This perspective misunderstands the scope of the action presented, and essentially calls for this decision to be deferred until a full new General Management Plan is completed. While phrased at times in terms of controversy or unknown or unstudied risks, these comments fundamentally did not address the action proposed so much as call for a new comprehensive overview of park management.

Degree to which the possible effects on the quality of the human environment are highly uncertain or involve unique or unknown risks:

The Selected Alternative does not involve any uncertain, unique or unknown risks. There will be an increased risk to the long-term health and viability of the feral horse population as a result of the proposed decrease in herd size and associated increase in threat level from genetic and demographic factors. The potential risk is, however, well-documented and understood, and experts in population genetics and small population conservation have evaluated the risk and determined it to be minimal. In addition, the Selected Alternative incorporates the option to add compatible horses to the ASIS herd to mitigate future threats from genetic and demographic factors, which is a well-established, scientifically proven mitigating measure used to conserve and protect other small populations from similar threats.

Degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration:

The actions proposed by the Selected Alternative are specific to the NPS-owned horses within ASIS and reflect a continuing evolution of horse management practices directed toward achieving the Seashore's legislated purpose. The overarching management goal for the horses is not altered by the proposed action, nor does the proposed action limit or constrain decision-making related to future considerations affecting management of the National Seashore. As such, the proposed

action does not establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration.

Whether the action is related to other actions with individually insignificant but cumulative significant impacts:

A variety of past, present and future management activities, visitor use, and external factors have some potential to affect the resources and values of ASIS. The effects of these activities and stressors, including global climate change, the Assateague North End Restoration project, historic dune stabilization activities, off-road vehicle use, and other reasonably foreseeable federal and non-federal actions were evaluated for their cumulative contribution to the impacts of the Selected Alternative. As analyzed in the EA, cumulative impacts associated with the Selected Alternative ranged from minor adverse for impact topics including soils, topography, geology, and wetlands, to minor beneficial for impact topics such as vegetation, threatened and endangered species, and visitor use and experience. As such, the action proposed by the Selected Alternative is not related to other actions with individually insignificant but cumulative significant impacts.

Degree to which the action may adversely affect districts, sites, highways, structures, or objects listed on National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources:

As prescribed by the 2008 Programmatic Agreement among the National Park Service, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers, ASIS in conjunction with its Cultural Resource Advisory Team has reviewed the proposed undertaking and determined that *no historic properties will be affected.* The Maryland State Historic Preservation Officer has concurred with this determination. As such, the actions proposed by the Selected Alternative will not result in any impacts to districts, sites, highways, structures, or objects listed on National Register of Historic Places or impacts which may cause loss or destruction of significant scientific, cultural, or historical resources.

Degree to which the action may adversely affect an endangered or threatened species or its habitat:

In accordance with Section 7 of the Endangered Species Act, the NPS consulted with the U.S. Fish and Wildlife Service (USFWS) regarding the potential effects of proposed horse management alternatives. In a letter dated June 24, 2008, the USFWS concurred with the NPS determination that the proposed actions were "not likely to adversely affect" threatened or endangered species occurring within ASIS. Furthermore, the USFWS agreed that all action alternatives would result in beneficial impacts on the two federally threatened species that occur in the project area: the piping plover *(Charadrius melodus)* and seabeach amaranth *(Amaranthus pumilis).* As such, the Selected Alternative will not adversely affect any endangered or threatened species or its habitat.

Whether the action threatens a violation of federal, state, or local law or requirements imposed for the protection of the environment:

This action does not violate any federal, state, or local environmental protection laws.

IMPAIRMENT OF PARK RESOURCES OR VALUES

In addition to reviewing the list of significance criteria, the NPS has determined that implementation of the Selected Alternative is not likely to result in impairment of the resources and values of Assateague Island National Seashore. This conclusion is based on a thorough analysis of the environmental impacts described in the alternatives for Managing the Feral Horses of Assateague Island National Seashore EA, the agency and public comments received, relevant scientific studies, and the professional judgment of the decision-maker guided by NPS Management Policies. As described in the EA, implementation of the Selected Alternative will not result in major, adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Assateague Island National Seashore; (2) key to the natural or cultural integrity of the park, or; (3) identified as a goal in the park's General Management Plan or other relevant National Park Service planning documents.

PUBLIC INVOLVEMENT

The Environmental Assessment was made available for public review and comment during a 45-day period beginning May 26, 2008 and ending July 11, 2008. The availability of the EA was publicized through a press release, which resulted in approximately 15 articles in both local and regional newspapers, and coverage by local television stations. The public was also alerted to the availability of the EA and opportunity to comment through notices in the park's visitor center, on the park's web page, and on the NPS Planning, Environment and Public Comment (PEPC) site. An open house presenting the results of the EA and soliciting comments was held at the ASIS Barrier Island Visitor Center on June 10, 2008. Twenty-two people attended.

Forty-three comments were received during the public comment period. All but seven letters clearly stated a position for or against the removal strategy proposed by Alternative B. Comment letters included correspondence from one federal agency (USFWS), one state agency (Maryland Department of Natural Resources), six (6) from non-governmental organizations (Humane Society of the United States, Animal Welfare Institute, Maryland Coastal Bays Program, Audubon Maryland-D.C., University of California, Davis, and Assateague Island National Seashore Foster Horse Program), and thirty five (35) letters from individuals, including a geneticist who had previously studied the Assateague feral horses.

Substantive comments centered on the scope of the document, potential impacts associated with the proposed removal of feral horses, compliance with the National Historic Preservation Act, and other potential alternatives. Responses to substantive comments are attached to this Finding of No Significant Impact. Non-substantive comments were the predominate type of comment received, and generally fell into three categories: 1) direct requests that no horses be removed from the island under any of the Alternatives; 2) recommendations for the selection of a particular Alternative, and; 3) requests for consideration to be a recipient of any horses removed from the island.

Public and agency comments and further review by park staff resulted in minor changes to the text of the EA that are listed in the attached Errata Sheet. The Finding of No Significant Impact and Errata Sheet will be sent to all those who provided comments on or otherwise expressed interest in the EA.

CONCLUSION

The Selected Alternative does not constitute an action that normally requires preparation of an environmental impact statement (EIS). The Selected Alternative will not have a significant effect on the human environment. Negative environmental impacts that could occur are minor to moderate in intensity. There are no significant impacts on public health, public safety, threatened or endangered species, historic properties either listed or eligible for listing in the National Register of Historic Places, or other unique characteristics of the region. No highly uncertain or controversial impacts, unique or unknown risks, significant cumulative effects, or elements of precedence were identified. Implementation of the action will not violate any federal, state, or local environmental protection law.

Based on the foregoing, it has been determined that an EIS is not required for proposed action and thus will not be prepared.

Recommended: Carl S. Zimmerman — 2/6/2009

Carl S. Zimmerman
Acting Superintendent
Assateague Island National Seashore

Date

Approved: Dennis R. Reidenbach — 2/19/2009

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

Date

Errata Sheet
Environmental Assessment of
Alternatives for Managing the Feral Horses
of Assateague Island National Seashore

Page 13, *Cultural Resources* section, fourth paragraph, first sentence. Change "1995" to "2008". [Correction]

Page 13, *Cultural Resources* section, fourth paragraph. Add the following sentence to the end of the first sentence in the paragraph: "The Maryland State Historic Preservation Officer has concurred with this determination." [Clarification]

Page 64, *Environmental Consequences* section. Delete the second paragraph beginning: "Because the proposed alternatives do not meet the definition…" and replace with: "As prescribed by the 2008 Programmatic Agreement among the National Park Service, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers, ASIS in conjunction with its Cultural Resource Advisory Team has reviewed the proposed undertaking and determined that *no historic properties will be affected*. The Maryland State Historic Preservation Officer has concurred with this determination. Therefore, cultural resources were dismissed from detailed analysis." [Clarification]

Page 117, *Cultural Resources Regulations and Policies*, first paragraph. Delete the last sentence beginning "The NPS has requested review of this Environmental Assessment by the Maryland State Historic Preservation Office…" and replace with: "The NPS has requested review of this Environmental Assessment by the Maryland State Historic Preservation Office, and concurrence with the NPS determination that *no historic properties will be affected*.". [Clarification]

Comments/Responses on the Environmental Assessment of Alternatives for Managing the Feral Horses of Assateague Island National Seashore

Comments were received from various parties in response to the Environmental Assessment (EA). Substantive comments are duplicated in this "errata", and National Park Service responses are provided. The National Park Service responses amend the EA. Together, the Finding of No Significant Impact and the Environmental Assessment present the National Park Service's Selected Alternative. The Environmental Assessment will not be reprinted.

Comments related to the scope of the document

Comment: "The Draft EA does not provide a comprehensive analysis of all issues relevant to the management of wild horses on Assateague Island National Seashore."

Response: As described in the *Purpose and Need* section, the purpose of the EA was to evaluate the environmental consequences of several alternatives for long-term management of feral horses within ASIS in order to achieve an appropriate balance that protects both the horses and the barrier island ecosystem. The commenter correctly noted that not all issues discussed in the population and habitat viability assessment referenced by the EA were considered in the alternatives analysis. Examples of issues and concerns identified by the commenter as being insufficiently addressed by the EA include: impacts to vegetation due to deer versus horse herbivory, population dynamics between deer and horses, the effects of horses on the dispersal of invasive exotic plants, determining the ecological impacts of sika and white-tailed deer, how horse removals might affect band size, home range, habitat use and migrations, expectations of the visiting public related to horses, and wild horse habitat use patterns and preferences. The commenter suggested that a fuller discussion and consideration of these issues was crucial to evaluating the environmental impacts of the management alternatives.

Of the issues identified by the commenter, several were associated with the removal of horses from the island as proposed by Alternative B and the original Alternative D. In consideration of the public comments received throughout the scoping and planning process and a review of potential impacts, it was decided that the removal of horses would not be included in the Selected Alternative. As such, issues related to the removal of horses are no longer germane to the assessment of impacts associated with the Selected Alternative considered here.

Other issues raised by the commenter have little relevance to the purpose of the EA. For example, the role of horses in the dispersal of invasive exotic plant species was identified as an issue warranting additional consideration. As described in the EA, horses are known to accelerate the spread of *Phragmites australis*, an aggressive invader of wetland habitats on Assateague Island. This finding, along with other information not included in the EA, suggests that horses may very well play an important role in how park lands are affected by invasive plants. However, the purpose of the EA was not to identify every horse impact, but rather to assess the environmental consequences of proposed alternatives for their long-term management to achieve an appropriate balance that protects both the feral horses and the barrier island ecosystem.

Several of the issues raised were related to questions for which there is insufficient information available to draw conclusions. The commenter identified several questions/issues related to the role of deer on Assateague Island, the relationship between horses and deer, how each species affects island vegetation communities, and how future horse management could affect deer populations.

As discussed in the *Purpose and Need* section, the EA acknowledges that sika and white-tailed deer are known to exert considerable influence on plant communities, vegetation succession, and overall ecosystem conditions. Research conducted by the NPS clearly illustrates that both horses and deer are contributing to the degraded conditions observed in many of the island vegetative communities. In many cases, the observed impacts are directly attributable to either horses or deer. In the case of *Amaranthus pumilus*, a federally listed threatened plant, horses and deer were found to be roughly equally responsible for the observed grazing impacts. In other instances, it is either unclear which species is responsible for the observed impacts, or prevailing conditions are the result of the combined effects of both horses and deer. Nonetheless, the fact that deer are responsible for some portion of the degraded condition of native plant communities does not diminish the significance of horse impacts and the need for action to manage their population.

Both deer species are currently being managed to maintain stable populations through a congressionally-authorized public hunting program. As pointed out by the commenter, the EA acknowledges that there is some potential that as the horse population is reduced through implementation of the Selected Alternative, deer populations could increase. Given that one of the objectives of the proposed action is to reduce the adverse effects of horses on island vegetation communities, this is a legitimate concern. However, the existing data and information is somewhat contradictory and trends cannot be discerned to predict what effects a smaller horse herd may have on deer populations.

While it seems reasonable to assume that deer numbers may increase as the horse population is reduced, existing information does not support that assumption. As depicted in Chart 1 below, sika and white-tailed deer populations remained relatively stable between 2003 and 2006. During those same years, the number of horses in the park declined from 172 to 150; a thirteen percent reduction in population size which does not appear to have resulted in an increase in the number of deer. Similarly, between 1991 and 2000, a period during which the horse population increased from 143 to 170, hunter success (deer harvested per unit of effort) remained relatively constant (6-10%) while the number of deer harvested fluctuated with no discernible trend. If the deer population was being directly influenced by the number of horses, one would expect to see a decrease in the deer population during that period of horse population growth. However, this is not apparent from the existing data.

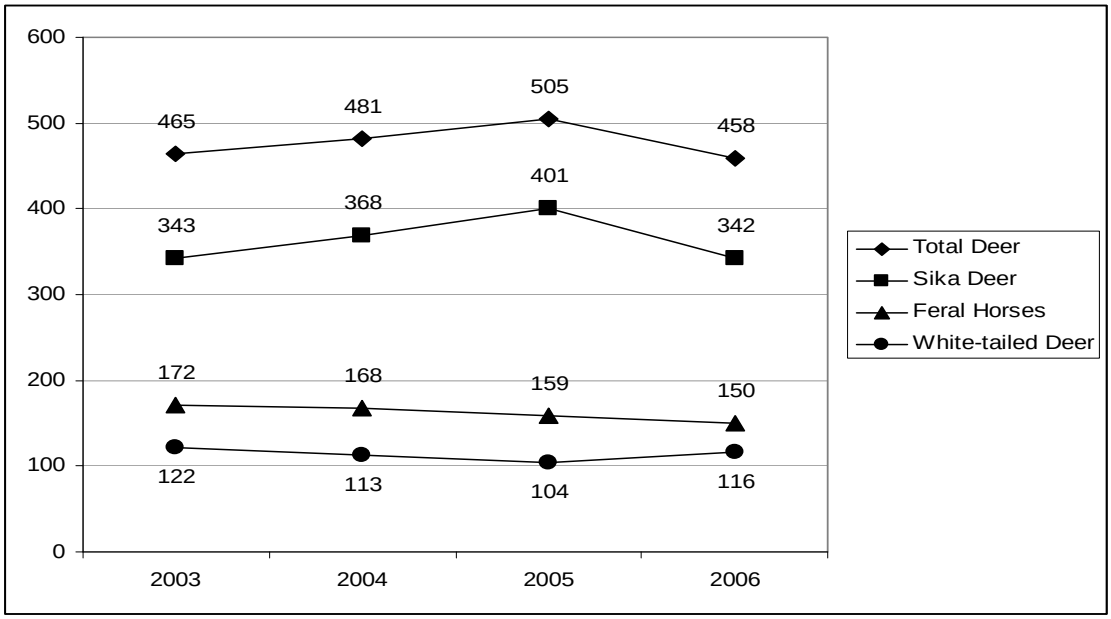

Chart 1. Distance sampling estimates of Sika and White-tailed Deer populations plotted with actual horse population count at the time of sampling

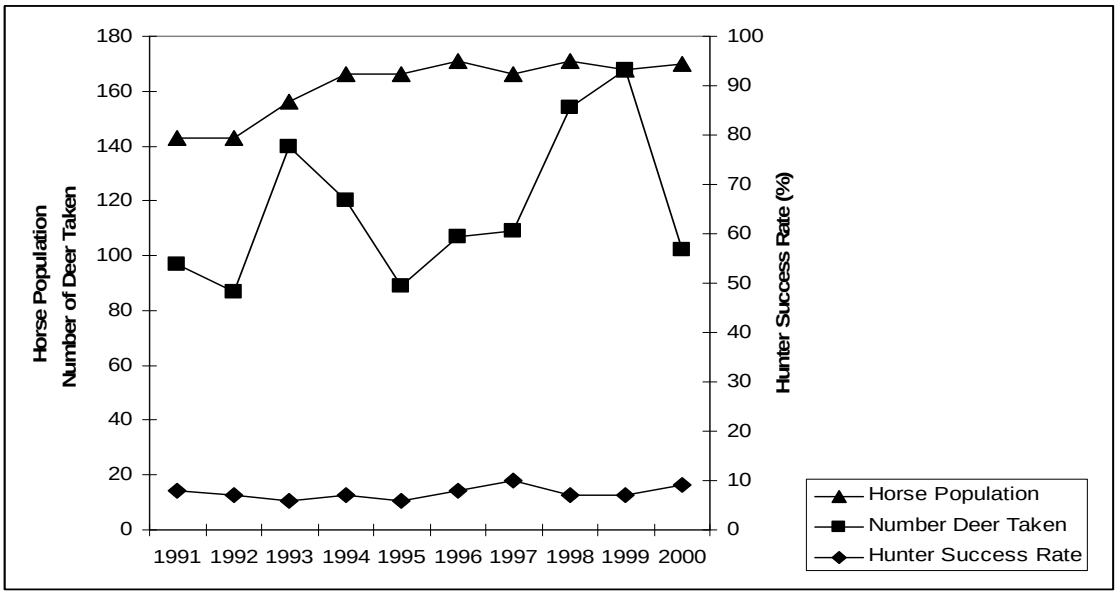

Chart 2. Number of deer taken during annual public season and hunter success rate (deer taken per hunter trips) plotted with annual horse population count

Because of the ambiguity of existing information, the NPS chose to not include discussion of the potential impacts of horse management strategies on deer population dynamics. The omission reflects the reality of decision-making – information to answer every question or issue is not always available. The National Environmental Policy Act (NEPA) does not require federal decision makers to have the answer to every conceivable question, but rather to make a good faith effort to acquire and use the best information available. The NPS is currently engaged in

additional monitoring and research activities intended to more fully document deer population trends and better understand the relative effects of deer on island resources. The Selected Alternative purposely includes a strong monitoring component so that the effects of future changes in horse population size can be continuously evaluated. If the results of monitoring indicate that changes in horse population size may have a relationship to deer population dynamics or effects, the NPS will re-evaluate its horse management program. If any substantive changes in deer management are indicated, these will be proposed in a subsequent NEPA document.

Comment: "The NPS has failed to properly define the scope of the Draft EA and, as a result, has intentionally or unintentionally segmented its analysis of wild horse management alternatives from other management issues that are directly relevant to the management of wild horses."

Response: The commenter identified a broad range of issues, stressors, and management actions affecting the Assateague ecosystem, and suggested that since the primary rationale of the NPS for proposing new management strategies was to address the effects of horses on other park resources, the scope of the EA was too narrow and should have considered all of the factors that affect those resources.

As described in the *Purpose and Need* section, the purpose of the EA was to evaluate the environmental consequences of several alternatives for long-term management of ASIS's feral horses to achieve the park's goal of managing the horses in a manner that protects both the long-term health and viability of the horse population as well as that of the barrier island ecosystem supporting them. The purpose of the EA was *not* to evaluate all of the factors that influence the natural resources and values of the park; nor was the purpose to develop a comprehensive ecosystem or natural resources management plan for ASIS. The EA acknowledges that the natural systems of the park are adversely affected by a number of other factors; however, studies show that horses are one of the primary factors that negatively impact the ecosystem. Further, a horse management plan has been in place since 1985 in order to control the adverse impacts of the horses but monitoring has shown that existing management is not adequate to reduce the negative impacts of the horses on the ecosystem/resources. Therefore, the NPS undertook this EA process to re-evaluate the management of the feral horses based on the data collected since the implementation of the 1985 horse management plan.

The NPS has conducted a broad array of investigations documenting and describing the adverse effects of the horses at a range of population sizes. The results of those studies, many of which are referenced in the EA, indicate that the existing management program - managing the herd to not exceed 150 horses - has failed to provide an appropriate level of protection and has resulted in unacceptable impacts on other park resources. In response to that determination, the NPS conducted a population and habitat viability assessment that, based upon the best available information, identified a population range that would best achieve the conflicting objectives of protecting the horses while minimizing their adverse effects. The purpose of the EA was to assess the environmental effects of alternatives for achieving the more appropriate population size identified by the PHVA, and thereby mitigate the unacceptable impacts caused by the current number of horses.

The commenter repeatedly criticizes the scope of the EA and impact analyses for failing to examine all of the stressors acting on the resources affected by horses. The commenter suggests that the NPS should comprehensively assess the effects that the entire range of factors such as climate change, non-native species, land use decisions, and off-road vehicle use are having on threatened and endangered species, marsh habitats, dune formation processes, etc. in addition to the effects of the horses. In fact, the EA does address the relative contribution of other factors in the cumulative impacts analysis for each of the impact topics.

In each case, the NPS drew upon a variety of existing information and summarized what is known about other stressors acting on the Assateague environment. For example, the EA examined the effects of horses on piping plover (*Charadrius melodus*), a federally threatened ground-nesting bird breeding on Assateague, and found that implementation of the proposed action would result in a minor long-term beneficial impact. However, in the context of other factors such as off-road vehicle use, depredation by other native species, storm frequency, and historic manipulations of the landscape, the horses have a relatively minor influence on piping plover. A similar description and assessment of the relative role of horses was presented in the cumulative impacts section for each of the impact topics, and provides the reader with a reasonable basis for understanding the ecological context of horse impacts.

Developing the all encompassing, comprehensive understanding of all factors affecting the Assateague ecosystem prior to taking action to reduce the known impacts of a too-large horse population as suggested by the commenter would be an enormous task requiring a massive commitment of currently unavailable funding and manpower. However valuable such information might be to the overall management of the park, this level of detail is not necessary to answer the relatively simple question posed by the EA: given that feral horses are known to negatively impact other park resources and given that the existing management is not adequate to reduce or eliminate the known adverse effects, *what are the impacts of various management alternatives for reducing the size of the horse population to an appropriate level?*

In re-evaluating existing management of the feral horse population based on the data collected as part of the current management plan, the NPS is not obligated to undertake a comprehensive evaluation of all factors affecting the island ecosystem and overall park management. Indeed, that is the purpose of the NPS General Management Plan (GMP) process. GMPs are intended to address the broader universe of resource threats and issues, and to develop holistic management strategies. Since it has been more than 25 years since the last GMP was produced for the park, the NPS has recently initiated a planning process to develop a new ASIS GMP. It is this process that will provide the appropriate forum to address the broader ecosystem management issues identified by the commenter. Public scoping will likely begin in 2009 and provide the public with multiple opportunities to participate in that more comprehensive and broad-based planning process intended to guide park actions over the next 20 years.

Comment: "…The NPS must reconsider whether an EA is sufficiently comprehensive to adequately address the environmental impacts of its management program or if an Environmental Impact Statement (EIS) is necessary. Considering the intensity and significance factors relevant to this management plan, an EIS is required to comprehensively evaluate the environmental impacts of wild horse management on AINS. Indeed, the wild horse management

plan clearly satisfies at least four of the ten significance factors defined in the Council on Environmental Quality's NEPA implementing regulations including [1] actions that are likely to be both beneficial and adverse, [2] effects are likely to be highly controversial, [3] effects are highly uncertain or involve unique or unknown risks, and [4] the interrelationship between the action and other actions with individually insignificant but cumulatively significant impacts.

Response: The purpose of an EA process is to evaluate a proposed action in sufficient detail and with appropriate public and agency involvement in order to determine if the potential for significant impacts exists, in which case, an EIS may be warranted. As described in the EA and this FONSI, the NPS has conducted extensive public scoping and analyzed the relevant information. The results of the analysis show that potential impacts of the Selected Alternative, both adverse and beneficial, range from negligible to moderate in intensity for direct, indirect and cumulative impacts. This comment, when read with the other statements in the letter calling for a comprehensive review of all impacts on park resources from all actions/activities, misunderstands the goals and scope of the action under review and essentially calls for preparation of a GMP, which is already underway.

In addition, the anticipated impacts of the Selected Alternative were evaluated against the ten significance factors defined in the Council on Environmental Quality's NEPA implementing regulations and are described in this FONSI. The following summarizes the results of that evaluation:

[1] All three action alternatives would result in varying degrees of both beneficial and adverse impacts. However, it must be noted that the No-Action Alternative would also result in varying degrees of both adverse and beneficial impacts. In no case do the impacts associated with any of the alternatives rise to a level that can be considered "significant".

[2] Potentially controversial aspects of the proposed action relate to the public's perception of the impacts of a smaller herd size and concern that the target range of 80 – 100 horses might expose the population to excessive risk from genetic and demographic factors. However, experts in population genetics and small population conservation have characterized that risk as minimal. In addition, the Selected Alternative includes well-established measures to mitigate the associated threats to the long-term health of the herd. Hence, the Selected Alternative will not result in effects that are controversial.

[3] Risks associated with implementation of the Selected Alternative relate to the potential that reduction of the horse population will threaten its long-term health and viability. Population analyses conducted as part of the PHVA relied on peer reviewed methods of threat assessment and determined that long-term genetic and demographic risks were minimal according to the standards applied in other small population conservation programs. In addition, the mitigating measures (i.e. introduction of new individuals into the population) proposed for use if indicators of population health exceed risk thresholds have been effective in other instances. Therefore, the Selected Alternative does not pose highly uncertain, unique or unknown risks.

[4] Past, present, and future park management actions, visitor use, and other resource stressors and factors all contribute varying degrees of adverse impacts on park resources, and were

described and quantified in the EA. However, none were determined to be cumulatively significant when considered in conjunction with the impacts associated with the Selected Alternative.

Comments related to the removal of horses

Comment: "The NPS has failed to evaluate the environmental impacts on natural resource impact topics associated with the actual capture, holding and removal of horses from ASIS..."

Response: Several individuals and organizations provided comments similar to the above that related to the removal of horses from the island as proposed by Alternative B and the original Alternative D. The comments included concerns over the lack of specific details regarding the round-up and removal process, the ultimate fate of removed horses, the effects of the removal on both the displaced and remaining horses, the effects of the round-up process on the island ecosystem, the criteria used to select horses for removal, and the effects of the removal on participants in the Assateague Foster Horse Program.

After consideration of the public comments received throughout the scoping and planning process, careful review of potential resource and visitor impacts, and the development of appropriate mitigation measures to safeguard park resources including the feral horses, it was decided that the removal of horses would not be included in the Selected Alternative.

Comments related to other potential alternatives

Comment: "While the evaluated alternatives are reasonable, the NPS has erred by limiting its analysis to only these four alternatives. Other alternatives, including alternatives considered but rejected by the NPS should have been subject to more in-depth scrutiny."

Response: Three additional alternatives were identified by one commenter as having been incorrectly omitted from evaluation in the EA: [1] Gradual reduction of the wild horse population through immunocontraception with extensive monitoring. [2] Expanded use of fencing/barrier systems to prevent wild horses from accessing certain unique, important, or protected areas or species. [3] Implementation of a variety of management measures based on a holistic examination of the full range of factors (i.e., species, recreational activities, and land use decisions affecting the geomorphology of the island) that are affecting the ecology of AINS.

The first of these suggested alternatives [1] promotes the idea of slowly reducing the horse population using contraceptives to a lower population size while conducting extensive monitoring to determine whether the reduction is meeting resource protection objectives. The commenter suggests, entirely without basis, that the population goal for this alternative should be 120 horses. In fact, the NPS Selected Alternative does almost exactly what is being suggested. The Selected Alternative would use contraceptives to slowly reduce the size of the herd over a period of 6-8 years to the target population size. As described in the EA, the NPS would monitor a variety of ecosystem attributes and population parameters to assess changing conditions in both

resource condition and horse health. When the target is reached, the NPS would have the information needed to evaluate the acceptability of impacts resulting from the smaller population.

The primary difference between what is being suggested by the commenter and what is proposed by the Selected Alternative is the target population size. As described in the EA, the target population size of 80-100 horses is the product of extensive review and analysis of existing information and population modeling conducted as part of the Assateague horse population and habitat viability assessment. The target size was identified as the best possible compromise between the interrelated and opposing objectives of balancing ecosystem and horse population health. Population sizes above 100 were predicted to result in unacceptable impacts on other natural resources. The commenter does not provide any information which would indicate that the PHVA was incorrectly conducted or why the recommended population size would not meet the project purpose and need; nor is any scientific basis for the alternative 120 horse population target provided.

The second suggested alternative [2], expanded use of fencing, was considered during the early stages of the planning process but rejected because it failed to meet the purpose and need and/or objectives of the project. As described in the EA, limiting feral horse mobility into sensitive areas could benefit those areas where horses are excluded but would also exacerbate the impacts of grazing in those areas where horses were permitted. In addition, the expanded use of fencing would not be compatible with the stated objective of maintaining the free-roaming character and behavior of the horses. The widespread use of fencing would also alter the existing visual landscape within the park, detracting from visitor experience, and create a new maintenance workload and expense.

The third alternative [3] proposed by the commenter would implement a variety of management measures to address the full range of factors affecting the ecology of ASIS. While this is a laudable goal and is, in fact, the purpose of the recently initiated General Management Plan process, such an alternative would unnecessarily expand the scope of the assessment well beyond its stated purpose and objectives.

It is, however, worthwhile noting that the NPS does conduct a broad range of environmental monitoring, assessment, and management activities at ASIS including, but not limited to, programs addressing sea level rise, impacts to natural coastal processes, threats to rare species, impacts from invasive species, degradation of water quality, impacts from historic land uses, and threats from off-road vehicles use and other recreational activities. Indeed, most of the stressors affecting the Assateague ecosystem identified by the commenter as warranting attention are being vigorously pursued. A detailed description of these programs was not included in the EA because of their lack of relevance to the stated purpose and need of the planning process.

Comments related to the National Historic Preservation Act

Comment: "The NPS provides conflicting statements relevant to its analysis of impacts of its wild horse management alternatives on properties and other amenities protected under the National Historic Preservation Act (NHPA)."

Response: The commenter correctly identified inconsistent statements in the EA regarding the relationship between the proposed action and compliance actions required under the NHPA. Changes to the text of the EA have been made and are presented in the errata. As prescribed by the 1995 Programmatic Agreement among the National Park Service, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers, ASIS in conjunction with its Cultural Resource Advisory Team reviewed the proposed undertaking and determined that *no historic properties will be affected*. The Maryland State Historic Preservation Officer concurred with this determination. It was this finding that resulted in the decision to not include cultural resources as an impact topic in the EA.

Comment: "Although the statute of the National Historic Preservation Act does not define the term "objects", some have argued that "objects" can include living species or groups of animals that are culturally and/or historically important to the makeup, ambiance, significance, or interpretation of a location. The NPS has an obligation to consider the impacts of its undertakings on sites, districts, buildings, and objects both already listed and those that may qualify for listing but it also must, considering the historical and cultural importance of feral horses to ASIS, include the impacts of its undertaking on feral horses in its analysis."

Response: ASIS in conjunction with its Cultural Resource Advisory Team reviewed the proposed undertaking from the perspective of the NHPA and determined that no historic properties (as broadly defined by the NHPA) would be affected by the proposed action. It should, however, be noted that the feral horses were one of the topics considered in the impact analysis section of the EA. The analysis found that the Selected Alternative would result in short-term minor adverse impacts to population demographics resulting from a decrease in the number of reproductively capable mares. In the long-term, the herd would experience minor beneficial impacts under the Selected Alternative owing to the mitigating effects offered by the potential for periodic additions of new horses.