


**FINDING OF NO SIGNIFICANT IMPACT
FOR THE ESTABLISHMENT OF ELK
IN GREAT SMOKY MOUNTAINS NATIONAL PARK
-ENVIRONMENTAL ASSESSMENT-**

GREAT SMOKY MOUNTAINS NATIONAL PARK
Gatlinburg, Tennessee

The Preferred Alternative does not constitute an action that normally requires preparation of an Environmental Impact Statement (EIS) in accordance with the regulations issued by the Council on Environmental Quality. The Preferred Alternative will not have a significant effect on the human environment. Environmental impacts that could occur are negligible or minor in intensity. There are no significant impacts on public health, public safety, threatened or endangered species, sites or districts listed in 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 this project and thus will not be prepared.

Recommended:



Dale A. Ditmanson
Superintendent, Great Smoky Mountains National Park

8/26/11
Date

Approved:



David Vela
Regional Director, National Park Service, Southeast Region

10-20-11
Date

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BACKGROUND

An Environmental Assessment (EA) was prepared to address the proposed permanent management of elk in Great Smoky Mountain National Park (GRSM, Park). While elk are free-roaming in GRSM, the highest concentrations of animals are in Cataloochee Valley in Haywood County, NC, and around Oconaluftee in Swain County, NC.

Elk were extirpated from the southern Appalachians in the early 1800s pre-dating GRSM establishment in 1934. In 1991, Park management took steps to initiate a habitat feasibility study to determine whether elk could survive in GRSM. The feasibility study concluded that there seemed to be adequate resources required by elk in and around GRSM, but many questions remained and could be answered only by reintroducing a small population of elk in the southern Appalachians and studying the results. An experimental release of elk was initiated in 2001 to assess the feasibility of population reestablishment in GRSM. Research efforts from 2001 to 2008 demonstrated that the current elk population had limited impact on the vegetation in GRSM, the demographic data collected supported that the population was currently sustainable, and elk-human conflicts were minimal. Estimated long-term growth rates and simulations maintained a positive growth rate in 100% of trials and produced an average annual growth rate of 1.070. This outcome indicates a sustainable elk population has been established in the Park and resulted in the need to develop a long-term management plan for the existing elk population.

The purpose of the EA was to determine the most appropriate, feasible, and prudent approach to manage the existing elk population, and whether all possible planning had taken place to minimize and mitigate harm to the Park. The proposed Adaptive Management Alternative (the Preferred and Environmentally Preferred Alternative) is summarized below, as it was presented and analyzed throughout the NEPA process.

The purpose of this document is to record the decision to implement an alternative from the EA and to record a Finding of No Significant Impact (FONSI) pursuant to the Council on Environmental Quality's (CEQ) regulations (40 CFR Part 1500) for implementing the National Environmental Policy Act (NEPA, 42 USC 4321 et seq.)

PREFERRED ALTERNATIVE

The decision is to select the Preferred Alternative, also referred to as the Adaptive Management Alternative. Based on the scientific studies conducted, the preferred alternative would best protect the integrity of the Park ecosystem, while continuing to support the restoration of a native species to its extirpated range and balancing the long-term operational demands of the Park. Mitigation and management efforts to prevent or minimize potential negative effects of the GRSM elk herd include continued monitoring of a subset of elk, cooperatively working with state, federal and tribal partners, and the flexibility of utilizing adaptive management based on changing information and Park goals. The Adaptive Management Alternative includes long-term management of elk with the continuing objective of maintaining an established, healthy elk population in GRSM without additive negative impacts on Park resources.

Given this overall objective, there are three management goals the preferred alternative addresses regarding elk in GRSM. These goals encompass the main issues and concerns that the scoping committee identified throughout the EA process. While each overall management goal will address corresponding elk concerns, they are not limited by them. The goals are as follows:

1. **GRSM ELK POPULATION MANAGEMENT GOAL:** GRSM will maintain a healthy elk population that is managed within the capabilities of GRSM and in consideration of other land uses within the Park.
2. **GRSM VEGETATION AND ELK HABITAT MANAGEMENT GOAL:** GRSM will identify, monitor and, when necessary, mitigate impacts of elk and the elk population on vegetation or other natural or cultural resources, and when appropriate and feasible, GRSM will implement strategies that may support/improve the habitat for numerous wildlife species of which elk may be a beneficiary.
3. **GRSM RECREATIONAL MANAGEMENT GOAL:** GRSM will maintain safe viewing opportunities of elk, while educating the public regarding their natural history and biology.

These three goals complement each other. They have been combined to develop a comprehensive and interwoven alternative to adaptively and actively manage the GRSM elk herd, while incorporating and reacting to specific objectives and outcomes. In general, the Adaptive Management Alternative prescribes for the gradual scaling back of collaring and tracking of elk to the point that only a representative sampling of the population would be monitored, primarily the adult females and all newborn calves. Response to incidents would be on a case-by-case basis with active response to elk issues outside the Park becoming the responsibility of the State, Federal or Tribal game management agencies which manage other wildlife. GRSM wildlife staff will support the other agencies with training and expertise when requested. Vegetation impacts would be selectively monitored to determine if the elk have a negative impact on plant communities of concern. The preferred alternative allows for

adaptation in vegetation monitoring and population manipulation to ensure park resources are not disproportionately harmed. Wildlife and plant habitat improvement primarily involve the use of prescribed fire as described in the Park's Fire Management Plan (FMP). GRSM's FMP allows for prescribed fire which benefits a broad spectrum of resources. Many wildlife species benefit from prescribed fire. Fire can remove thick undergrowth, making travel and feeding much easier for some species such as wild turkey and white-tailed deer. Fire also promotes growth of valuable wildlife food plants such as legumes and hardwood sprouts. Fire-dependent plants rely on fire for germination.

OTHER ALTERNATIVES CONSIDERED

No Action Alternative

The No Action Alternative is presented as a requirement of NEPA and is the baseline condition with which proposed activities are compared. The No Action Alternative involves intensive management of elk within their current locations, although there would be no prescribed proactive management strategies, such as herd reduction if the population grew too large. All elk would continue to be collared and monitored daily including calves. Park personnel would respond to all elk incidents within and, in cooperation with the North Carolina Wildlife Resources Commission (NCWRC), Tennessee Wildlife Resources Agency (TWRA) or Eastern Band of Cherokee Indians (EBCI), outside of the Park. This management scheme would be geared toward continuing to gather information on the elk population and refrain from active management around a set of broad population objectives based on the information gathered. This No Action Alternative would continue to revolve around evaluating the overall elk status by monitoring metrics used to assess the elk population viability. The No Action Alternative was analyzed but not selected. Ample biological data were collected during the experimental period allowing for a scientifically sound decision on the future of the elk herd.

Alternatives Considered but Excluded from NEPA Analysis

Section 4.5(E)(6) of the NPS NEPA Guidelines states that reasons to eliminate an alternative as infeasible include technical infeasibility, inability to meet project objectives or resolve need, conflicts with plans, policies or laws "such that a major change" would be needed to implement, and duplication with other, less environmentally damaging, less expensive or more feasible options, or has too great an environmental impact. This section describes those alternatives or management tools that were eliminated from further consideration and the basis for excluding them from analysis in the EA/plan.

Two additional alternatives were considered but rejected: a limited management alternative and a complete elk removal alternative.

The Limited Management Alternative would involve limited management of elk within their current locations. Elk populations would be allowed to develop independent of any proactive management strategies. Park personnel would still respond to incidents within the Park concerning elk as they would any other wildlife issue. However, elk incidents outside the Park would be the responsibility of the local or state wildlife officials as they would any other wildlife concern within their jurisdiction. If the elk herd decreased in numbers slowly over time, no management actions would be taken to support or increase the population. All pro-active management, excluding vegetation impacts, disease monitoring, and extreme nuisance incidents, would cease. This alternative was eliminated from further consideration because it does not meet the overall goal of species restoration, leaves Park resources more vulnerable, and conflicts with public interest and NPS policies. Therefore, the option of Limited Management of the small elk herd was dismissed from further consideration.

Since one of the potential outcomes envisioned in the Experimental Release EA was complete removal/relocation of elk from GRSM, described under Phase III in that EA, an 'elk removal' alternative was considered in the present EA. However, this alternative was eliminated from detailed consideration in the EA for a number of reasons, primarily because of the success in introducing the elk to GRSM described in Chapter 1 of the EA. Ample biological data were collected during the experimental period demonstrating that one goal of the Elk Management Plan can be met: a self-sustaining elk herd has been established in the park and that impacts to Park resources are in the acceptable range. Complete removal was only a reasonable option if the Park habitat could not sustain a population of elk and/or if the impacts from the elk on Park resources and the human environment were unacceptable.

Furthermore, the elk have proved to be quite popular with park visitors. An attempt to remove the elk now that they have been successfully established in the park would most likely create public controversy. Also, any effort to completely remove the elk would require capture and relocation of the large, heavy animals ranging over wide areas of the park and adjacent lands. To find each elk, and safely move it from remote field locations to motorized transport for relocation, while not impossible, would be technically challenging. A suitable location, with a State or Federal Agency willing to accept the animals, would have to be found. Finally, because of new laws regulating the transport of cervids, park staff might not be allowed to transport the elk to suitable habitat outside the park. For all of the above reasons, this alternative was not considered further.

ENVIRONMENTALLY PREFERRED ALTERNATIVE

As defined by the CEQ: "The environmentally preferable alternative is the alternative that will promote the national environmental policy as expressed in NEPA's Section 101. 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.”

The Adaptive Management Alternative has been identified as the Environmentally Preferred Alternative since it is the alternative that will promote the environmental policy expressed in NEPA Section 101(b). The specific objectives of NEPA that will be met by the Adaptive Management Alternative include the following:

- ***Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.***
 - o The Adaptive Management Alternative will provide key long-term benefits to natural resources by supporting a missing component in the Park ecosystem and will not result in long-term adverse impacts on the environment through continued monitoring of normal, expected elk impacts. Visitors throughout future generations will be able to enjoy elk viewing and education about the species and its role in GRSM.
- ***Ensure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings.***
 - o The Adaptive Management Alternative will best protect Park resources while providing a safe and enhanced aesthetic and cultural experience for visitors.
- ***Attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences.***
 - o The Adaptive Management Alternative best balances the inherent requirements of an elk population and the integrity of other Park resources and visitors’ safety.
- ***Preserve important historic, cultural, and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice.***
 - o The Adaptive Management Alternative directly supports and enhances the Parks natural heritage by reestablishing an extirpated species while continuing to monitor and manage the species. This alternative will not result in adverse impacts to important historic, cultural and natural aspects of our national heritage. Any elk damage (i.e., antler rubbing) to historic structures would be minor and easily mitigated through the preferred alternative. Additional wildlife education and viewing options supports a variety of choice for visitors.

- ***Achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities.***
 - o The Adaptive Management Alternative will ensure the safety and comfort of visitors while ensuring the continued enjoyment of wildlife viewing.
- ***Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.***
 - o The Adaptive Management Alternative will not result in adverse impacts on renewable resources or depletable resources.

THE PREFERRED ALTERNATIVE AND SIGNIFICANCE CRITERIA

The Adaptive Management Alternative will have wide-ranging beneficial impacts and manages for minor adverse impacts associated primarily with vegetation and park management and operations. A summary of environmental consequences is provided below.

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

Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial.

At current densities and based on all available data, elk do not appear to be a threat to Park vegetation at this time. Elk in Great Smoky Mountains National Park were determined to result in minor beneficial and moderate localized adverse effects based on their future potential to impact vegetation. However, in the Adaptive Management Alternative, impacts to vegetation will be monitored to determine trends in elk-vegetation relationships and guide population manipulation to compensate. Thus, the impacts of the adaptive management of elk in GRSM were determined to result in minor beneficial and minor localized adverse effects. The overall impact to vegetation in the GRSM has been determined to be minor because of the monitoring that will take place over time and the array of management responses available for mitigation.

There is the potential for adverse impacts to historic structures but they would be minor and easily mitigated by methods in the preferred alternative such as fencing or deterrents. There are no foreseeable impacts to other archeological resources or cultural heritage other than the attractive element of visitation to the areas where elk congregate which may have indirect impacts to historic structures, archeology or cultural landscapes (i.e., graffiti, litter, trampling). Impacts associated with increased visitation due to the elk population have resulted in changes to Park staffing and the use of volunteers to address visitor needs. The Adaptive Management

Alternative best supports these types of changes and maintains flexible management of the elk population based on scientific evidence and resource management concerns.

Minor monetary beneficial effects are expected when considering the benefits of elk ecotourism in the Park and within other areas regionally. Minor adverse monetary effects are potentially expected over time associated with land-owner property damage in the surrounding community but should be mitigated based on authorized agency action and adaptive population management within the Park.

The Adaptive Management Alternative will potentially impact Park management and operations in two differing ways: one adverse and one beneficial. The possibility of increased direct adverse impact may occur with an expanding elk population because of the potential additional duties for resource management staff and park rangers. This will include training State, other Federal and Tribal partner resource staff in elk management and behavior, especially regarding elk-human conflict and traffic control. There are mechanisms within the Adaptive Management alternative that allow for manipulation of the elk population size and may result in increased resource management efforts to address those management issues. There is a beneficial effect reducing required NPS staff time, given that elk-human conflict and nuisance issues outside the Park will be transitioned to the proper land-governing agency, i.e. NCWRC, TWRA, U. S. Forest Service, and EBCI Wildlife Staff.

Impacts resulting from this action will not result in impairment to park resources; an impairment determination is included in Attachment C.

The degree to which the action affects public health or safety

The Adaptive Management Alternative could have a minor adverse impact on public safety. Humans who approach too closely may trigger defensive behavior in elk and be kicked or trampled. Protecting visitors places staff and volunteers at risk. Traffic congestion increases risk of vehicle/elk collisions and associated personal injuries. Effects will be mitigated by visitor management and public education. A group of park volunteers, known as the Bugle Corp, monitors visitor/elk interactions in heavily used areas. The Bugle Corp educates visitors on safe behaviors around the Elk and assists by alleviating potentially dangerous situations. The Bugle Corp and NPS Wildlife Biologists utilize sound elk management techniques to minimize undesirable elk behavior such as begging for food, standing on roads, etc.

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

There is the potential for adverse impacts to historic structures (ex. antler rubbing on building exteriors) but would still be minor and easily mitigated by methods in the preferred alternative such as fencing or deterrents.

No archeological resources, cultural landscapes, or ethnographic resources will be impacted by this alternative. Wild and scenic rivers have not been designated within GRSM boundaries; therefore, they will not be impacted by this proposed project.

Areas of agricultural use or prime farmland on GRSM do not exist and as such the proposed alternative do not involve alterations to any land-use or soil. Therefore, prime or unique farmland will not be affected.

If elk venture into an ecologically critical area or wetland in the future, any negative impacts can be mitigated by implementation of the management methods in the Adaptive Management Alternative.

The degree to which the effects on the quality of the human environment are likely to be highly controversial

Implementation of the Adaptive Management Alternative will not result in highly controversial effects on the human environment. A controlled herd size as envisioned in the Adaptive Management Plan is key. The effects on the human environment, as described in the EA, are somewhat predictable based on the results of the experimental release of Elk in GRSM and other releases of Elk around the U.S. Motor vehicle /elk collisions can result, lawns and gardens can be damaged, and people can be kicked or trampled (see Public Health and Safety above). Given the proper herd size, these impacts are infrequent and can be avoided or reduced in number by simple mitigations such as fences and educational programs.

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

There are no identified risks associated with the Adaptive Management Alternative that are unique or unknown and no effects associated with the Adaptive Management Alternative that are highly uncertain were identified during the analysis for the EA or during the public review of the EA.

The 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 Adaptive Management Alternative does not establish a precedent for any future actions that may have significant effects, nor does it represent decisions about future considerations.

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

With the Adaptive Management Alternative, there will be active elk monitoring, and elk management objectives will be flexible depending on identified impacts. Although the timing and intensity of the monitoring may vary, management objectives will be adjusted based on accumulated information, thereby allowing for flexible management of elk and limiting any additive impacts on Park resources. Impacts from increasing visitation due to elk viewing can create cumulative impacts to the elk, elk habitat, visitor experience, and park operations. Elk viewing has increased in popularity over the years since the elk were released. Associated impacts have been at the moderate level and have been mitigated by park management. Cumulative impacts are addressed under individual impact topics analyzed in the EA.

The degree to which the action may adversely affect items listed or eligible for listing in the National Register of Historic Places (NRHP), or other significant scientific, cultural, or historic resources

The EA was written in compliance with Section 106 of the National Historic Preservation Act (NHPA). No museum objects, archeological resources, or cultural landscapes will suffer impacts from this alternative. Any impacts to historic structures will be minor and immediately mitigated by this alternative. The implementation of the Adaptive Management Alternative will not adversely affect any properties listed in or determined eligible for listing in the National Register of Historic Places.

The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973

The Preferred Alternative will not have an impact on any threatened and endangered species. In a letter dated September 13, 2010, the U.S. Fish and Wildlife Service concurred that the project is not likely to adversely affect any listed species.

Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment

This action violates no Federal, State, or local environmental protection laws.

PUBLIC INVOLVEMENT

Public notice regarding the availability of the EA was distributed to the local news media and other interested parties. The EA was posted and available for public review on the NPS' Planning, Environment, and Public Comment web site at <http://parkplanning.nps.gov>. A public comment period ran from August 24 to September 27, 2010, during which time the public was invited to send comments to the Superintendent.

The NPS issued a news release to local media on August 24, 2010, regarding the availability of this EA and the public comment period. Printed copies of the EA were available upon request. The FONSI will be sent to the agencies on the same distribution list as those who were sent the EA. Forty-five letters or e-mails on the EA for the Establishment of Elk (*Cervus elaphus*) in Great Smoky Mountains National Park were received. Attachment A includes letters received from agencies that commented on the EA. The letters/e-mails contained 67 comments; 47 positive comments, 19 comments concerning issues with the process or with specific action items in the EA, and one comment opposed to the plan. Similar comments were lumped into "concerns" and responses to the concerns were addressed by park staff. See Attachment B for the concern/response report. Substantive comments received that necessitated textual changes to the EA are included in the Errata Sheet appended to this document (Attachment D). There were no substantive changes to the selected alternative or the impact analysis as a result of public comment.

Attachment A

Agency Correspondence

1. September 13, 2010

U.S. Fish and Wildlife Service
160 Zillicoa St.
Asheville, NC 28801

Superintendent
Attn: Mr. Bob Miller
Great Smoky Mountains National Park
107 Park Headquarters Road
Gatlinburg, Tennessee 37738

Dear Mr. Miller:

Subject: Environmental Assessment for the Establishment of Elk (*Cervus elaphus*) in the Great Smoky Mountains National Park, Haywood and Swain Counties, North Carolina

We received an email from Mr. Kim DeLozier (Supervisory Wildlife Biologist, Great Smoky Mountains National Park) on August 25 2010, referring us to your press release on the subject Environmental Assessment. The following comments are provided in accordance with the provisions of the National Environmental Policy Act (42 U.S.C. § 4321 et seq.) and section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1543) (Act).

After reviewing the EA, we have no major concerns with the proposed project and, after reviewing of the past nine years of monitoring information, concur with your assessment that neither of the alternatives analyzed in the EA will adversely affect any species federally listed as threatened or endangered. Therefore, we believe the requirements under section 7 of the Act are fulfilled.

However, obligations under section 7 of the Act must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered, (2) this action is subsequently modified in a manner that was not considered in this review, or (3) a new species is listed or critical habitat is determined that may be affected by the identified action.

We appreciate the opportunity to provide these comments. If we can be of assistance or if you have any questions, please do not hesitate to contact Mr. Allen Ratzlaff of our staff at 828/258-3939, Ext. 229. In any future correspondence concerning this project, please reference our Log Number 4-2-10-274.

e-mail from Allen Ratzlaff

cc:

Mr. David McHenry, Mountain Region Reviewer, North Carolina Wildlife Resources Commission,
20830 Great Smoky Mtn. Expressway, Waynesville, NC 28786

2. September 22, 2010

Supervisor's Office
160 Zillicoa St. Suite A
Asheville, NC 28801

Dear Mr. Ditmanson:

The National Forests in North Carolina (NFsNC) appreciates the opportunity to comment on the Environmental Assessment (EA) for the Establishment of Elk in the Great Smoky Mountains National Park (hereafter, the Park). Our staff has reviewed the EA and we support the Adaptive Management Alternative. With this support, we offer the following comments in the spirit of cooperation and partnership.

As an adjacent landowner, we would like to know how sustainable population levels (i.e. carrying capacity) were determined and what role the Forest Service and other adjacent land owners will play (directly or indirectly) in maintaining the herd. In the presence of suitable habitat on adjacent lands (e.g. Harmon Den, Max Perch, etc.), absence of habitat management in the park (with the exception of the use of fire), and absence of physical barriers to species' movement, we would like to see more analysis of movement potential and cumulative effects to adjacent lands.

Maintaining a healthy elk herd is not viewed as a socioeconomic issue for the Forest Service, but rather as an opportunity for restoration of a native species in its historic range in the Southern Appalachians. And as with any restoration initiative, we need to carefully address all aspects of species' reintroduction (e.g. impacts to vegetation, existing wildlife populations, etc.). With this in mind, the NFsNC will be working collaboratively with the North Carolina Wildlife Resources Commission and other partners on an Elk Management Plan that will include restoration and management opportunities in the future. We look forward to working with GSMNP staff as a part of this effort.

Thank you for the opportunity to comment. We look forward to seeing elk on our horizon and to our continued cooperation with the National Park Service. Please do not hesitate to contact me or any of our wildlife staff with questions or comments you may have.

Sincerely,

signed
MARISUE HILLIARD
Forest Supervisor

3. 09/27/2010

North Carolina Wildlife Resources Commission
Director's Office
1701 Mail Service Center
Raleigh, NC 27699-1701
USA

Dear Dale:

Thank you for the opportunity to review the Environmental Assessment for the Establishment of Elk (*Cervus elaphus*) in Great Smoky Mountains National Park. The North Carolina Wildlife Resources Commission (NCWRC) acknowledges the substantial work and information it represents and we support the Assessment as presented. Further, the NCWRC welcomes the opportunity to work collaboratively with the Great Smoky Mountains National Park (GRSM) staff to facilitate the necessary cooperative portions of GRSM's Elk Management Plan and management activities related to elk on lands outside of the GRSM when appropriate.

Sincerely,
signed

Gordon Myers
Executive Director

4. 09/30/2010

Tennessee Historical Commission
Department of Environment and Conservation
2941 Lebanon Road
Nashville, TN 37243-0442

RE: NPS, ELK MANAGEMENT PLAN AMENDMENT, UNICORPORATED, MULTI COUNTY

Dear Mr. Ditmanson:

In response to your request, received on Thursday, September 23, 2010, we have reviewed the documents you submitted regarding your proposed undertaking. Our review of and comment on your proposed undertaking are among the requirements of Section 106 of the National Historic Preservation Act. This Act requires federal agencies or applicant for federal assistance to consult with the appropriate State Historic Preservation Office before they carry out their proposed undertakings. The Advisory Council on Historic Preservation has codified procedures for carrying out Section 106 review in 36 CFR 800. You may wish to familiarize yourself with these procedures (Federal Register, December 12, 2000, pages 77698-77739) if you are unsure about the Section 106 process. You may find additional information concerning the Section 106 process and the Tennessee SHPO's documentation requirements at <http://www.tennessee.gov/environment/hist/federal/sect106.shtml>

Considering available information, we find that the project as currently proposed will NOT ADVERSELY AFFECT ANY PROPOERTY THAT IS ELIGIBLE FOR LISTING IN THE NATIONAL REGISTER OF HISTORIC PLACES. Therefore, this office has no objection to the implementation of this project. Please direct questions and comments to Joe Garrison (615) 532-1550-103.

Sincerely,
signed

E. Patrick McIntyre, Jr.
Executive Director and
State Historic Preservation Officer

5. 09/29/2010

North Carolina Department of Cultural Resources
State Historic Preservation Office
4617 Mail Service Center
Raleigh, NC 27699-4617
Re: Elk Management Plan for Great Smoky Mountains National Park, Multi County, ER 10-1758

Dear Mr. Ditmanson:

Thank you for your letter of September 10, 2010, concerning the above project.

We have conducted a review of the project and are aware of no historic resources which would be affected by the project. Therefore, we have no comment on the project as proposed.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, please contact Renee Gledhill-Earley, environmental review coordinator, at 919-807-6579. In all future communication concerning this project, please cite the above-referenced tracking number.

Sincerely,

Renee Gledhill-Earley for
Peter Sandbeck

Attachment B

Great Smoky Mountains NP Elk Management Plan Environmental Assessment for Establishment of Elk in Great Smoky Mountains National Park Concern Response Report

Report Date: 06/17/2011

AL2000 - Alternatives: Alternatives Eliminated

Concern ID: 26862

***CONCERN
STATEMENT:***

First Comment: "Complete removal" was removed as an alternative from the EA.

This would appear to be a classic violation of NPS rules, directives, and Federal Law in that resources were committed without appropriate environmental analysis. The NPS cannot legally delay action until a viable alternative becomes not viable.

From DO-12: Although the timing will vary on a case-by-case basis, two rules should guide you when you choose to begin a NEPA review and analysis:

All of the steps necessary to complete the NEPA process are to be finished in time to be part of any recommendation or report on the proposal-that is, early enough so that the final document can "serve practically as an important contribution to the decision-making process.

No action that is the subject of an ongoing NEPA analysis or that would limit choice of alternatives undergoing NEPA scrutiny should be taken until the NEPA process is complete (1506.1). This includes design work, funding pieces of a project, choosing building contractors, and so forth.

For the EA: The other alternative, which was eliminated from further consideration, was a Removal Alternative, which would prescribe the complete removal/relocation of the elk population. Complete removal of every elk at this point would be extremely technically difficult and disproportionately expensive. Furthermore, the overall goal of restoration of native animal species when feasible (NPS Management Policies Section 4.4.2.2) would be undermined and conflicts with the public interest in elk, state laws (cervid transportation), and the NPS policies. Therefore, the option of removal of the elk herd was not considered further.

This is a prima facie violation of law and policy. The first Elk EA for Experimental Release was for an "experimental release," with the

ultimate goal of either removing the elk or allowing them to remain under a management plan. This EA has two alternatives, both of which are the latter, where elk remain. NPS has missed a step if the animals cannot feasibly be removed COMPLETELY. If the EA is correct, the law has been violated. NPS MUST fully analyze and discuss this alternative.

Response:

The preferred alternative selected in the 2000 EA analyzing the Experimental Release of Elk was to move forward with an experimental release with the ultimate goal of either removing the elk or allowing them to remain under a management plan. Removal would be chosen if the experimental release proved that a self-sustaining elk herd could not be supported by park habitat utilized by the elk or that a self-sustaining herd proved incompatible with the human environmental factors evaluated in the EA. Neither proved to be the case during the 8 year period of the experimental release, which is documented fully in the present EA. The goal of the present EA is to analyze the potential impacts to the human environment from proposed management of the herd as determined by the Experimental Release EA of June 2000. Complete removal would also not achieve the stated goals of the Elk Management Plan.

Since one of the potential outcomes envisioned in the Experimental Release EA was removal of elk from GRSM, described under Phase III in that EA, an 'elk removal' alternative was considered in the present EA. However, this alternative was eliminated from detailed consideration in the EA for a number of reasons, primarily because of the success in introducing the elk to GRSM described in Chapter 1 of the EA. The goal of the Elk Management Plan is to maintain a sustainable, healthy, free-roaming elk population at a size that does not have substantive negative impacts to Park vegetation. Complete removal would not achieve this goal.

Furthermore, the elk have proved to be quite popular with park visitors. An attempt to remove the elk now that they have been successfully established in the park would most likely create significant public controversy. Also, any effort to completely remove the elk would require capture and relocation of the large, heavy animals ranging over wide areas of the park and adjacent lands. To find each elk, tranquilize it and safely move it from remote field locations to motorized transport for relocation, while not impossible, would be technically challenging. A suitable location, with a State or Federal Agency willing to accept the animals, would have to be found. Finally, because of new laws regulating the transport of cervids, park staff might not be allowed to transport the elk to suitable habitat outside the park. For all of the above reasons, this alternative was not considered further.

AL4000 - Alternatives: New Alternatives Or Elements

Concern ID: 26841

***CONCERN
STATEMENT:***

Commenter feels that genetic diversity should be improved through additional elk releases.

Response:

The original source elk herd for GRSM was Elk Island National Park (EINP) in Alberta, Canada (Elk from Kentucky were originally from EINP). These elk are believed to be the Manitoban Subspecies. The EINP elk herd originally began with only a few animals and grew to over 1,700 and has not experienced genetic diversity problems. Based on EINP's experience and since the genetic makeup of our herd originated from EINP, we do not believe there is a serious concern for the future genetic viability of our elk herd.

GA1000 - Impact Analysis: Impact Analyses

Concern ID: 26852

**CONCERN
STATEMENT:**

As an adjacent landowner, we would like to know how sustainable population levels (i.e. carrying capacity) were determined and what role the Forest Service and other adjacent land owners will play (directly or indirectly) in maintaining the herd. In the presence of suitable habitat on adjacent lands (e.g. Harmon Den, Max Perch, etc.), absence of habitat management in the park (with the exception of the use of fire), and absence of physical barriers to species' movement, we would like to see more analysis of movement potential and cumulative effects to adjacent lands.

Response:

Determination of sustainability is discussed in the EA, Executive Summary (page 1). An experimental release of elk was initiated in 2001 to assess the feasibility of population reestablishment in GRSM. Demographic data collected during research efforts from 2001 to 2008 demonstrated that a sustainable elk population had been established in the Park. Estimated long-term growth rates and simulations maintained a positive growth rate in 100% of trials and produced an average annual growth rate of 1.070. The upper population limits will be addressed through monitoring of impacts to park resources with the goal of preventing unacceptable impacts.

Elk have dispersed from the Park onto neighboring lands. Dispersal of animals is expected to occur along natural travel corridors into habitat favorable to the elk. Open grassy fields (used for forage) adjacent to forested land (used for escape and cover) are the preferred habitat. A GIS landcover analysis shows that the elk are likely to disperse south and east of the park into private, USFS and State lands. Rates of dispersal are unknown. Over the last eight years Cataloochee elk have established splinter groups in Oconaluftee (15 air miles) and White Oak (5 air miles). Dispersal rates and potential impacts from elk will be dependent on management strategies implemented by agencies responsible for wildlife management on the lands where the elk reside. USFS, State of North Carolina, Eastern Band of the Cherokee Indians and the State of Tennessee are all likely going to have elk on their lands at some point in the future. GRSM has been communicating with these agencies prior to releasing elk in the park as well as during the experimental phase of the release. Coordinated management of the overall elk herd is expected even though different agencies may implement different strategies to manage elk under their jurisdiction. To that end, the State of North Carolina Wildlife Commission held an elk management planning meeting on Feb. 25, 2011 inviting participants from NPS, USFS, EBCI, Rocky Mountain

Elk Foundation and others to attend. The NCWRC staff outlined their preliminary plans for managing elk on lands within the state. Subsequent meetings are planned to continue efforts to coordinate regional elk management.

Cumulative impacts from elk on the landscape and effects on adjacent landowners can be expected to mirror the experimental release in GRSM and other releases of elk on the east coast of the United States. Each release site has its unique environmental factors that will create some differences in response to elk and the elk population response to the local environment. However, it is expected that many similarities will be observed. Elk have been released in AR, KY, MI, OK, PA, TN, and WI. Impacts noted in these areas include damage to vegetable gardens, pastures, grain fields, and haystacks; elk in roadways have caused motor vehicle accidents; grazing habits of the elk can maintain open fields and favor plant species adapted to grazing; over a long period of time and with large population numbers, elk can influence plant species abundance and distribution; generally under good "range" conditions, elk and deer are not direct competitors for food.

On the positive side, elk reintroductions have been shown to improve tourism and consequently bolster local economies. Residents and visitors alike enjoy the wildlife viewing and photography opportunities, along with the knowledge that an extirpated species has been restored to the landscape. In instances where elk populations have proved successful, big game hunting opportunities for surplus elk have been implemented. The degree of negative or positive impacts on both the social and the natural environment will be largely dependent on population levels of the elk. Absent some of the predators that co-existed with the elk in the past, human control of the populations might be necessary to prevent over-population of elk .

Concern ID: 26861

CONCERN STATEMENT: Your EA has not adequately addressed NEPA requirements and if a FONSI is signed will result in the permanent reintroduction while avoiding the analysis and public review intended by NEPA. Another indicator in what amounts to lip service to NEPA is the 30 day review

Response: The permanent reintroduction of elk is analyzed in the preferred alternative of the EA.

The public review period for this EA was 30 days (August 25-September 27, 2010), thereby satisfying the requirements of NEPA.

IP100 - ISSUES - Park management issues

Concern ID: 26811 and 26849

CONCERN STATEMENT: Commenters are concerned that habitat manipulation (commenters are referring primarily to prescribed fire) will interfere with the designation of the qualifying acres of the Smokies as a Wilderness Area.

CONCERN STATEMENT: Manipulating the habitat raises another concern regarding the designation of all of the qualifying areas of the Park as a wilderness area. In CHAPTER 6, COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS, in the section WILDERNESS ACT, it is stated:

The proposed actions will have no effects on Wilderness. Where in Applicable Laws and Regulations is it clearly stated that prescribed burning or other methods of habitation manipulation will have no effects on wilderness designation of an area that otherwise qualifies for wilderness designation?

Having been involved in the effort to protect the undeveloped area of the Smokies as a wilderness area, I am very skeptical of this statement. To assure that habitat manipulation for the purpose of increasing the elk population will not interfere with wilderness designation, all statements in the elk management plan that support this should be removed from the plan.

Response: Habitat manipulation, primarily prescribed fire, can be implemented to manage wildlife, including elk. However, the EA does not propose use of prescribed fire solely for the purpose of improving or increasing elk habitat. The use of prescribed fire to improve and maintain forest health in forest types where fire is an ecological driver has an added benefit to elk as well as to numerous other wildlife and plant species.

The policies of all four federal agencies responsible for managing wilderness areas in the U.S. recognize the importance of fire as a natural ecological process and the desirability of restoring the historic role of fire to wilderness ecosystems (Parsons and Landres 1998). In 1995 the secretaries of the departments of the Interior and Agriculture issued Federal Wildland Fire Management: Policy and Program Review, providing policy direction for all federal wildland fire activities (U.S. Department of the Interior and U.S. Department of Agriculture 1995). A guiding principle of this Federal Wildland Fire Management Program is that "The role of wildland fire as an essential ecological process will be incorporated into the planning process."

NPS Management Policy, 6.3.9 Fire Management, guides fire management activities conducted in wilderness. Great Smoky Mountains National Park is further guided by a park specific Fire Management Plan (FMP) signed in 2009.

Prescribed fire is the tool used to restore the park ecosystem to a

former natural state in which wildland fire can once again maintain ecological processes. In accordance with the GRSM FMP, National Park Service Policy and the stated goal of restoring wildland fire as a natural ecological process, the use of prescribed fire at GRSM will only be used after careful consideration of wilderness values (minimum tool concept). These protections, and the fact that fire is a natural process in wilderness, balance the need for wildness (non-manipulation) with the need for naturalness (restore wildland fire). The well-planned use of prescribed fire will not derogate wilderness quality to the degree that would prohibit designation of park lands as Wilderness .

MT1000 - Miscellaneous Topics: General Comments

Concern ID: 26829 and 26847

***CONCERN
STATEMENT:***

Commenter has several suggestions for the future management of elk on NC lands (outside GRSM) where elk hunting could be a possibility.

***CONCERN
STATEMENT:***

Commenter would like to have the elk left in the park, because they are an asset to East Tennessee. I may never be able to hunt them in my lifetime, but I would like for my children or my grandchildren to be able to hunt them.

Response:

Public hunting is not allowed in GRSM. The ultimate responsibility for future management of elk outside GRSM boundaries lies with the respective State, Federal, or Tribal land management agency where the elk reside.

Concern ID:

26855

***CONCERN
STATEMENT:***

The commenter states, "Please explain the difference between the terms "reestablishing", "reintroduction", and "restoration" of the elk herd."

Response:

The commenter is correct that these terms are used interchangeably to describe the action of restoring or returning, to bring back to an original condition, or to bring back to an original condition. Reestablish can be used to mean an act of restoring. Repatriation, used in the original 2000 Elk EA, has similar meaning in restoring or returning.

ON1000 - Other NEPA Issues: General Comments

Concern ID: 26859 and 26867

***CONCERN
STATEMENT:***

Commenter requests an explanation as to why an EA was used for GRSM and not an EIS, as used in Rocky Mountain National Park.

states, "Why was an EA done for this project while an EIS was done for the Rocky Mountain Park Elk Management Plan?" The commenter feels that elk are potentially dangerous and destructive and they will not be confined to GRSM.

**CONCERN
STATEMENT:**

The experiment has morphed into a permanent reintroduction of elk without the completion of an EIS required for a significant action by the federal government.

Response:

The analysis completed in this EA determined that the effects of the preferred alternative, supporting a reintroduced elk population, would not be significant. Therefore, an EIS is not required. Circumstances are different between GRSM and Rocky Mountain National Park (ROMO). Research conducted in ROMO indicates that the Rocky Mountain National Park / Estes Valley elk population is larger, less migratory, and more concentrated than it would be under natural conditions and has created a host of problems in the area. The most prominent is the alteration of plant communities in the core winter range and the potential for substantial declines in biodiversity within aspen and montane riparian willow communities. (ROMO Elk and Vegetation Management Plan EIS, 2007) ROMO was dealing with an overpopulation issue- elk herd in excess of 3,000 animals. GRSM is dealing with approximately 129 animals. ROMO was already documenting severe environmental impacts from the over-populated herd, and they were faced with the need to reduce the population numbers. GRSM does not have the same documented issues. GRSM's purpose in utilization of an EA/Management Plan is to adaptively manage a small elk herd at appropriate population levels which are not anticipated to approach anything close to the population at ROMO

The EA does not suggest that elk are expected to be confined to GRSM. Threats to visitor safety, park resources, or persons or property within or outside boundaries were evaluated in the EA- Chapter 1.0; Human-Elk Conflict (page 17); Chapter 3.0- Park Management and Operations Impacts(pages 46), Visitor And Employee Safety Impacts (page 49)and Visitor Use and Experience (page 50); Chapter 4.0 under both the No Action Alternative and under the Adaptive Management Alternative- Visitor and Employee Safety (Page 61/70), Visitor Use And Experience Impacts (page 62/70); Park Management And Operation Impacts (pages 61/69); Appendix A GRSM ELK MANAGEMENT PLAN 2010-2025- GRSM Elk Population Management Goal (pages 99-102)and Adaptive Management Strategy (pages 108, 109).

Concern ID: 26860

**CONCERN
STATEMENT:**

Commenter believes than an EIS should be utilized since a permanent elk reintroduction involves significant federal dollars and the shift of the financial burden to Tennessee is another unfunded federal mandate.

Response:

The Elk Management Plan EA analyzed impacts on GRSM operations including costs; see Chapter 4.0, Park Management and Operations Impacts, Visitor and Employee Safety Impacts, Visitor Use and Experience Impacts (pages 61, 62), Appendix A GRSM ELK

MANAGEMENT PLAN 2010-2025, Cost Considerations (page 107). Impacts to surrounding landowners were also analyzed in the EA; see Chapter 1.0, Elk-Human Conflict (page 17), Chapter 3.0 Landowner Property Damage (pages 48,49), Chapter 4.0, Socioeconomic Impacts (page 68), Park Management and Operations Impacts (page 69), Chapter 5, Specific Agency Consultation (pages 74,75), Appendix A GRSM ELK MANAGEMENT PLAN 2010-2025, Depredation Issues/Private Lands (page 98), GRSM Elk Population Management Goal (pages 99-102), Adaptive Management Strategy (pages 108, 109).

On July 28, 2000 the Tennessee Wildlife Resources Agency wrote the following in response to the Experimental Release EA, "The Tennessee Wildlife Resources Agency commends the National Park Service (NPS) for its detailed study of the proposal to experimentally introduce elk into the Great Smoky Mountains National Park. We support the action alternative and believe that success is likely with minimal negative impacts." See Agency Correspondence at the end of the FONSI document. In addition, the Tennessee Wildlife Resources Agency (TWRA) decided to reintroduce elk to the state in the late 1990's. Part of the agency's mission is to restore extirpated wildlife when and where it is biologically and sociologically feasible. Beginning in December 2000, the agency began conducting small releases of elk from Elk Island National Park (AL, Canada) into the North Cumberland Wildlife Management Area. There were 201 elk in total that were released over a period of eight years. TWRA is still managing elk on State lands. They employ an elk biologist and over the past 3 years have initiated a small, lottery based, bull elk hunt which raises money for the elk management program. The State of Tennessee is prepared to manage elk on State lands.

SE4000 - Socioeconomics: Impact Of Proposal And Alternatives

Concern ID: 26870 and 26856

CONCERN STATEMENT: As "experimental animals" these elk are effectively agents of the federal government. If a reintroduced elk damages private property, it is a constitutional TAKING of property rights which must be compensated. These animals are NOT wildlife but experimental animals that are "harbored" and as such, NPS should be strictly liable for any and all torts committed by said animals. Any environmental document should discuss the legality of elk reintroduction, plans for compensation, and the costs of compensating private landowners for any and all damage, including personal injury, without limitation.

Response: The commenter is confusing the reintroduction of elk with the establishment of an experimental population under the Endangered Species Act (ESA). The ESA provides for the designation of reintroduced populations of threatened or endangered species as "experimental populations" and for the further designation of these populations as "essential" or "nonessential" to the continued existence of the species. Elk in GRSM are not considered listed as threatened or endangered by the US Fish and Wildlife Service, so the ESA is not applicable here.

The National Park Service disagrees with the suggestion that elk are not wildlife. There is nothing experimental about the animals themselves. The experiment is the release of elk onto park lands. The elk are free-roaming and interact with all aspects of the Park environment just as all other park wildlife. The potential for elk to damage property or cause injury to people was

evaluated in the EA on pages 17, 46, 47, 61, 62, 70, 100-102, 108 and 109. The legal authority for the reintroduction was considered in the EA on pages 78-83.

Concern ID: 26871

CONCERN STATEMENT: Environmental justice is about disparate IMPACTS. The poor generally do not go into national parks. African-Americans generally go to national parks in far less percentages than urban upper-middle class whites. The poor will have more difficulty with elk damage as they have less funds to protect their property and loss of crops has a proportionally greater impact on their lives. Environmental justice must be discussed.

Response: According to the United States Environmental Protection Agency (USEPA), environmental justice is the fair treatment and meaningful involvement of all people, regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including a racial, ethnic, or socioeconomic group, should bear a disproportionate share of the adverse environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies. Executive Order 12898, "General Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," requires all federal agencies to incorporate environmental justice into their missions by identifying and addressing the disproportionately high and/or adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities.

Any actions related to the elk program would not be expected to have health effects on any human population, minority, low-income, tribal or otherwise. Known elk diseases very rarely affect humans, and no harmful chemicals or pollutants will result from elk management. The small number of elk that leave the park and wander onto private lands may create nuisance problems for individual landowners. The causative factor attracting elk to a given plot of land is an environmental factor, i.e. food availability, cover, vegetation, sight distance and other similar attributes of the land. It is true that nuisance impacts from a small number of elk may affect low income populations due to costs associated with damage to crops or property. However, economic impacts were evaluated in the EA and analysis concluded that the level of negative monetary impacts to the community are likely to be negligible overall but minor in four specific locations: private property around the Oconaluftee visitor center and Big Cove, the Suttontown area off of Cove Creek Road, and the White Oak community off of White Oak Road. The overall acreage negatively impacted by elk has been small (<200 total acres across 4 counties in 2 states) consisting mostly of small family gardens, non-commercial fruit trees, and minor fence damage. Under the Adaptive Management Alternative these types of incidents are still likely to occur but are generally minor and localized. These effects may be mitigated by timely aversive conditioning which may serve to deter future behaviors.

Since the proposed changes in any one particular elk management scheme should not result in more than minor economic impact or environmental effects and no health effects, it was determined that there would not be disproportionately high and/or adverse human health or environmental effects on minorities and low-income populations and communities.

VS4000 - Visitor Conflicts And Safety: Impact Of Proposal And Alternatives

Concern ID: 26864

CONCERN STATEMENT: The reintroduction clearly violates NPS management policies and hence never should have taken place and the animals must be removed.

An important section of NPS Management Policies was not discussed in either the first EA or the second. It is extremely odd that the NPS Management Policies 2006 section of the EA quotes section 4.4.2.1, NPS Actions That Remove Native Plants and Animals and states that NPS should reintroduce where "feasible," uses 4.4.2.2 as a reason to reintroduce, but NEVER quotes the full 4.4.2.2, Restoration of Native Plant and Animal Species.

4.4.2.2 Restoration of Native Plant and Animal Species

The Service will strive to restore extirpated native plant and animal species to parks whenever all of the following criteria are met:

_ Adequate habitat to support the species either exists or can reasonably be restored in the park and if necessary also on adjacent public land and waters; once a natural population level is achieved, the population can be self perpetuating.

_ The species does not, based on an effective management plan, pose a serious threat to the safety of people in parks, park resources, or persons or property within or outside park boundaries.

_ The genetic type used in restoration most nearly approximates the extirpated genetic type.

_ The species disappeared or was substantially diminished as a direct or indirect result of human induced change to the species population or to the ecosystem.

_ Potential impacts upon park management and use have been carefully considered.

All of these topics EXCEPT the second are at least mentioned. How could it be that such a critical section of policy was omitted? It is my belief that NPS was made aware of this section of the Policy as a comment on the first EA, and that NPS tried to avoid the requirement by claiming the reintroduction was an "experiment," not a "reintroduction."

It is obvious that elk ARE a serious threat, at a minimum, to persons or property outside park boundaries. Why else would NPS need a "Bugle Corps" and regulations defining safe viewing distances? These protections will NOT be available outside the park.

A viable EA MUST directly address this policy and the policy must be included.

Response:

The EA addressed management policy 4.4.2.2. concerning threats in the following locations: Threats to visitor safety, park resources, or persons or property within or outside boundaries found in Chapter 1.0; Human-Elk Conflict (page 17); Chapter 3.0- Park Management and Operations Impacts(pages 46), Visitor And Employee Safety Impacts (page 49)and Visitor Use and Experience (page 50); Chapter 4.0 under both the No Action Alternative and under the Adaptive Management Alternative- Visitor and Employee Safety (Page 61/70), Visitor Use And Experience Impacts (page 62/70); Park Management And Operation Impacts (pages 61/69); Appendix A GRSM ELK MANAGEMENT PLAN 2010-2025- GRSM Elk Population Management Goal (pages 99-102)and Adaptive Management Strategy (pages 108, 109.

The Adaptive Management Alternative in the EA demonstrates how Park staff will manage risks to minimize threats. The Bugle Corp is a group of volunteers that, among other tasks, educate visitors on proper behavior in an area where elk concentrate. The threat to visitors is greatly reduced just by maintaining a proper distance from the elk. Low speed limits and elk

crossing signs are mitigations to reduce risks of vehicle accidents. Management of the elk (and visitors) since the experimental release has demonstrated that associated risks can be kept below the "serious" threat level. Individual animals or small groups can and do wander outside the park. Over the past 8 years, the overall acreage negatively impacted by elk has been small (<200 total acres across 4 counties in 2 states) consisting mostly of small family gardens, non-commercial fruit trees, and minor fence damage. Under the Adaptive Management Alternative these types of incidents are still likely to occur but are generally minor and localized. These effects may be mitigated by timely aversive conditioning which may serve to deter future behaviors. Additionally, the analysis completed in this EA determined that the effects of the GRSM elk population, including threats, would not be significant.

WH1000 - Wildlife And Wildlife Habitat: Guiding Policies, Regulations And Laws

Concern ID: 26815

CONCERN STATEMENT: Two commenters were concerned about who would take the future lead on elk management in GRSM and felt that GRSM should continue to manage the herd. These commenters felt that the EA alternative suggested that state agencies would have the lead responsibility on elk management in GRSM. One commenter felt that a formal agreement (MOU) was necessary for future elk management.

Response: Overall, future management of the regional elk population will be a cooperative effort between the appropriate local, state, and federal land management agencies. The primary herd is generally expected to stay within the park. Splinter groups may form within the Park or outside the Park. Individual elk may cross in and out of the Park. The primary herd, as well as the splinter groups, tends to stay in suitable habitat both in the Park and out of the Park until population pressures or environmental factors force them to move. That said, GRSM has exclusive jurisdiction over wildlife within its boundaries; therefore, management of the GRSM elk herd (elk within the Park boundary) will continue to be the sole responsibility of the National Park Service; therefore state agencies cannot take the lead role. For management outside park boundaries, NPS has developed formal agreements (MOUs) with Eastern Band of the Cherokee Indians and discussions are underway with other adjacent land managers on future elk management.

Concern ID: 26832

CONCERN STATEMENT: Commenter finds it a bit ironic that the elk get food plots through management, when everything in the park is supposed to be "natural". Would have been nice if such consideration were given to other forms of wildlife in the park.

Response: GRSM does not incorporate wildlife food plots in managing its elk population or any other wildlife. GRSM utilizes prescribed fire to enhance habitat for both flora and fauna. GRSM does manage overall forest health and maintains open areas, both of which may benefit elk. However, the primary reason behind any manipulation such as

prescribed fire or mowing is overall ecological restoration/maintenance.

Concern ID: 26844 and 26846

CONCERN STATEMENT: Commenter believes that once an extirpated wildlife species has been successfully established, GRSM should not manipulate the habitat in order to continue their existence.

CONCERN STATEMENT: Commenter is requesting that habitat manipulation to assure the continued existence of Elk in the Smokies be deleted from any management plan adopted for the continuing management of the Elk in the Smokies.

Response: Habitat manipulation in GRSM relies primarily on prescribed fire in accordance with the approved 2009 GRSM Fire Management Plan. The benefits of prescribed fire to both flora and fauna are widely known and commonly used by land managers throughout the US. Prescribed fire is beneficial to the improvement of all wildlife habitat, including that for elk. The EA does not state that use of prescribed fire will be used solely for maintaining or increasing elk habitat.

Attachment C

Impairment Determination

THE PROHIBITION ON IMPAIRMENT OF PARK RESOURCES AND VALUES

NPS *Management Policies 2006*, Section 1.4.4, explains the prohibition on impairment of park resources and values:

While Congress has given the Service the management discretion to allow impacts within parks, that discretion is limited by the statutory requirement (generally enforceable by the federal courts) that the Park Service must leave park resources and values unimpaired unless a particular law directly and specifically provides otherwise. This, the cornerstone of the Organic Act, establishes the primary responsibility of the National Park Service. It ensures that park resources and values will continue to exist in a condition that will allow the American people to have present and future opportunities for enjoyment of them.

WHAT IS IMPAIRMENT?

NPS *Management Policies 2006*, Section 1.4.5, *What Constitutes Impairment of Park Resources and Values*, and Section 1.4.6, *What Constitutes Park Resources and Values*, provide an explanation of impairment.

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

Section 1.4.5 of *Management Policies 2006* states:

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

- Necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park
- Key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or
- Identified as a goal in the park's general management plan or other relevant NPS planning documents as being of significance.

An impact would be less likely to constitute an impairment if it is an unavoidable result of an action necessary to preserve or restore the integrity of park resources or values and it cannot be further mitigated.

Per Section 1.4.6 of *Management Policies 2006*, park resources and values that maybe impaired include:

- the park's scenery, natural and historic objects, and wildlife, and the processes and condition that sustain them, including, to the extent present in the park: the ecological, biological, and physical processes that created the park and continue to act upon it; scenic features; natural visibility, both in daytime and at night; natural landscapes; natural soundscapes and smells; water and air resources; soils; geological resources; paleontological resources; archeological resources; cultural landscapes; ethnographic resources; historic and prehistoric sites, structure, and objects; museum collections; and native plants and animals;
- appropriate opportunities to experience enjoyment of the above resources, to the extent that can be done without impairing them;
- the park's role in contributing to the national dignity, the high public value and integrity, and the superlative environmental quality of the national park system, and the benefit and inspiration provided to the American people by the national park system; and
- any additional attributes encompassed by the specific values and purposes for which the park was established.

Impairment may result from NPS activities in managing the park, visitor activities, or activities undertaken by concessionaires, contractors, and others operating in the park. Impairment may also result from sources or activities outside the park, but this would not be a violation of the Organic Act unless the NPS was in some way responsible for the action.

HOW IS AN IMPAIRMENT DETERMINATION MADE?

Section 1.4.7 of *Management Policies 2006* states, "in making a determination of whether there would be an impairment, an NPS decision maker must use his or her professional judgment. This means that the decision maker must consider any environmental assessments or environmental impact statements required by the National Environmental Policy Act of 1969 (NEPA); consultations required under Section 106 of the National Historic Preservation Act (NHPA); relevant scientific and scholarly studies; advice or insights offered by subject matter experts and others who have relevant knowledge or experience; and the results of civic engagement and public involvement activities relating to the decision." *Management Policies 2006* further define "professional judgment" as "a decision or opinion that is shaped by study and analysis and full consideration of all the relevant facts, and that takes into account the decision-maker's education, training, and experience; advice or insights offered by subject matter experts and others who have relevant knowledge and experience; good science and scholarship; and, whenever appropriate, the results of civic engagement and public involvement activities relating to the decision.

IMPAIRMENT DETERMINATION FOR THE SELECTED ALTERNATIVE

This determination on impairment has been prepared for the selected alternative described on page 28 of the EA, Adaptive Management. An impairment determination is made for all resource impact topics analyzed for the selected alternative. Determinations were made, in part, on data and observations collected during the past 10 years of the experimental release of elk in the Park. An impairment determination is not made for visitor use and experience, public safety, socioeconomic resources and adjacent lands, and operations and infrastructure because impairment findings relate back to park resources and values, and these impact areas are not generally considered to be park resources or values according to the Organic Act, and cannot be impaired in the same way that an action can impair park resources and values.

Vegetation (included sensitive and rare/threatened and endangered)

At current densities and based on all available data, elk do not appear to be a threat to Park vegetation at this time. Elk in Great Smoky Mountains National Park were determined to result in minor beneficial and moderate localized adverse effects based on their future potential to impact vegetation. However, in the Adaptive Management alternative, impacts to vegetation will be monitored to determine trends in elk-vegetation relationships and guide population manipulation to compensate. Thus, the impacts of the adaptive management of elk in GRSM were determined to result in minor beneficial and minor localized adverse effects. The overall impact to vegetation in the GRSM has been determined to be minor because of the monitoring that will take place over time.

The Adaptive Management Alternative will not result in the impairment of vegetation, including rare/threatened plants.

Wildlife (including Threatened and Endangered Species)

The Adaptive Management alternative for elk does not involve any alterations to current wildlife management, aside from the management of the elk population itself. Habitat requirements for Elk overlap with species that inhabit open fields and forested habitat. Elk prefer open grazing habitat eating grasses, acorns and woody browse. Deer and bear also can utilize these resources. Potential impacts from an adaptively managed elk herd would be adverse, localized and negligible. Small mammals and birds that prefer open grasslands and grassland/forest interfaces can benefit from elk grazing because the grazing tends to maintain the open habitat. This beneficial effect is indirect, localized and negligible. The impact to wildlife, including threatened and endangered species, has been determined to be negligible.

The Adaptive Management Alternative will not result in the impairment of wildlife, including threatened and endangered species.

Cultural Resources

The impacts of the Adaptive Management alternative on cultural resources would largely be focused on two aspects, protection of historic structures and on protection of archeological

resources. Although GRSM does contain numerous historic structures, any elk damage would probably be in the form of scarring historic structures during shedding of velvet and during the breeding season. This possibility would be considered remote and would be difficult to detect. The impact to historic structures would be negligible. None of the proposed actions would affect museum collections. It is possible that the presence of elk, particularly when they congregate, may expose archeological resources; however, this possibility would be considered to be remote and would be difficult to detect as it would be localized, and the impact would be negligible. In addition, elk can be a minor beneficial influence on the cultural landscapes by maintaining the open field appearance and contributing to the cultural landscape.

The Adaptive Management Alternative will not result in the impairment of cultural resources.

Attachment D

ERRATA

The following changes should be incorporated into the Environmental Assessment for the Establishment of Elk in Great Smoky Mountains National Park:

Page 34: Delete the second paragraph (Removal Alternative) and insert the following: Since one of the potential outcomes envisioned in the Experimental Release EA was complete removal/relocation of elk from GRSM, described under Phase III in that EA, an 'elk removal' alternative was considered in the present EA. However, this alternative was eliminated from detailed consideration in the EA for a number of reasons, primarily because of the success in introducing the elk to GRSM described in Chapter 1 of the EA. Ample biological data were collected during the experimental period demonstrating that one goal of the Elk Management Plan can be met: a self-sustaining elk herd has been established in the park and that impacts to Park resources are in the acceptable range. Complete removal was only a reasonable option if the Park habitat could not sustain a population of elk and/or if the impacts from the elk on Park resources and the human environment were unacceptable.

Furthermore, the elk have proved to be quite popular with park visitors. An attempt to remove the elk now that they have been successfully established in the park would most likely create significant public controversy. Also, any effort to completely remove the elk would require capture and relocation of the large, heavy animals ranging over wide areas of the park and adjacent lands. To find each elk, tranquilize it and safely move it from remote field locations to motorized transport for relocation, while not impossible, would be technically challenging. A suitable location, with a State or Federal Agency willing to accept the animals, would have to be found. Finally, because of new laws regulating the transport of cervids, park staff might not be allowed to transport the elk to suitable habitat outside the park. For all of the above reasons, this alternative was not considered further.