

National Park Service
U.S. Department of the Interior

Pea Ridge National Military Park
Garfield, Arkansas

Pea Ridge National Military Park Deer Management Plan and Environmental Assessment



January 2021

Executive Summary

The National Park Service (NPS) proposes to implement a Deer Management Plan (plan) for Pea Ridge National Military Park (park) in Garfield, Arkansas. The NPS seeks to reduce the number of white-tailed deer (*Odocoileus virginianus*) located in the park while avoiding or minimizing impacts to the site. The purpose of the Deer Management Plan is to: 1) reduce the spread of deer-related disease; 2) reduce the number of deer-vehicle strikes in and around the park; and 3) limit the potential for negative impacts to the cultural landscape due to deer browsing.

This Environmental Assessment (EA) describes the no-action alternative and one action alternative and analyzes the environmental consequences of implementing each alternative. Under Alternative A, the no-action alternative, the NPS would maintain current management practices, including not taking measures to reduce the deer population, which is about 135 deer per square mile. Alternative B, the action alternative, would be a deer management plan that would reduce the deer population to 20-35 deer per square mile.

This EA has been prepared in compliance with the National Environmental Policy Act (NEPA) to provide a decision-making framework as follows: 1) assess a reasonable range of alternatives to meet the underlying purpose of the proposed action; 2) evaluate potential issues and impacts to the natural and cultural resources of the park; and 3) identify required mitigation measures designed to lessen the degree or extent of impacts. Resources (impact topics) determined to potentially be affected by the alternatives include: human health and safety, nuisance wildlife, vegetation, and visitor use and experience. All other resource topics were dismissed because an interdisciplinary team determined the Preferred Action would result in negligible impacts. No substantial impacts were identified as a result of this project.

This plan facilitates a park planning priority to return and maintain the landscape to the conditions that would have existed during the 1862 Civil War battle commemorated by this park, as well as to improve human health and safety by reducing deer-related diseases and deer-vehicle collisions. The park's planning portfolio consists of the individual plans, studies, and inventories, which together guide park decision-making. The planning portfolio enables the use of targeted planning documents (such as this one) to meet a broad range of park needs and fulfill legal and policy requirements. The portfolio of plans will continue to be updated and/or supplemented in a timely manner through the development of additional park planning documents.

Public Comment

The NPS Planning, Environment and Public Comment (PEPC) site provides access to current plans and related documents on public review. Users of the site can submit comments for documents available for public review. If you wish to comment on the Environmental Assessment, you may post comments online at <http://parkplanning.nps.gov/> or mail comments by March 1, 2021 to:

Attn: Superintendent
Pea Ridge National Military Park
15930 U.S. Hwy 62 East
Garfield, AR 72732

This EA will be available for public comment for 30 days. Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment--including your personal identifying information--may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

ON THE COVER

White-tailed deer in Pea Ridge National Military Park, Arkansas
Photograph by NPS/Heartland Inventory and Monitoring Network

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1.0 Chapter One: Introduction

Background

Pea Ridge National Military Park (park), established in 1956 and opened to the public in 1963, preserves and commemorates the site of the March 1862 Civil War battle that helped Union forces maintain physical and political control of the State of Arkansas. Administered by the NPS, the 4,300-acre park is situated in the foothills of the Ozark Mountains 10 miles north of Rogers, Arkansas, just off US Highway 62 (Figure 1). The park is divided into two units, a larger northern unit and a smaller southern unit. The north unit, 4,247 acres, is north of US Highway 62 and encompasses most of the historic battleground. It includes a network of soft surface trails for equestrians and pedestrians, as well as a tour road, which bicyclists share with vehicles. The southern unit, 53 acres, is located along the bluffs of Little Sugar Creek and contains the Federal Trenches of the Union troops.

The park also contains a portion of the northern route of the Trail of Tears, including campsites along the trail at Elkhorn Tavern and Ruddick's Field. This segment is one of the few places the Trail of Tears passes through Arkansas. Eleven Cherokee Removal contingents used this route from 1837 and 1839. The Trail of Tears generally followed the route of Telegraph Road through the park, which is eligible for the National Register of Historic Places (NRHP).

The NPS is proposing to implement a Deer Management Plan (plan) in the park to improve health and safety by managing the deer population to reduce the spread of deer-related disease and the number of vehicle collisions with deer, as well as to protect vegetation which is being managed per the *Pea Ridge National Military Park Vegetative Management Plan and Environmental Assessment* (NPS 2014c) and is an important part of the cultural landscape.

This EA has been prepared in compliance with the National Environmental Policy Act (NEPA) to provide the decision-making framework that (1) analyzes a reasonable range of alternatives to meet the objectives of the proposal, (2) evaluates potential issues and impacts on resources and values, and (3) identifies mitigation measures to lessen the degree or extent of these impacts. This Environmental Assessment (EA) describes two alternatives for the proposed Deer Management Plan and analyzes the environmental consequences of implementing the alternatives.

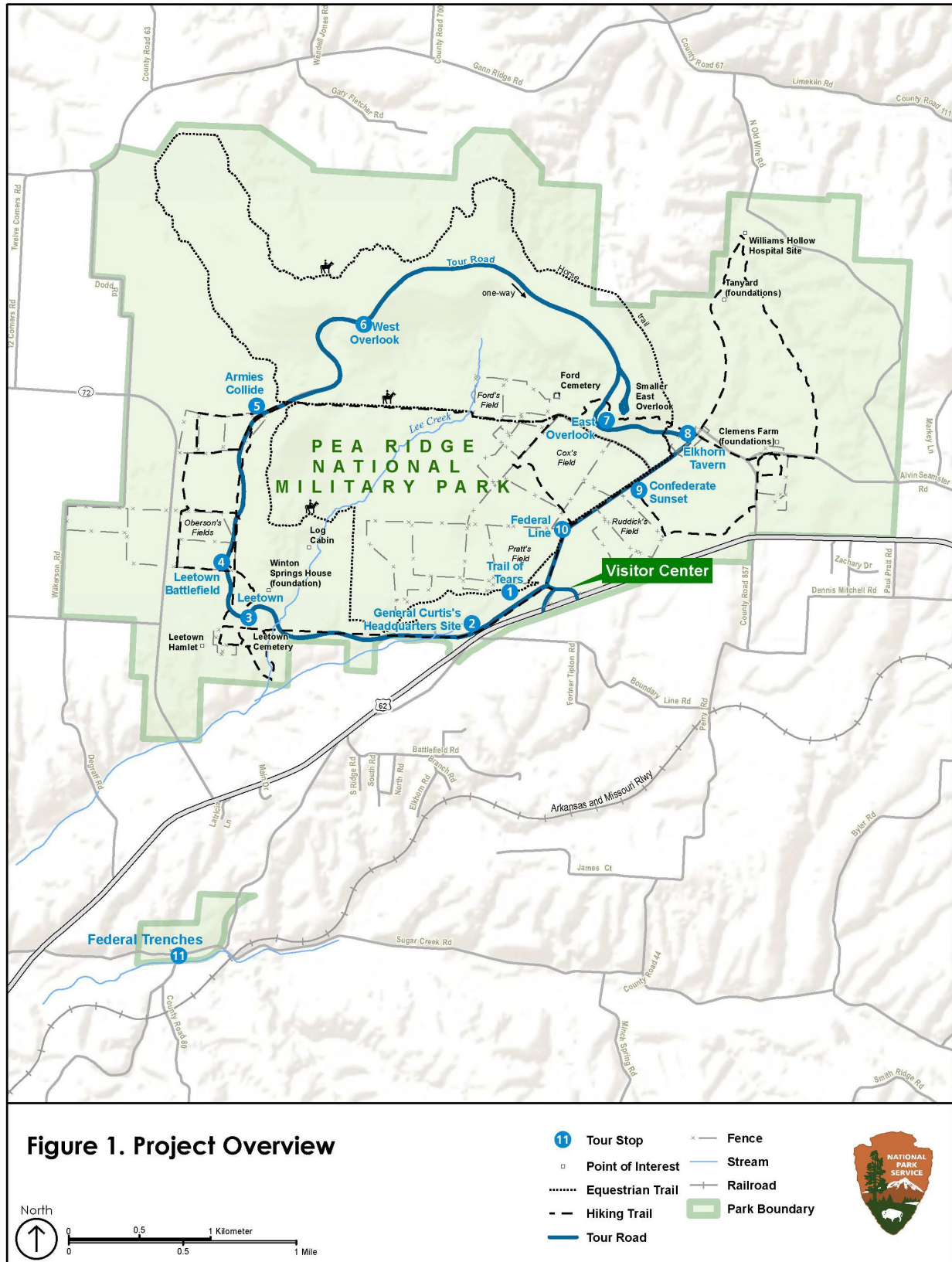


Figure 1: Map of Project Area

1.1 Purpose and Need for Action

The purpose and need of the plan and EA is to analyze management actions to manage the park's deer population to increase the health of the herd, reduce the risk of spread of diseases (such as tick-borne diseases which can affect humans), reduce the incidents of deer-vehicle collisions, and improve the cultural landscape and overall habitat of the park.

1.2 Project Objectives

Objectives are more specific statements of purpose that provide additional basis for comparing the effectiveness of alternatives in achieving the desired outcomes of the action (NPS 2015). All alternatives carried forward for detailed analysis must meet all objectives to a large degree and must resolve the purpose of and need for action. The following objectives were identified by the planning team for this project:

- Inhibit the spread of deer-related diseases within the park;
- Improve human health and safety by decreasing the risk of deer-vehicle collisions and diseases such as Lyme disease;
- Improve the health and aesthetics of the cultural landscape by reducing deer browse.

1.3 Relationship to Existing Plans and Programs

Several other planning documents exist to guide and inform the plan. These plans and reports provide information relating to the park's landscape, historical importance, and future plans and developments. The most relevant planning documents for this plan/EA include:

- *Pea Ridge National Military Park Trail Master Plan, Phase I Planning Process, Alternatives, and Program Elements* (NPS 2017);
- *Pea Ridge National Military Park General Management Plan and Environmental Impact Statement* (NPS 2006a);
- *Pea Ridge National Military Park Foundation Document* (NPS 2016);
- *Pea Ridge National Military Park Cultural Landscape Report and Environmental Assessment* (NPS 2014a);
- *Pea Ridge National Military Park Vegetative Management Plan and Environmental Assessment* (NPS 2014c);
- *Pea Ridge National Military Park Long-Range Interpretive Plan* (NPS 2011);
- *Pea Ridge National Military Park Mitigations for Expansion of Highway 62 Environmental Assessment* (NPS 2014b).

1.4 Impact Topics

Issues related to human health and safety, wildlife, vegetation, and visitor use and experience are analyzed in detail in this EA. Topics have been retained for detailed analysis because (a) they are central to the proposal or of critical importance, and have a potential to be impacted; (b) analyzing them will assist in making a reasoned decision; or (c) because the environmental impacts associated with the issue have the potential to be a source of controversy.

Issues related to air quality, cultural and historic resources, floodplains, geology, night skies, paleontological resources, socioeconomic, soils, soundscape, special status species, and water resources have been dismissed from detailed analysis because they would not be measurably impacted by any alternative, would not assist with making a reasoned choice between alternatives, or are not a point of controversy. Table 1 below summarizes which topics were retained or dismissed and includes a rationale for dismissal.

Table 1: Impact Topics Retained or Dismissed

| Impact Topic | Retain | Dismiss | Rationale for Dismissal |
|--|--------|---------|--|
| Air Quality | | X | No impacts to air quality would occur under this plan, therefore, this topic was dismissed from detailed analysis. |
| Cultural and Historic Resources | | X | This plan would not impact cultural or historical resources. Impacts to the cultural landscape are covered under the vegetation impact topic. |
| Floodplains | | X | No occupancy, modification, or development of floodplains would occur under this plan; therefore, it was dismissed from further analysis. |
| Geology | | X | As this plan would not impact geology, it was removed from further analysis. |
| Human Health and Safety | X | | |
| Nuisance Wildlife | X | | |
| Wildlife | | X | Impacts from deer management activities could include disturbance during reduction activities. These activities would have minimal, short-term, localized impacts, as wildlife would likely vacate the vicinity and return following completion. |
| Night sky/Dark Skies | | X | Impacts on night skies would be negligible and short term (limited to the duration of any night reduction efforts). |
| Vegetation | X | | |
| Paleontological Resources | | X | As this plan would not impact paleontological resources, it was removed from further analysis. |
| Socioeconomics | | X | As this plan would not have any measurable socioeconomic impacts, it was removed from further analysis. |
| Soils | | X | This plan would not result in adverse impacts on soils and was removed from further analysis. |
| Soundscape | | X | Management strategies to control the deer population, such as sharpshooting, could affect the soundscape because of firearm noise. It is unlikely that noise would be substantial, although at night, with background noise reduced, firearm discharges would be audibly noticeable. Suppressors may be used to reduce noise from firearm discharges. Any impacts to soundscapes are expected to be negligible under the proposed alternatives. |
| Special Status Species-flora and fauna | | X | Special status species that may occur within the park include: the endangered Gray Bat (<i>Myotis grisescens</i>), Indiana Bat (<i>Myotis sodalist</i>), and Ozark Big-eared Bat (<i>Corynorhinus townsendii ingens</i>); the threatened Northern Long-eared Bat (<i>Myotis septentrionalis</i>) and proposed threatened Eastern Black Rail (<i>Laterallus jamaicensis</i>). Three state threatened plants species (forked aster [<i>Eurybia furcatus</i>], ovateleaved catchfly [<i>Silene ovate</i>], and royal catchfly [<i>Silene regia</i>]) and two state endangered species (caric sedge [<i>Carex opaca</i>] and small headed pipewort [<i>Eriocaulon koernickianum</i>]) were identified as likely present in the park (NPS 2014c). Deer management activities could include disturbance during implementation of reduction methods, but these activities would have minimal, short-term, localized, impacts, since the wildlife would likely vacate the vicinity of the disturbance and return following completion. Impacts would be negligible, short term, and beneficial to special status flora, so this issue was dismissed from further analysis. |
| Visitor Use and Experience | X | | |
| Water Resources | | X | The park is located within the Elk watershed. Two small streams, Lee Creek and Pratt Creek, originate within the boundaries of the park and wetlands may occur along these streams. This plan would not impact water resources and was dismissed from further analysis. |

2.0 Chapter Two: Management Alternatives

This EA analyzes a no-action alternative and one action alternative for the Deer Management Plan. The elements of these alternatives are described in detail in this section. Impacts associated with the actions proposed under each alternative are outlined in the *Affected Environment and Environmental Consequences* chapter of this EA. Other alternatives and actions that were considered but eliminated from detailed analysis are described at the end of this chapter.

2.1 Elements Common to all alternatives:

Encouragement of Deer Management Outside the Park

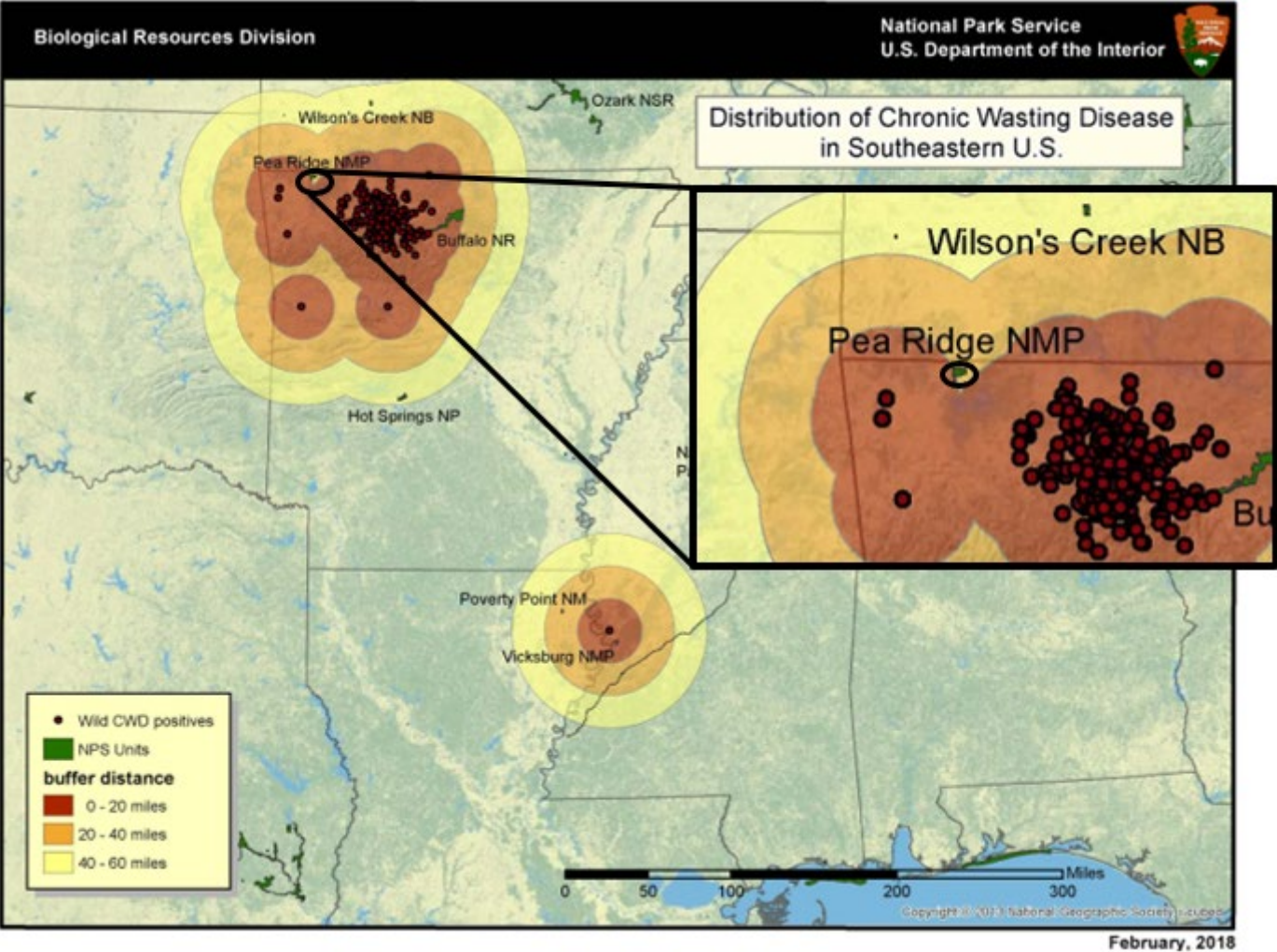
Since park boundaries are not enclosed deer populations cannot be successfully managed as deer move in and out of the park. Deer management outside the park would continue to be encouraged through cooperative efforts with other management agencies, including the continuation of hunting in the area outside the park, managed by the Arkansas Game and Fish Commission (AGFC).

Deer- related Disease Surveillance and Testing

Deer are known to carry several diseases including: Chronic-wasting Disease (CWD), hemorrhagic fever (HD), and can facilitate the spread of tick-borne diseases such as Lyme disease. CWD has been detected in the wild populations of white-tailed deer in Arkansas but is not currently known to be in the park. The nearest case was approximately 20 miles from the park ((Distribution of CWD, NPS, 2019) (Figure 2)). The NPS seeks to prevent or limit the spread of CWD and assist in understanding the distribution of the disease in the region.

The NPS has summarized some of the most pertinent CWD literature, management options, and policies as they pertain to units of the national park system in its “A National Park Service Manager’s Reference Notebook to Understanding Chronic Wasting Disease” (CWD Reference Notebook, NPS 2012b). In accordance with these recommendations, the NPS and AGFC will test samples obtained from deer removed by culling operations as well as any deer found dead, such as those killed in a vehicular collision. Additionally, park staff and AGFC officers are trained in recognizing clinical signs of CWD and will remove any deer that are suspected of having the disease (targeted surveillance). Tissue samples will be sent to certified laboratories either directly, through the Arkansas Game and Fish Commission, or through the NPS Wildlife Health Branch.

Figure 2: Distribution of Chronic Wasting Disease near the park



2.2 *Alternative A: No Action*

Under Alternative A, the no-action alternative, the NPS would continue current management practices and not actively manage the deer population at the park which is approximately 135 deer per square mile at the time of this plan. The NPS would continue to monitor for deer-related disease, deer browse, and vehicular collisions with deer.

2.3 *Alternative B: (Preferred Alternative)*

Under Alternative B, the NPS would actively seek to reduce the white-tailed deer population to the AGFC recommended density of 20-35 deer per square mile (personal correspondence).

When the surveyed white-tailed deer population density exceeds 20-35 per square mile, the deer would be culled through direct lethal reduction using firearms or archery equipment to reach the AGFC recommended population density. Adaptive management will be utilized and a lower deer per square mile threshold may be adopted if management goals are not met with deer at the 20 - 35 deer per square mile level. Visitor access would be limited as necessary during reduction efforts and NPS rangers and/or AGFC officers would patrol public areas to ensure compliance with area closures and public safety measures. Operations would be designed to minimize impacts on visitors and access to the park by timing culling operations at low-visitation hours and posting area closures in advance.

NPS would manage the reduction carried out by qualified federal employees or authorized agents. Authorized agents may include, but are not limited to, other agency and tribal personnel or contractors, state partners or nonprofit conservation partners. Personnel engaged in direct reduction of deer for this plan would have appropriate skills and proficiencies in the use of firearms or archery equipment for the removal of wildlife and the protection of public safety. For this plan's purposes, a contractor would be a fully insured business or nonprofit entity engaged in wildlife management activities that include lethal removal by sharpshooting. Public volunteers or nonprofit conservation partners would need to demonstrate appropriate proficiency, skills, and abilities, depending on their intended involvement. All volunteers and partners would be supervised and managed in the field by NPS or AGFC personnel during deer management actions. Volunteers or partners would be required to wear appropriate personal protective equipment and be over the age of 18 years old.

Bait stations may be established to attract deer to safe removal locations and would consist of small grains, apples, hay, or other food attractants placed on the ground from October 1 to February 28. The amount of bait placed in any one location could be in the range of 20 to 100 pounds, depending on the bait used and the number of deer in the immediate area. Unconsumed bait would be removed from affected areas once culling operations are completed. Volunteer groups or partners would provide and use portable deer stands (10-12) with fall protection at locations selected by the park or AGFC staff. Stands would not be located within 150 yards of any park infrastructure.

Sharpshooting would occur during the day or night from October 15 to February 28 as necessary to increase efficiency and effectiveness of culling operations. Weapons appropriate to the location and shooting situation would be used from close range in a

controlled environment. Every effort would be made to kill the animals as humanely as possible. Noise suppression devices and night vision equipment, as well as archery equipment, may be used to reduce disturbance to the public and increase operational efficiency. Activities would comply with all federal laws, particularly those administered by the Bureau of Alcohol, Tobacco, and Firearms. In compliance with NPS policy (see Appendices A and B) and to avoid secondhand toxicity to wildlife, including special status species such as bald eagles, only lead-free ammunition would be used.

Meat derived from culled deer and found to be free of CWD would be made available for donation. In consultation with the NPS Office of Public Health, an operational plan for maintaining as much venison as possible for public donation would be created. Recipients may include food banks in Arkansas, sportsman's or other non-profit groups that accept game meat to distribute to appropriate third parties. Several nonprofit sportsman or conservation groups in Arkansas may be available to assist in defraying costs associated with donation. While CWD has not been detected at the park, when donating meat for public consumption through a food bank or other cooperator, NPS will follow the guidance found in *Elk and Deer Meat From Areas Affected by Chronic Wasting Disease: A Guide to Donation for Human Consumption* (2006). Carcasses and meat that has tested positive for CWD will not be donated and will be disposed of in an incinerator or otherwise disposed of in a manner compliant with state best management practices. Carcasses that test negative for CWD but is not able to be donated for whatever reason would be incinerated, left in situ, or disposed of in some other manner compliant with state best management practices.

2.4 Alternatives Considered but Dismissed

Table 2 summarizes the actions initially considered as potential alternatives but were later dismissed from further analysis.

Table 2: Alternatives Considered but Dismissed from Further Review

| Alternatives Considered | Reason for Dismissal |
|--------------------------------|--|
| Managed Recreational Hunt | This alternative was rejected because the park's enabling legislation does not allow hunting and would require Congress to amend existing legislation. |
| Surgical Sterilization | Does would be captured, tagged, and surgically sterilized, requiring a licensed veterinarian, and then released back into the park. In addition to the stress of the capture, the deer would also be stressed by tranquilizers/anesthesia, surgical procedures, and recovery, which could increase mortality rates. The long-term effects of this alternative on population genetics or behavior have not been well documented. Another prohibitive factor includes limited personnel compared to the high number of deer and the amount of time each procedure would require. Due to these concerns, this alternative was eliminated. |
| Reproductive Control | Reproductive control requires long time periods to reduce the size of the herd, requires marking treated animals, is expensive to apply and maintain a long-term treated population of does, may have negative effects on natural selection, and requires extensive coordination and cooperation with the state. For these reasons, it was eliminated as a reasonable alternative. |
| Predator Reintroduction | Wolves and mountain lions are efficient deer predators but have been eliminated from much of the United States. Reintroducing these predators into the park would not be feasible due to a lack of suitable habitat. A wolf has a home range averaging 30 square miles when deer are the primary prey (NPS, 2008; Mech 1991), which is much larger than the park which is XXX square miles. Additionally, the park is surrounded by suburban land use, making the reintroduction of these predators dangerous to humans, livestock, and pets. For the reasons described above, reintroduction of predators was eliminated as a reasonable alternative. |
| Capture and Relocation | Capturing deer within the park and relocating them would be in violation of NPS policy that strictly limits the translocation of deer into or out of NPS units (NPS 2002). This policy is a result of human-assisted movement of deer having been implicated in several CWD outbreaks outside the historic area of disease (Williams and Miller 2003). Because of this policy and concerns of CWD spread, capture and relocation was eliminated as a reasonable alternative. |
| Application of Repellents | Repellents work by reducing the attractiveness and palatability of treated plants to a level lower than that of other available forage. Repellents are more effective on less palatable plant species than on highly preferred species (Swihart and Conover 1991). Repellent performance seems to be negatively correlated with deer density, the higher the abundance of deer, the less likely the repellent is to be effective. Repellents are available in chemical and organic forms. The organic repellents are biodegradable and are expected to be the least harmful to the environment. Repellents can have a short residence time when applied to plant material and must be monitored and applied frequently to retain their effectiveness. Because the application of repellents would not reduce the overabundance of resident deer, application of repellents was eliminated as a reasonable alternative. |
| Use of Enclosure Fencing | Because the park is an historic site and is a National Historic Landscape, fencing would detract from the historic setting and would constitute an adverse effect on the NHL, therefore deer-proof fencing was eliminated as a reasonable alternative. |

3.0 Chapter Three: Affected Environment and Environmental Consequences

3.1 Introduction

This chapter describes the affected environment, which is intended to document the existing conditions of the park. These descriptions serve as a baseline for understanding the resources that could be impacted by implementation any action. This chapter also includes an analysis of the environmental consequences or “impacts” of the no-action alternative and action alternative, immediately following the affected environment descriptions for each resource topic. The resource topics presented in this section correspond to the environmental issues and concerns identified during internal scoping.

In accordance with CEQ regulations, the environmental consequences analysis includes direct and reasonably foreseeable impacts on resources as a result of the proposed action (40 CFR 1502.16). The degree of the impact is assessed in the context of the park’s purpose and significance and any resource-specific context that may be applicable (40 CFR 1508.27). The methods used to assess impacts vary depending on the resource being considered, but generally are based on a review of pertinent literature and park studies, information provided by on-site experts and other agencies, professional judgment, and park staff knowledge and insight.

3.2 Assessment of Impacts

According to revised CEQ regulations: *Effects* or *impacts* means changes to the human environment from the proposed action or alternatives that are reasonably foreseeable and have a reasonably close causal relationship to the proposed action or alternatives, including those effects that occur at the same time and place as the proposed action or alternatives and may include effects that are later in time or farther removed in distance from the proposed action or alternatives.

3.3 Human Health and Safety

3.3.1 Affected Environment

Disease

Deer are known to carry several diseases including: Chronic-wasting Disease (CWD) and tick-borne diseases such as Lyme disease. CWD is a concern at the park and is a fatal neurological disease that affects behavior and body condition. CWD has been detected in the wild populations of white-tailed deer in Arkansas, the nearest documented case was approximately 20 miles from the park (Figure 2). Although there has been no documentation of CWD occurrence in humans, the Centers for Disease Control and Prevention (CDC) recommends that humans prevent exposure to CWD, as some studies have shown that it may pose a risk to people (Chronic Wasting Disease (CWD), 2019).

Deer can contribute to the spread of ticks which may be serving as hosts for tick-borne diseases such as Lyme Disease, Ehrlichiosis, and

Rocky Mountain spotted fever. These diseases can be transmitted to humans through the bite of a tick (Peitz 2019). Controlling deer-related diseases, some of which can affect domestic livestock and human health in and around the park, becomes increasingly difficult when there are more deer.

Deer-Vehicle Collisions

Deer-vehicle collisions in and around Pea Ridge National Military Park have the potential to increase as the deer populations grows. The Arkansas State Police estimates that 19 animal-vehicles accidents occurred in Benton County, where the park is located, between 2005 and 2014. Although data on the type of animal is not reported, it is assumed that some or most of these incidents involved deer (Arkansas State Police 2019; NPR 2019). Additionally, surveys done by the Heartland Inventory and Monitoring Network in the vicinity of Wilson's Creek National Battlefield (battlefield) found 26 dead deer on the road or on the road right of way during an eight-month period from April-December 2016; on average only 1.25 deer-vehicles accidents are reported annually within one miles of the battlefield. This data suggests that the number of deer-vehicles collisions may be largely underreported (NPS 2019).

3.3.2 Alternative A Impacts

Disease

In Alternative A, the park would continue to not actively manage the deer population, which would continue to increase. With an increased deer population there would be an increased risk of deer-related diseases that would continue to adversely affect the herd, livestock, domestic pets, as well as the human population, in both the short- and long-terms.

Deer-Vehicle Collisions

Without active deer population management, the incidents of deer-vehicle collisions would continue and would likely increase as the deer population increases. Current projects around the park are increasing highway capacity and creating more suitable habitat for white-tailed deer. These projects would be favorable to increasing the deer population, while also increasing the capacity for vehicles in the area. These impacts would be adverse in both the short- and long-terms.

3.3.3 Alternative B Impacts

Disease

Alternative B would inhibit the deer's current trend of increasing population. A healthy herd population would reduce the risk for the outbreak and spread of deer-related diseases. The benefits would be beneficial and long-term.

Deer-Vehicle Collisions

Alternative B would inhibit the deer's current trend of increasing population, decreasing the risk of deer-vehicle collisions. The benefits would be beneficial and long-term.

3.4 Nuisance Wildlife (*white-tailed deer*)

3.4.1 Affected Environment

White-tailed deer are considered a nuisance wildlife species in the park due to their impacts on vegetation as well as the potential human health and safety risks. Deer are currently over-abundant at the park. Adjusted counts of white-tailed deer for the visible area on Pea Ridge National Military Park are 137 deer per square mile, exceeding state recommended healthy population levels of 20-35 per square miles.

Deer in and around the park have been shown to have deer-related diseases including CWD and Epizootic hemorrhagic Disease (HD). CWD is a fatal, transmissible neurologic disease that affects members of the deer and elk family. Researchers believe CWD is caused by prions, abnormal agents that cause the misfolding of normal cellular proteins. These misfolded "prion proteins" can be passed directly from animal-to-animal and indirectly through the environment. Prions accumulate in the animal's nervous and lymphoid tissues (brain, spinal cord, eyes, lymph nodes, and spleen) and are shed through saliva, urine, blood, and feces. CWD can cause weight loss, fatigue and other neurologic symptoms (Prions: Chronic Wasting Disease, 2019). HD is caused by viruses and occurs in two forms in Arkansas: bluetongue (BTV) and epizootic hemorrhagic disease (EHD). HD results in reduced appetite, loss of fear of humans, weakness and ultimately death of the infected deer within 8 to 36 hours of becoming symptomatic. The virus is transmitted via insect vectors in the *Culicoides* (midge) genus and there is currently no treatment. Although not known to be infect humans or domestic livestock, BTV can be transmitted to domestic sheep, cattle, goats and potentially to domestic dogs (Epizootic Hemorrhagic Disease, 2018).

Allowing deer populations to increase until a disease event occurs is a poor management strategy and has shown to be ineffective at controlling the population long-term (NPS 2019). The 2019 study of white-tailed deer at the park showed an overall population increase of 2.8% annually, even with an outbreak of HD from 2005-2007 that temporarily decreased the deer population (Peitz 2019).

Other nuisance wildlife is also present at the park, such as armadillos and feral hogs, but are not the focus of this plan. Nuisance plants are described in the vegetation section later in the document.

3.4.2 Alternative A Impacts

In Alternative A the deer population would continue to grow, increasing the risk of spreading disease to domestic livestock and pets, and negatively impacting the native flora in the area. Impacts would be long-term, with continued increases in population, contributing to the other impacts described in this document.

3.4.3 Alternative B Impacts

Alternative B would decrease the deer population. A reduction in the deer population would reduce the nuisance impacts of overgrazing on vegetation, as well as reduce spread of diseases and negative impacts on health and safety described in this document that are a direct result of an overpopulation of deer.

Other nuisance wildlife could be attracted by bait stations; any impacts would be negligible and limited to the duration of the operation, given the short duration of baiting, the expedient consumption by the deer, and removal of any remaining bait at the completion of the operation.

3.5 Vegetation

3.5.1 Affected Environment

The park is in the Ozark Highlands ecoregion, and is split by the Springfield Plateau and Dissected Springfield Plateau-Elk River Hills sub-ecoregions. Historically, the vegetation in the park was predominantly deciduous woodlands and forest with cropland found in the south-central and southeast portions of the park. Currently, the dominant vegetation types present in the park are grasslands and woodlands and forests. Vegetation types that cover only a small portion of the park include ruderal grassland and shrubland, restored prairie, orchards, a marsh in the small ponded area in the southwestern portion of the park, and glade-like open areas in the forests underlain by limestone, sandstone, or other bedrock.

The grass fields are mowed and are dominated by fescue and other pasture grasses. The agriculture fields and pastures present at the historic battle were converted to grass for maintenance purposes. Woodland and forested areas are the dominant vegetation type in the park and include upland deciduous woodland and forests, dry deciduous woodland and forests, bottomland deciduous woodland and forests, eastern red cedar woodland and forests, and a small area of silver maple forest. The upland deciduous woodland and forests are common vegetation types within the park and are dominated by black oak (*Quercus velutina*), other oaks (*Quercus* spp.), and mockernut hickory (*Carya alba*). Dry deciduous woodland and forests are found on the top and slopes of Elkhorn Mountain and are dominated by post

oak (*Quercus marilandica*), other oaks, and black hickory (*Carya texana*). In elevated portions and on the ridgetop, this vegetation type has a grass understory composed of Virginia wildrye (*Elymus virginiana*) and is more of an open woodland. The Bottomland deciduous woodland and forest is found along Lee Creek and other small creeks within the park. Dominant species include early successional species. Eastern red cedar (*Juniperus virginianais*), a pioneer species, has invaded approximately 1,000 acres of the park since the historic battle but has been reduced to approximately 200 acres through actions in the 2006 General Management Plan and 2014 Vegetation Management Plan. It forms dense stands in areas of old croplands and other disturbed areas. The silver maple forest is found in a poorly drained area on the northwestern boundary of the park.

There are twelve post oaks and three white oaks that have been designated as historic trees as they were alive at the time of the 1862 battle. Invasive and exotic plant species are found throughout the park. Inventories of vascular plants in the park were conducted in 2003 and 2009. The 2003 inventory identified two species, Ozark chinquapin (*Castanea pumila* var *ozarkensis*), and lobed spleenwort (*Asplenium pinnatifidum*) that occur in the park near the East Overlook and are tracked by the Arkansas Natural Heritage Commission because they are uncommon or have conservation concerns (NPS 2014c). The 2009 inventory identified three state threatened species (forked aster [*Eurybia furcatus*], ovateleaved catchfly [*Silene ovate*], and royal catchfly [*Silene regia*]) and two state endangered species (caric sedge [*Carex opaca*] and small headed pipewort [*Eriocaulon koernickianum*]) that were likely present in the park (NPS 2014c).

Invasive nonnative species dominate portions of nearly all open fields, prairie areas, and road corridors in the park. A vascular inventory in 2009 identified 83 nonnative vascular plants in the park. The park has identified 22 nonnative plant species that are of most concern, including Japanese honeysuckle (*Lonicera japonica*), fescue grasses (*Festuca* spp.), spotted knapweed (*Centaurea maculosa*), sericea lespedeza (*Lespedeza cuneata*), and Canada bluegrass (*Poa compressa*). These species can colonize, overrun, and disrupt ecosystems. Currently, the park treats approximately 500 to 1,000 acres with prescribed burns annually, and another 200 acres of invasive plants are mechanically removed.

Deer preferentially browse native vegetation over exotic vegetation, promoting the spread of exotic species. Additionally, the success of tree planting can be curtailed by heavy deer browsing.

3.5.2 Alternative A Impacts

In Alternative A, the deer population would likely remain high or increase over time, adversely affecting native plant abundance and

diversity. The impacts of a high deer population include decreased ability of plants to reproduce naturally, which in turn, would lead to decreased native plant diversity, increased opportunity for exotic plants, and decreased abundance of native plants. Some benefits could also be gained after periodic declines in deer population from disease or lack of available food; however, such population declines would not last long enough for native plant communities to recover fully.

This alternative would continue to present an obstacle to implementing the Pea Ridge National Military Park Cultural Landscape Report recommendations, to restore the oak savanna and oak forest vegetation present at the time of the battle. Adverse impacts to vegetation would be long-term as browsing pressure would be expected to remain high in a large portion of the park throughout the life of this plan.

3.5.3 Alternative B Impacts

As deer preferentially browse on native vegetation, decreasing the deer population at the park will limit the spread of invasive vegetation and increases the population of native vegetation. Enhancing native plant reproduction by quickly reducing deer browsing pressure and by maintaining a smaller deer population would result in beneficial, long-term effects because native vegetation throughout the park could recover. In the short term, implementation of Alternative B would result in moderate beneficial impacts on vegetation as a quick reduction in deer numbers would support an increase in plant reproduction. Over the long-term, impacts would continue to be beneficial as the relatively rapid deer herd reduction would allow the abundance and diversity of vegetation throughout the park to recover and better protect native and desirable plants. Deer would continue to migrate into the park and would require long-term management. There could also be some short-term negligible impacts from deer management actions, limited to the duration of the management activities.

3.6 Visitor Use and Experience

3.6.1 Affected Environment

The park attracts nearly 120,000 visitors per year. Open year-round, visitors experience the park through walking paths, hiking trails, biking on park roads, horseback riding on designated trails, and a self-guided auto tour, which includes 11 stops along the tour road and remains one of the major interpretive resources at the park. Most visitors begin their park experience at the visitor center, which provides important context for exploring the park and valuable information about visitor services and tour information.

The park encompasses nearly 90% of the area in which the two-day battle between the Confederate and Union troops took place on March 7-8, 1862. The park includes numerous interpretive opportunities for visitors to learn about cultural resources, including archeological sites, historic sites, structures, and cultural landscape features associated with the battle and the agrarian community once found at Pea Ridge.

Currently, there is no visible trailhead from the visitor center for those visitors who wish to walk or bike. However, planned improvements to the visitor center as part of the US Highway 62 Mitigation Project will provide additional opportunities to establish a logical beginning point for bicyclists and pedestrians. A network of trails and pathways is available for visitors who wish to experience the park outside of their vehicle. There are limitations to the trail network as it currently exists because of limited signage, poor wayfinding, and duplicative trail alignments, which often confuses users. Park visitors who want a less vehicle-oriented experience often walk on park roads. Bicycle riding is authorized on paved park roads and Ford Road, which is made of a gravel, compacted earth surface material. There is also a similar limited network of designated equestrian trails throughout the park that is accessed by visitors who bring their own horses to the park.

Numerous other visitor experiences exist at the park, including unique views and vistas, as well as a collection of historic structures, farmscapes, and earthworks that help to define the 1862 landscape. The park is currently undergoing planning efforts to preserve the topographic, landscape, and cultural features that were significant to the outcome of the Battle of Pea Ridge. In addition to the cultural resources present within the park, valuable natural resources may also be observed by visitors, such as forests, wetlands, streams, and associated terrestrial and aquatic life. The park is also planning to implement improvements to parking areas through the US Highway 62 Mitigation Project to accommodate the projected future increase in visitor use resulting from the popularity of the park and growth in the northwest area of Arkansas.

The public is interested in the deer and enjoy seeing them in the park, often viewing them as an important part of the park ecosystem. They are an important part of the cultural landscape and would have been present in the area at the time of the battle.

The high deer population poses a safety hazard to visitors in the form of deer-vehicles collisions. As discussed earlier, they also contribute to the spread of tick-borne diseases, such as Lyme disease. (Peitz, 2019).

3.6.2 Alternative A Impacts

The overall impact on visitor use and experience under this alternative would be negligible. Visitors who appreciate seeing deer would experience negligible beneficial effects. Amateur botanists, birdwatchers, butterfly watchers, and people seeking other wildlife in their natural habitat would experience negligible to moderate adverse impact, depending on the extent of increased browse pressure and the type of species affected. Continuing current management practices may result in continuation of high levels of visitor satisfaction; however, visitors would not be able to experience a balanced, functioning ecosystem unless deer numbers are reduced.

3.6.3 Alternative B Impacts

This alternative could impact the visitor experience in different ways. If successful, the deer herd would be reduced, and visitors would see deer less frequently in the park. However, the deer that were observed would be healthier and less disposed to appearing diseased or emaciated, which will contribute to a better visitor experience.

Operations would be designed to minimize the overall impact on visitor experience and access, as reduction efforts would occur during the late fall and winter months when deer are more visible, and fewer visitors are in the park. Deer management exhibits would be displayed at visitor centers, and information would be posted on the park's website to inform the public about deer management actions.

Sharpshooting would not occur near occupied buildings or congested areas. Training would include the use of safety measures to protect both visitors and NPS employees. If more than one shooting location is used, these areas would be adequately separated to ensure public and participant safety. Bait stations would be placed in an area away from public use, to maximize the efficiency and safety of the reduction program.

4.0 Chapter Four: Consultation and Coordination

The NPS places a high priority on public involvement in the NEPA process and on giving the public an opportunity to comment on the proposed action. Consultation and coordination with federal, state, and local agencies, as well as American Indian tribes, were conducted to identify issues and concerns related to natural and cultural resources within the park. This chapter provides a summary of the agency and tribal consultation that occurred in the preparation of the Deer Management Plan/EA.

4.1 *Agency and Tribal Consultation*

4.1.1 Section 106 of the National Historic Preservation Act (NHPA)

The NPS will be separately and concurrently preparing an assessment of effect to comply with the requirements of Section 106 of the NHPA, as amended (54 USC 306108), and its implementing regulations (36 CFR 800).

Section 106 consultation was initiated on Oct 30, 2020. Letters seeking consultation and participation in the alternatives workshop meeting discussed in the previous section were sent to the Arkansas Historic Preservation Program, Absentee Shawnee Tribe, Caddo Nation, Cherokee Nation of Oklahoma, The Chickasaw Nation, Jena Band of The Choctaw Indians, United Keetoowah Band of Cherokee Indians, Muscogee (Creek) Nation, The Osage Nation, Quapaw Tribe of Oklahoma, and Shawnee Tribe of Oklahoma.

4.1.2 Section 7 of the Endangered Species Act

Section 7 of the ESA requires federal agencies to consult with the USFWS to ensure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat. The NPS submitted a letter to the USFWS on Oct 30, 2020 to initiate informal Section 7(c) consultation including a list of species identified as being found in Benton County, Arkansas as well as an anticipated “no effect” determination concerning the project.

5.0 Chapter 5: List of Preparers and Contributors

The persons responsible for the review of the proposed action, the supporting information and analyses, and the preparation of this EA are listed below:

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References

- (2012). *A National Park Service Manager's Reference Notebook to Understanding Chronic Wasting Disease: CWD Reference Notebook*. National Park Service.
- (2008). *An Evaluation of Deer Management Options*. Northeast Deer Technical Committee.
- Baker, D. L., Margaret A. Wild, M. M., Ravivarapu, H. B., Dunn, R. L., & Nett, T. M. (2004). Gonadotropin-releasing hormone agonist: a new approach to reversible contraception in female deer. *Journal of Wildlife Diseases Vol. 40*, 713-724.
- Chronic Wasting Disease (CWD)*. (2019, February 25). Retrieved from Centers for Disease Control and Prevention: <https://www.cdc.gov/prions/cwd/transmission.html>
- DeNicola, A. J., Kesler, D. J., & Swihart, R. K. (1997). Remotely Delivered Prostaglandin F2 α Implants Terminate Pregnancy in White-Tailed Deer. *Wildlife Society Bulletin (1973-2006) Vol. 25*, 527-531.
- Division, B. R. (n.d.). Distribution of Chronic Wasting Disease in Southeastern U.S. National Park Service.
- (2006). *Elk and Deer Meat From Areas Affected by Chronic Wasting Disease: A Guide to Donation for Human Consumption*.
- Ellingwood, M. R., & Caturano, S. L. (1988). *An Evaluation of Deer Management Options*. Connecticut Department of Environmental Protection, Wildlife Bureau.
- Ellingwood, M., & Caturano, S. (1988). "*An Evaluation of Deer Management Option*. Connecticut Department of Environmental Protection, Wildlife Bureau.
- Epizootic Hemorrhagic Disease*. (2018). Retrieved from Cornell Wildlife Health Lab: <https://cwhl.vet.cornell.edu/disease/epizootic-hemorrhagic-disease>
- Fagerstone, K. A., Miller, L. A., Killian, G., & Yoder, C. A. (2010). Review of issues concerning the use of reproductive inhibitors, with particular emphasis on resolving human-wildlife conflicts in North America. *Integrative Zoology Vol. 5*, 15-30.
- Fraker, M. A., Brown, R. G., Gaunt, G. E., Kerr, J. A., & Pohajdak, B. (2002). Long-Lasting, Single-Dose Immunocontraception of Feral Fallow Deer in British Columbia. *The Journal of Wildlife Management Vol. 66*, 1141-1147.
- Gionfriddo, J. P., Denicola, A. J., Miller, L. A., & Fagerstone, K. A. (2011). Efficacy of GnRH immunocontraception of wild white-tailed deer in New Jersey. *The Wildlife Society Vol. 35*, 142-148.
- Horsley, S. B., & B.A. Marquis. (1983). Interference by Weeds and Deer with Allegheny Hardwood Reproduction. *Canadian Journal of Forestry and Reclamation*, 13:61-9.
- Locke, S. L., Cook, M. W., Harveson, L. A., Davis, D. S., Lopez, R. R., Silvy, N. J., & Fraker, M. A. (2007). Effectiveness of Spayvac® for Reducing White-tailed Deer Fertility. *Journal of Wildlife Diseases Vol. 43*, 726-730.
- Marquis, D. (1981). *Effect of Deer Browsing on Timber Production in Allegheny Hardwood Forests of Northwestern*. Broomall, PA: Northeastern Forest Experiment Station, U.S. Forest Service.
- McShea, W., & Rappole, J. (1997). Herbivores and the Ecology of Forest Understory Birds. *The Science of Overabundance, Deer Ecology and Population Management*, 298-309.
- Mech, D. (1991). *The Way of the Wolf*. Stillwater, MN: Voyageur Press.
- Miller, L. A., Gionfriddo, J. P., Fagerstone, K. A., Rhyan, J. C., & Killian, G. J. (2008). ORIGINAL ARTICLE: The Single-Shot GnRH Immunocontraceptive Vaccine (GonaCon™) in White-Tailed Deer: Comparison of Several GnRH Preparations. *American Journal of Reproductive Immunology Vol. 60*, 214-233.
- Naugle, R., Rutberg, A., Underwood, H., Jr, J. T., & Liu, I. (2002). Field testing of immunocontraception on white-tailed deer (*Odocoileus virginianus*) on Fire Island National Seashore, New York, USA. *Reproduction (Cambridge, England) Supplement*, 60:143-153.

- NPS. (2002). *Director's CWD Guidance Memorandum*. July 26. Washington, DC.
- NPS. (2006). *Pea Ridge National Military Park General Management Plan and Environmental Impact Statement*. Garfield, Arkansas.
- NPS. (2011). *Pea Ridge National Military Park Long-Range Interpretive Plan*. Garfield, Arkansas.
- NPS. (2014). *Pea Ridge National Military Park Cultural Landscape Report and Environmental Assessment*. Garfield, Arkansas.
- NPS. (2014). *Pea Ridge National Military Park Mitigations for Expansions of Highway 62 Environmental Assessment & Assessment of Effect*. Garfield, Arkansas.
- NPS. (2014a). *Pea Ridge National Military Park Vegetative Management Plan and Environmental Assessment*. Garfield, Arkansas.
- NPS. (2016). *Pea Ridge National Military Park Foundation Document*. Garfield, Arkansas.
- NPS. (2017). *Pea Ridge National Military Park Trail Master Plan, Phase I Planning Process, Alternatives, and Program Elements*. Garfield, Arkansas.
- Peitz, D. G. (2019). *White-tailed Deer Monitoring at Pea Ridge National Military Park, Arkansas: 2005-2019 Trend Report*. Fort Collins, CO: U.S. Department of the Interior.
- Police, A. S. (2019). *Traffic crash statistics*. Retrieved from <https://asp.arkansas.gov/services-and-programs/detail/highway-safety-office>
- Prions: *Chronic Wasting Disease*. (2019, 25 February). Retrieved from Centers for Disease Control and Prevention: <https://www.cdc.gov/prions/cwd/index.html>
- Rutberg, A. T., & Nangle, R. E. (2008). Population-level effects of immunocontraception in white-tailed deer (*Odocoileus virginianus*). *Wildlife Research* Vol. 35, 494-501.
- Service, N. P. (2008). *Catoctin State Park, White-Tailed Deer Management Plan: Environmental Impact Statement*. Maryland: Department of the Interior.
- Strole, T., & Anderson, R. (1992). White-tailed Deer Browsing: Species Preferences and Implications for Central Illinois Forests. *Natural Areas Journal*, 12:139-144.
- Swihart, R. K., & Conover, M. R. (1991). Responses of Woodchucks to Potential Garden Crop Repellents. *The Journal of Wildlife Management*, 177-181.
- Tilghman, N. (1989). Impacts of White-tailed Deer on Forest Regeneration in Northwestern Pennsylvania. *Journal of Wildlife Management*, 53:524-532.
- Turner, J. W., Kirkpatrick, J. F., & Liu, I. K. (1996). Effectiveness, Reversibility, and Serum Antibody Titers Associated with Immunocontraception in Captive White-Tailed Deer. *The Journal of Wildlife Management*, vol. 60, no. 1, 45-51.
- Williams, E. S., & Miller, M. W. (2002). Chronic Wasting Disease in Deer and Elk in North America. *Scientifique et Technique - Office International des Epizooties: Vol 21*, 305-316.

Appendix A- NPS MEMO

Get the Lead Out! An Initiative to Address Lead Reduction in National Park Service Natural Resource Activities



United States Department of the Interior

NATIONAL PARK SERVICE
1849 C Street, N.W.
Washington, D.C. 20240

IN REPLY REFER TO:

N36(2301)

MAR 4

Memorandum

To: Regional Directors
Associate Director, Visitor and Resource Protection
Assistant Director, Business Services

From: Acting Director *Ralph M. W. [Signature]*

Subject: Get the Lead Out! An Initiative to Address Lead Reduction in National Park
Service Natural Resource Activities

In order to improve healthy environments and ecosystems in the National Park System, I have tasked Associate Director of Natural Resource Stewardship and Science and his team to work across directorates to provide a feasible and sound, scientific approach to reducing lead in activities related to natural resource management in parks.

Lead is an environmental contaminant in many areas of the world, and in many habitat types, both urban and rural, including our national parks. Lead is banned in gasoline, children's toys and paint because of its effects on human health. Removal of lead as a source of contamination in natural resource related activities in national parks will benefit humans, wildlife and ecosystems within and outside of national park boundaries.

The National Park Service, as a land management leader:

- Will require the use of non-lead based ammunition and fishing tackle in NPS units where those activities are authorized;
- Recognizes that long-term elimination of lead from outdoor recreational activities will require collaboration among affected stakeholders, in addition to policy modifications and/or Special Regulations;
- Will develop materials to provide explicit and targeted educational strategies that encourage efforts leading to greater public awareness of the consequences of lead exposure and emphasize the realized gains in environmental quality from the use of lead-free ammunition and fishing tackle.

Consistent with the NPS mission, I have instructed the Associate Director, Natural Resource Stewardship and Science, to:

- Establish and disseminate standard operating procedures for properly dispatching animals within parks, whether for culling operations or dispatching of wounded or sick animals;

- Review policy to ensure that these changes are appropriately articulated;
- Work with parks and regions to develop Servicewide educational materials on this issue;
- Draft Special Regulation language as necessary, prohibiting the use of lead in hunting and fishing activities for those parks that authorize such activities;
- Collaborate with Concessions Management to replace lead fishing tackle with non-lead alternatives where sold within park units.

The NPS will achieve these goals by, December 31, 2010, or sooner.

Appendix B- NPS MEMO

Lead Reduction in National Park Service Natural Resource Activities



United States Department of the Interior

NATIONAL PARK SERVICE

1849 C Street, N.W.
Washington, D.C. 20240

IN REPLY REFER TO:

JAN 28 2011

Memorandum

To: Regional Directors, Associate Directors
From: Deputy Director, Operations *Paul N. Went*
Subject: Lead Reduction in National Park Service Natural Resource Activities

In 2009, I tasked the Associate Director of Natural Resource Stewardship and Science (NRSS) and his team to work across directorates and the Service to provide a feasible and scientific approach to reducing lead impacts in activities related to natural resource management in parks. This directive did not change regulations pertaining to hunting or fishing in NPS units; all current regulations still apply and have not been changed. Significant accomplishments to date include:

- ***Use of non-lead ammunition in wildlife culling operations***
Culling operations whether by contract, skilled volunteers, Animal and Plant Health Inspection Service, Visitor and Resource Protection or Natural Resource Management staff, are using non-lead ammunition and must continue to use non-lead ammunition to preserve the opportunity to donate safe meat.
- ***Dispatch of sick or wounded wildlife in parks with non-lead ammunition where carcasses are left in the field for scavengers***
A draft Standard Operating Procedure is available online (<http://www1.nrintra.nps.gov/BRMD/Gettheleadout/index.cfm>), guiding each park on the proper dispatch of wildlife and disposition of carcasses to leave lead-free carcasses in the field for scavenging wildlife, if appropriate per park planning and implementation documents.
- ***Development of Education and Outreach Materials***
Education and outreach materials have been developed to provide consistent messages that encourage greater public awareness of the consequences of lead exposure and emphasize the realized gains in environmental quality from the use of lead-free ammunition and fishing tackle.
- ***Online Resources Available***
An intranet site (<http://nrpcsharepoint/brmd/Nonlead%20Ammunition%20and%20Fishing%20Gear%20Initiative/Forms/AllItems.aspx>) is posted to share information, existing regulations and policies associated with this directive. The site includes a clearinghouse of information, case studies and pertinent research, a compiled list of

affected National Park Service (NPS) units, a complete list of state laws, policies and regulations pertaining to non-lead use, and a significant body of science that exists on the negative impacts of lead on wildlife and human health. This information was reviewed and analyzed by the NPS, The Wildlife Society, the U.S. Geological Survey and various working groups across the country.

- ***Association of Fish and Wildlife Agencies (AFWA) Resolution***

NRSS staff worked with AFWA to reach out to state and tribal fish and wildlife agencies, anglers and hunting groups, and other interested parties to seek input and develop a collaborative relationship to achieve goals. At the September, 2010 AFWA meeting in Madison, WI, a significant resolution was brought to the voting table which included directives to states to “lead efforts to develop the best science, and that AFWA should provide this information to members for their use in bringing hunters, anglers and various interests together to determine the need for and nature of any needed management approaches to use of lead ammunition and lead fishing tackle. State fish and wildlife agencies should proactively address issues associated with wildlife population health, and cooperate with the respective state health agencies where human health issues have been substantiated, related to lead ammunition and lead fishing tackle.” This resolution was unanimously passed by all 50 state representatives on September 29, 2010.

Much has been accomplished since 2009, but there is much left to do. Throughout the coming year, the use of green ammunition will continue to be tracked to measure progress toward replacing lead ammunition with non-toxic ammunition in compliance with Executive Order (EO) 13148, *Greening the Government through Leadership in Environmental Management*, as and NPS Management Policies (2006). NRSS will work with the Concessions Management Program on replacement of lead fishing tackle with non-lead alternatives where sold within park units through voluntary or contract measures. Finally, clean up and retrofitting of firing ranges within park boundaries and firing ranges on public or state lands adjacent to park lands must continue by NPS and our partners.

National parks are well recognized for their vital role in protecting our natural environment and heritage, and for benefits to the physical, mental and spiritual health of individuals. I urge you to continue efforts to reduce lead and ensure a future of *Healthy Parks and Healthy People*.

Appendix C- Tribal Consultation Quapaw Nation

QUAPAW NATION

P.O. Box 765
Quapaw, OK 74363-0765

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November 30, 2020

Nolan Moore
Resource Manager
National Park Service
Pea Ridge National Military Park
15930 HWY 62
Garfield, AR 72732

Re: deer management plan Pea Ridge National Park, Benton County, Arkansas

Dear Nolan Moore,

The Quapaw Tribe Historic Preservation Office has received and reviewed the information you have provided for the proposed project deer management plan Pea Ridge National Park, Benton County, Arkansas, state and does not wish to comment or consult further on this project at this time.

In accordance with the National Historic Preservation Act, (NHPA) [16 U.S.C. 470 §§ 470-470w-6] 1966, undertakings subject to the review process are referred to in 5101 (d) (6) (A), which clarifies that historic properties may have religious and cultural significance to Indian tribes. Additionally, Section 106 of NHPA requires Federal agencies to consider the effects of their actions on historic properties (36 CFR Part 800) as does the National Environmental Policy Act (43 U.S.C. 4321 and 4331-35 and 40 CFR 1501.7(a) of 1969).

Should you have any questions or need any additional information, please feel free to contact me at the number listed below.

Thank you for consulting with the Quapaw Tribe on this matter.

Sincerely,



Tribal Historic Preservation Office
Quapaw Tribe of Oklahoma
P.O. Box 765
Quapaw, OK 74363
(w) 918-542-1853