

National Park Service
U.S Department of the Interior



Big Thicket National Preserve
Texas

FERAL HOG MANAGEMENT PLAN AND ENVIRONMENTAL ASSESSMENT

FINDING OF NO SIGNIFICANT IMPACT

BACKGROUND

In December 2013, the National Park Service (NPS) submitted to the public a Feral Hog Management Plan and Environmental Assessment (EA) for Big Thicket National Preserve (BTNP). The plan describes how feral hog populations would be managed to prevent or mitigate impacts on Preserve resources and values. The EA was prepared in compliance with the National Environmental Policy Act (NEPA) of 1969, regulations of the Council on Environmental Quality (CEQ) (40 CFR §1508.9), and NPS Director's Order (DO)-12 (Conservation Planning, Environmental Impact Analysis, and Decision-Making). The EA provides the decision-making framework that identifies significant issues and concerns facing Preserve management, presents an analysis of reasonable management alternatives and their effects, and discusses a long-term management strategy for feral hog populations at BTNP.

This document records 1) a Finding Of No Significant Impact (FONSI) as required by NEPA, and 2) a non-impairment determination as required by the NPS Organic Act of 1916.

SELECTED ALTERNATIVE

NPS selected Alternative B because it surpasses the no action alternative in realizing the full range of national environmental policy goals as stated in §101 of NEPA and is the environmentally preferable alternative compared with no action. The preferred alternative best meets NPS objectives of taking action through a feral hog management plan to provide for the safety of visitors, staff, and volunteers; reduce current damage caused by feral hogs to native plants, animals, and the ecological structures and functional processes upon which they are dependent; prevent irreparable damage from feral hogs to resources so they are available for future generations; and comply with policies on endangered species, exotic species, and traditional uses, as specified in BTNP's enabling legislation. NPS believes this alternative fulfills its park protection mandates and allows for the long-term protection of habitat and natural resources.

Alternative B includes a range of feral hog management measures that will be employed on a site- and season-specific basis. Public hunting will continue, as under the no action alternative. In addition, NPS personnel or their authorized agents will trap and/or shoot feral hogs in target areas within the Preserve. This alternative may also include radio-tracking a limited number of trapped and released hogs ("Judas hogs") to assist with the directed shooting program. Trained dogs may also be used to aid in the tracking and shooting of hogs. Where necessary and appropriate, protection of important areas from hog damage may include limited and localized installation of enclosure fencing. Additional activities under this alternative will include coordination with adjacent landowners/users; an interpretative program with dissemination of public information and education concerning feral hog management; and monitoring and research activities.

MITIGATING MEASURES

In order to reduce impacts on the human environment, NPS has proposed mitigation measures listed in Appendix 1 as part of the application for the proposed alternative.

ALTERNATIVES CONSIDERED

Two alternatives were described and evaluated in the EA: Alternative A, No Action, and Alternative B (Implement a Feral Hog Management Plan). The no action alternative was required under NEPA and established a baseline for comparing the present management direction and environmental consequences of the action alternative. Under the no action alternative, BTNP would not implement a feral hog management plan, public hunting through issuance of hunting permits would be the primary means of reducing feral hog population numbers, and feral hog impacts to BTNP resources would continue in the future. Alternative B, the preferred alternative, evaluates implementation of a feral hog management plan in BTNP which includes an array of management options for feral hog management in addition to continued public hunting.

Several alternative feral hog management methods were considered during the planning process; however, these management methods were considered but eliminated from detailed analysis. Eliminated management methods are as follows: trapping by use of snares, chemical sterilization, use of poisons/toxicants, aerial gunning, large-scale or Preserve-wide fencing, and biological controls. Rationale for exclusion is described individually for each management method in the EA.

ENVIRONMENTALLY PREFERABLE ALTERNATIVE

According to the CEQ regulations implementing NEPA (43 CFR 46.30), the environmentally preferable alternative is the alternative "that causes the least damage to the biological and physical environment and best protects, preserves, and enhances

historical, cultural, and natural resources. The environmentally preferable alternative is identified upon consideration and weighing by the Responsible Official of long-term environmental impacts against short-term impacts in evaluating what is the best protection of these resources. In some situations, such as when different alternatives impact different resources to different degrees, there may be more than one environmentally preferable alternative.”

The environmentally preferable alternative for feral hog management in BTNP is based on these national environmental policy goals. Under Alternative A, no action, BTNP would maintain the status quo with regards to feral hog management. Public hunting through issuance of hunting permits would be the primary means of reducing feral hog population numbers in BTNP in addition to Preserve staff also euthanizing individual hogs if they pose an imminent threat to public safety (e.g., charging visitors on a trail). Adverse impacts to BTNP resources from feral hog activities would likely continue at current levels and perhaps increase in intensity over time.

NPS has determined that the environmentally preferable alternative is Alternative B (Implement a Feral Hog Management Plan) because it would provide the greatest protection of the area and BTNP resources and values. Alternative B would:

- Reduce risks to public health and safety;
- Improve the safety, healthfulness, and aesthetics of the surroundings;
- Reduce the impacts of feral hogs on natural and cultural resources; and
- Provide better protection of natural and cultural resources for future generations.

To a greater extent than the other alternatives, Alternative B would reduce the impacts of feral hogs on natural resources and visitor use and experience while protecting and restoring BTNP resources and values. Therefore, Alternative B is the environmentally preferable alternative.

WHY THE SELECTED ALTERNATIVE WOULD NOT HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT

As defined in 40 CFR §1508.27, significance is determined by examining the context (including duration) of an impact, and its intensity, including a consideration of the criteria that follow. Based on the analysis in the EA, which is summarized in the following sections, NPS has determined that the selected alternative can be implemented without significant adverse effects. All impact threshold definitions (negligible, minor, moderate, major) referred to in this FONSI are defined in the EA.

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

Implementation of the preferred alternative will result in adverse impacts ranging from short-term to long-term and negligible to moderate. Resource topics whose projected impacts exceeded minor levels were retained for further analysis within the EA. The impacts on air quality, soundscapes, lightscapes, cultural resources, socioeconomics, minority and low income populations, energy resources, prime and unique farmlands, Indian trust resources, and climate change did not exceed minor levels and were therefore dismissed from further analysis.

Impacts to geologic resources will be negligible, short-term, and highly localized from substrate disturbance (e.g., direct soil compaction, erosion, and excavation) associated with limited pedestrian and vehicular access (e.g., trucks, UTVs, boats) and the placement of traps, protective fencing, blinds, and stands. These impacts will be no worse than negligible because the use of UTV's and trucks will be limited to previously existing roads where access is currently allowed, carcasses will not be buried, and all traps will be temporary.

Water quality or quantity impacts will consist of negligible, short-term, and highly localized disturbance associated with limited vehicular access and the placement of traps, protective fencing, blinds, and stands. These impacts will be no worse than negligible because potential alteration of surface water flow associated with exclosures and retention of flood debris will be avoided by not implementing fencing in environmentally sensitive areas, such as within streams or where other channelized flows are present. Furthermore, carcasses will not be disposed of within 200 feet of waterways, and best management practices will be used during equipment transport and installation.

Impacts to floodplains and wetlands will be negligible, short-term, and highly localized. Direct disturbance will result from limited pedestrian and vehicular access and the placement of traps, protective fencing, blinds, and stands. These activities will result in alteration of floodplain and wetland structure or function through direct and indirect impacts, such as soil compaction, vegetation trampling or removal, erosion, and sedimentation. These impacts will be no worse than negligible because potential alteration of floodplain and wetland hydrology, such as surface water flow, associated with exclosures and retention of flood debris will be avoided by not placing fencing in environmentally sensitive areas, such as where streams or other channelized flows are present. Furthermore, carcasses will not be disposed of within 200 feet of wetlands, and best management practices will be used during equipment transport and installation.

Vegetation impacts will be negligible, short-term, highly localized direct disturbance (e.g., vegetation trampling or removal) associated with limited vehicular access and the placement of traps, protective fencing, blinds, and stands. These impacts will be no worse than negligible because carcasses will be disposed of above-ground, "Leave No Trace" backcountry camping principles will be followed, and only temporary traps will be used.

Impacts to fish and wildlife will be negligible, short-term, highly localized direct disturbance associated with pedestrian and limited vehicular access; the placement of traps, protective fencing, blinds, and stands; trapping of non-target species; potential harassment of non-target species by trained dogs; and noise (e.g., dogs barking, firearm discharge). These impacts will be no worse than negligible because of several mitigation measures that will be followed. The measures include the use of fencing and traps designed to minimize impacts on non-target wildlife, strict dog use guidelines, and the use of bait specific to feral hogs and subsequent removal of unused bait. Furthermore, no toxicants, poisons, or snares will be used to capture feral hogs.

Visitor use and experience impacts will consist of minor, short-term, localized disturbance associated with limited vehicular access; the placement of traps, protective fencing, blinds, and stands; and temporary closures or access restrictions of areas during feral hog management activities. These impacts will be mitigated by buffers around operations, public information and education initiatives, coordination and timing of management activities, and the use of firearm noise suppressors. Visitors seeking feral pigs (hunters) will incur minor to moderate indirect adverse effects due to the reduction in the density of feral pigs under the preferred alternative; whereas, other users, such as hunters seeking species other than feral hog, could receive moderate benefits. Moderate positive impacts are expected for most users, as feral hog populations and their direct and indirect impacts on visitor use and experience are reduced.

Impacts to Preserve operations will include moderate adverse and minor positive effects. Adverse effects will result from increased demand on personnel; increased demand on existing equipment; an expanded resource management workload; increased need for specialized personnel training and certification; and other needs and adaptations associated with an extensive resource management effort. Minor positive effects will arise through the reduction of feral hog impacts on Preserve operations, such as restoration projects and infrastructure maintenance.

Native ecological community impacts through the introduction or promotion of non-native species will consist of negligible, short-term, and highly localized substrate disturbance associated with limited vehicular access and the placement of traps, protective fencing, blinds, and stands. These impacts will be no worse than negligible due to the implementation of mitigation measures to avoid or reduce resource impacts, such as mentioned above for soils, floodplains and wetlands, and native vegetation, fish, and wildlife, that could otherwise promote non-native species. Widespread moderate positive effects and a net positive impact on native communities are expected over the long-term.

The intent of the proposed action is to reduce adverse impacts of feral hogs on natural and cultural resources (in addition to the other objectives previously stated), and as such beneficial impacts of the preferred alternative will outweigh adverse resource impacts. Long-term and widespread soil and streambed impacts from feral hogs (e.g., rooting and wallowing) that adversely affect geologic resources will be reduced. Furthermore, direct

and indirect adverse impacts to water resources from feral hogs, such as stream bank and floodplain erosion and fecal contamination, will be reduced. Similarly, indirect and direct impacts to floodplains and wetlands will decrease under the preferred alternative. Beneficial impacts to vegetation, fish and wildlife, and native communities will also occur through the reduction of direct and indirect impacts to these resources caused by feral hogs, such as rutting, wallowing, predation/herbivory, spread of diseases, and alteration of ecosystem processes (e.g., nutrient cycling, disturbance frequency/intensity, facilitation of invasive species).

The degree to which the proposed action affects public health or safety.

Implementation of the feral hog management plan within the Preserve will involve a number of actions that could potentially affect public health or safety. Concerns have been addressed under "Visitor Use, Health and Safety, and Experience" (Section 3.6 in the EA) and as discussed above. Specific mitigation measures are discussed in Section 2.2 of the EA and are listed in Appendix 1 of this document. Such mitigation measures include careful planning and coordination of shooting activities, temporary closures of small portions of the Preserve during feral hog management operations, prohibiting relocation and release of captured hogs so as to prevent the spread of disease, and proper disposal of veterinary waste. Firearm training and qualification will also be required for all NPS personnel and authorized agents participating in trapping and shooting activities. Through proposed mitigation measures, potential adverse impacts to public health or safety have been minimized.

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

Historic or Cultural Resources: Effects to cultural resources are expected for the preferred alternative, and include negligible impacts and minor positive effects from management activities. Mitigation efforts will include a review of known resource locations, and instructing NPS personnel and authorized agents on the avoidance of known resources and recognizing potential resources during work in the field. The placement of fencing will also be preceded in previously unsurveyed locations by a localized resource inventory. In addition, equipment will be placed to avoid cultural resources near known resources, and if potential resources are found during the placement of traps or fences, the activities will be stopped and plans will be reevaluated. More detail on the mitigation efforts can be found in section 2.2 of the EA.

In accordance with 36 CFR 800.4(d)(1), BTNP has determined there will be *no historical properties affected* by the proposed action, and concurrence from the SHPO (State Historical Preservation Officer) was sought in a letter sent December 27, 2013 and received by letter dated January 22, 2014.

Prime and Unique Farmland Soils: Soils inside the Preserve and on other NPS-administered lands are not considered prime and unique farmland soils because they are

public lands unavailable for food or fiber production. Further, NPS does not assess effects under the Farmland Protection Policy Act (Public Law 97-98) to the proposed project activities outside of NPS administered lands because NPS has no regulatory authority on those lands.

Wetlands: Potential effectors of the proposed action on wetlands have been discussed previously in this document. Adverse impacts would be avoided or minimized through the mitigation measures described in Appendix 1.

Wild and Scenic Rivers: There are no designated wild and scenic rivers within or adjacent to the Preserve that could be affected by the preferred alternative.

Ecologically Critical Areas: Proposed feral hog management activities will occur throughout the Preserve, and comprehensive mitigation measures will be incorporated to avoid or minimize adverse impacts, both direct and indirect, to ecologically critical areas, as previously discussed. Furthermore, ecologically critical areas will benefit from management activities and the reduction of feral hog impacts. Management activities will be planned to avoid and protect ecologically critical areas within the Preserve through implementation of mitigation measures discussed in Appendix 1.

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

Under NEPA "controversial" refers to circumstances where a substantial dispute exists as to the environmental consequences of the proposed action and does not refer to the existence of opposition to a proposed action, the effect of which is relatively undisputed (43 CFR 46.30). No effects on the quality of the human environment are anticipated to be highly controversial under the preferred alternative, and the public generally agrees that feral hogs should be appropriately managed to protect the long-term integrity of the Preserve and its resources.

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

There were no highly uncertain effects, or unique or unknown risks identified with this proposal. Proposed activities under the preferred alternative include management measures for which substantial research, information, and management experience exists and that have been incorporated into the evaluation completed in 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.

NPS is in the process of finalizing guidance on future Preserve management activities and assessing potential impacts of such activities under the *BTNP General Management Plan/Environmental Impact Statement*. The activities covered by this EA are consistent

with the actions described in that plan, and therefore do not set precedent or represent a decision in principle about a future consideration.

Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.

In the EA, NPS disclosed to the public the potential impacts that could occur inside the Preserve. NPS also analyzed the cumulative impacts of past, present, and reasonably foreseeable actions within and outside Preserve boundaries. No significant cumulative impacts were identified in the EA.

The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.

Consideration for further analysis of the effects to these resources was dismissed, as effects were estimated to not be measureable. Impacts to cultural resources have been previously addressed in this document. Furthermore, the preferred alternative includes mitigation measures to avoid, minimize, and mitigate impacts to these resources, as described in the EA and Appendix 1 of this document.

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.

Potential effects of the proposed action on endangered or threatened species and their designated critical habitat were evaluated in the EA and have been previously discussed herein. Mitigation measures described in the EA and Appendix 1 of this document will avoid, minimize, and mitigate adverse effects to these resources.

Through Section 7 consultation, the NPS determined that the proposed action “*may affect but is not likely to adversely affect*” the federally-threatened Louisiana black bear (*Ursus americanus luteolus*) but will have “*no effect*” on other federally endangered or threatened species of potential occurrence. Concurrence from USFWS was sought in a letter dated December 18, 2013 and was received by letter dated February 18, 2014. Additional mitigation measures detailed by USFWS and incorporated into the EA via the errata sheet include:

- All hunters (NPS personnel and authorized agents working under the feral hog management plan) will be required to complete NPS approved training, which will include the identification of black bear vs. feral hog in low light conditions;

- Post more bear vs. hog identification signage up throughout Preserve to minimize accidental bear shootings;
- Presence/absence surveys will be conducted before (feral hog management) activities commence to determine if bears are in area. If (bear) presence is detected by site or signs, then hunting and trapping activities will cease and areas will be avoided until bear presence is no longer detected; and
- If a Louisiana black bear is caught in a trap, shot, or harassed by hunting dogs, all hog hunting activities will cease, the NPS will immediately notify the U.S. Fish and Wildlife Service Coastal Ecological Services Field Office in Houston, Texas and initiate formal consultation procedures pursuant to Section 7 of the Act.

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

The preferred alternative is in compliance with all applicable state and federal environmental protection laws and regulations.

PUBLIC INVOLVEMENT

Two scoping meetings were held, one on January 23, 2013 in Woodville, Texas and another on January 24, 2013 in Beaumont, Texas, with a public scoping comment period from January 10 to February 10, 2013 to gather public input and aid in the planning process. After developing the plan, the EA was made available for public review and comment during a 30-day period ending January 20, 2014. A direct mailing notifying interested and affected parties was distributed to the Preserve's mailing list, and the document was posted to the NPS Planning, Environment, and Public Comment website. Notification was made to numerous federal, state, and local agencies and individuals, the Alabama-Coushatta Tribe of Texas, nongovernmental organizations and other entities, as listed in sections 4.2 and 4.5 of the EA.

Five responses were received regarding the EA, one from the Sierra Club Lone Star Chapter and four additional responses from unaffiliated individuals. NPS determined that three of the commenters presented numerous substantive comments. The remaining two comments were in general support of feral hog management. Responses to the substantive comments are attached, and changes made to the text of the EA are indicated on the Errata Sheet. The FONSI will be sent to those who provided substantive comments on the EA, or those who requested a copy.

CONCLUSION

As described above, the preferred alternative does not constitute an action meeting the criteria that normally require preparation of an environmental impact statement (EIS).

CONCLUSION

As described above, the preferred alternative does not constitute an action meeting the criteria that normally require preparation of an environmental impact statement (EIS). The preferred alternative will not have a significant effect on the human environment. Environmental impacts that will occur are generally short-term and negligible to moderate, with long-term positive effects. There are no unmitigated adverse effects on public health or safety, or to any unique characteristics of the geographic area. No highly 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.

DECISION

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

Recommended: Douglas S. Neighbor 3/19/14
Douglas S. Neighbor, Date
Superintendent, Big Thicket National Preserve

Approved: Sue E. Masica 3/24/14
Sue E. Masica, Date
Regional Director, Intermountain Region

APPENDIX 1: Mitigations Measures under the Preferred Alternative

No.	Mitigation Measures - Proposed Action (Alternative B)	Resource(s) Protected	Reference in Feral Hog Management Plan
1	Only portable cage traps, corral traps, tree stands, and blinds will be used in most areas	geologic resources, vegetation	Section 2, p. 32, also see errata sheet
2	Fencing restricted to small areas where their use is critical for the protection of highly sensitive resources and benefits outweigh cost of feral hog damage	all natural and cultural resources	Section 2, pp.32-35
3	Movement of materials by vehicle will be restricted to areas where their use is already approved. A "no-rutting" policy would be implemented to restrict vehicular access from areas where or when moist soil conditions or naturally low soil bulk density would result in unacceptable soil compaction or related adverse impacts to geologic resources.	all natural and cultural resources	Section 2, p. 32-35, also see errata sheet
4	Placement and installation of traps, stands, blinds, and fences will avoid and minimize disturbance to resources	all natural and cultural resources	Section 2, p. 32-35
5	Backcountry camps will follow "Leave No Trace" principles	geologic resources, vegetation	Section 2, p. 33
6	Feral hogs euthanized in remote locations will be left to decompose, unburied with no soil disturbance	geologic resources, vegetation	Section 2, p. 33
7	Snare, other kill-traps, poisons, and toxicants will not be used	wildlife, species of concern	Section 2, p. 33
8	Non-target wildlife captured in traps will be immediately released upon discovery, and	wildlife, species of concern	Section 2, p. 33

No.	Mitigation Measures - Proposed Action (Alternative B)	Resource(s) Protected	Reference in Feral Hog Management Plan
	traps checked within a maximum of 24 hours at 24 hour intervals;		
9	Escape holes for smaller native species will be built into the tops of cage traps	wildlife, species of concern	Section 2, p. 33
10	Fencing will be of a height that does not restrict the movement of white-tailed deer	wildlife, species of concern	Section 2, p. 33
11	All non-target wildlife that is caught, injured, or killed by NPS personnel and authorized agents in the directed shooting and trapping programs will be required to be reported according to protocol established for the Feral Hog Management Plan.	wildlife, species of concern	Section 2, p. 33, see errata sheet
12	NPS will define specific protocol for dealing with injured, non-target wildlife species.	wildlife, species of concern	Section 2, p. 33, see errata sheet
13	Bait selection will incorporate techniques to reduce bycatch of non-target species	wildlife, species of concern	Section 2, p. 33
14	All unused bait will be removed from the field to avoid attracting or habituating native wildlife	wildlife, species of concern	Section 2, p. 33
15	Only trained dogs handled by qualified contractors will be used	wildlife, species of concern	Section 2, p. 33
16	Strict dog guidelines will avoid their loss to feral dog population and prevent harassment of native wildlife. Each dog will be required to	wildlife, species of concern	Section 2, p. 33, also see p. 28 and errata sheet

No.	Mitigation Measures - Proposed Action (Alternative B)	Resource(s) Protected	Reference in Feral Hog Management Plan
	have a GPS locating collar.		
17	Captured hogs will not be relocated or released	wildlife, species of concern	Section 2, p. 33
18	All ammunition will be lead free	wildlife, species of concern	Section 2, p. 33
19	All hunters (NPS personnel and authorized agents working under the feral hog management plan) will be required to complete NPS approved training, which will include the identification of Louisiana black bear vs. feral hog in low light conditions	wildlife, species of concern	Section 2, p. 34, see errata sheet
20	Post more black bear vs. hog identification signage up throughout Preserve to minimize accidental bear shootings	wildlife, species of concern	Section 2, p. 34, see errata sheet
21	Presence/absence surveys will be conducted before (feral hog management) activities commence to determine if Louisiana black bears are in area. If (bear) presence is detected by site or signs, then hunting and trapping activities will cease and areas will be avoided until bear presence is no longer detected	wildlife, species of concern	Section 2, p. 34, see errata sheet
22	If a Louisiana black bear is caught in a trap, shot, or harassed by hunting dogs, all hog hunting activities will cease, the NPS will immediately notify the U.S. Fish and Wildlife Service Coastal Ecological Services Field Office in Houston, Texas and	wildlife, species of concern	Section 2, p. 34, see errata sheet

No.	Mitigation Measures - Proposed Action (Alternative B)	Resource(s) Protected	Reference in Feral Hog Management Plan
	initiate formal consultation procedures pursuant to Section 7 of the Act.		
23	A review will be conducted when planning the placement of traps, fencing, and other equipment so to avoid impacts to known locations of species of concern and cultural resources	species of concern, cultural resources	Section 2, p. 34
24	NPS staff and authorized agents will be made aware of known species of concern and cultural resources and advised on recognizing potential species of concern and cultural resources that could be encountered in the field	cultural resources	Section 2, p. 34
25	If potential species of concern or cultural resources are found, placement of traps or fences will be temporarily stopped and plans reevaluated	cultural resources, species of concern	Section 2, p. 34
26	A localized cultural resource inventory will be completed for new sites with proposed fencing installation and other ground disturbance	cultural resources	Section 2, p. 34
27	For enclosures intended to protect a specific sensitive cultural resource, more detailed planning and consultation will take place with NPS, the State Historical Preservation Officer, and the tribes	cultural resources	Section 2, p. 34
28	Fences will not be used in areas where streams or other channelized flows are present so as to avoid retention of flood	water quality and quantity, wetlands, floodplains	Section 2, p. 34

No.	Mitigation Measures - Proposed Action (Alternative B)	Resource(s) Protected	Reference in Feral Hog Management Plan
	debris and alteration of water movement		
29	Collected hogs will be moved at least 200 feet away from the banks of streams, bayous, lakes, and the Neches and Trinity rivers to protect water quality	water quality and quantity, wetlands, floodplains	Section 2, p. 34
30	Best Management Practices (BMPs) will be used to limit potential impacts to water resources, wetlands and floodplains from equipment transport, installation and other activities	water quality and quantity, wetlands, floodplains	Section 2, p. 34
31	Public information and education activities will be conducted to inform BTNP visitors and others about feral hogs and hog management activities in the Preserve	visitor use and experience, Preserve operations	Section 2, p. 34
32	Coordination with adjacent landowners will serve to raise awareness of operations with neighbors	Preserve operations	Section 2, p. 34
33	Shooting operations will be planned and coordinated with NPS Law Enforcement, Fire Management, Interpretive, and Maintenance personnel	visitor use, health and safety, and experience, Preserve operations	Section 2, p. 34
34	Temporary closures of small portions of the Preserve will be conducted if necessary to protect visitor safety	visitor use, health and safety, and experience	Section 2, p. 34
35	The majority of shooting activity will take place outside main visitor use time periods	Preserve operations, visitor use, health and safety, and experience	Section 2, p. 35

No.	Mitigation Measures - Proposed Action (Alternative B)	Resource(s) Protected	Reference in Feral Hog Management Plan
36	Firearm training and qualification will be required for all NPS personnel and their authorized agents participating in trapping and shooting activities	Preserve operations, visitor health and safety	Section 2, p. 35
37	Firearm use will be monitored with violations resulting in severe penalties including immediate dismissal	Preserve operations, visitor health and safety	Section 2, p. 35
38	Sound suppression of firearm discharges will be used to limit disturbance	visitor use and experience, noise	Section 2, p. 35
39	Collected animals will be moved out of sight and at least 200 feet away from all main visitor use areas	visitor use, health and safety, and experience	Section 2, p. 35
40	Traps, fencing, and other materials will also be placed out of visitor sight	visitor use and experience	Section 2, p. 35
41	Any research or monitoring enclosures will be placed out of visitor sight and at least 200 feet from visitor use areas	visitor use and experience	Section 2, p. 35
42	Fencing materials will be colored to blend in with the surrounding environment	visitor use and experience	Section 2, p. 35
43	Captured hogs will not be relocated or released, preventing spread of disease	visitor health and safety	Section 2, p. 35
44	Personnel taking blood samples or handling blood samples during disease monitoring will use latex or nitrile gloves, eye protection, and any other necessary methods to prevent	visitor health and safety, Preserve operations	Section 2, p. 35

No.	Mitigation Measures - Proposed Action (Alternative B)	Resource(s) Protected	Reference in Feral Hog Management Plan
	contact with hog bodily fluids		
45	Veterinary waste associated with disease monitoring will be disposed of properly following USDA guidelines	visitor health and safety	Section 2, p. 35

APPENDIX 2: Non-Impairment Finding

National Park Service's *Management Policies, 2006* requires analysis of potential effects to determine whether or not actions would impair park resources. The fundamental purpose of the national park system, established by the Organic Act and reaffirmed by the General Authorities Act, as amended, begins with a mandate to conserve park resources and values. NPS managers must always seek ways to avoid, or to minimize to the greatest degree practicable, adversely impacting park resources and values.

However, the laws do give NPS the management discretion to allow impacts to park resources and values when necessary and appropriate to fulfill the purposes of a park, as long as the impact does not constitute impairment of the affected resources and values. Although Congress has given NPS the management discretion to allow certain impacts within park, that discretion is limited by the statutory requirement that NPS must leave park resources and values unimpaired, unless a particular law directly and specifically provides otherwise. The prohibited impairment is an impact that, in the professional judgment of the responsible NPS manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of these resources or values. An impact to any park resource or value may, but does not necessarily, constitute an impairment, but an impact would be more likely to constitute an impairment when there is a major or severe adverse effect upon 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
- identified as a goal in the park's general management plan or other relevant NPS planning documents.

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

The park resources and values that are subject to the no-impairment standard include:

- the park's scenery, natural and historic objects, and wildlife, and the processes and conditions 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, structures, 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 National Park Service activities in managing the park, visitor activities, or activities undertaken by concessioners, contractors, and others operating in the park. NPS's threshold for considering whether there could be an impairment is based on whether an action would have major (or significant) effects.

Impairment findings are not necessary for visitor use, health and safety, and experience, socioeconomics, environmental justice, land use, energy resources, and park operations, because impairment findings relates back to park resources and values, and these impact areas are not generally considered 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.

After dismissing the above topics, topics remaining to be evaluated for impairment include geologic resources (including soils), water quality and quantity, floodplains and wetlands, vegetation, and fish and wildlife. These topics are important aspects of the fundamental resources and values for Big Thicket National Preserve which are identified in the Preserve's *General Management Plan* (1980), and which are considered necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park; are key to the natural or cultural integrity of the park; and/or are identified as a goal in the park's General Management Plan or other relevant NPS planning document.

- **Geologic Resources**—Big Thicket National Preserve was established “to assure the preservation, conservation, and protection of the natural, scenic, and recreational values” of the Big Thicket area, of which geologic resources are a part. The preferred alternative would have negligible, short-term, and highly localized adverse impacts and moderate positive impacts, resulting in a net positive effect on geologic resources. Because major adverse impacts are not anticipated to occur under the preferred alternative, the proposed action will not result in impairment to geologic resources.
- **Water Quality and Quantity**—Big Thicket National Preserve was established “to assure the preservation, conservation, and protection of the natural, scenic, and recreational values” of the Big Thicket area, of which water quality and quantity are a part. The preferred alternative would have negligible, short-term, and highly localized adverse effects and moderate positive impacts resulting in a net positive effect on these resources. Because major adverse impacts are not anticipated to occur under the preferred alternative, the proposed action will not result in impairment to water quality and quantity.

- **Floodplains and Wetlands**—Big Thicket National Preserve was established “to assure the preservation, conservation, and protection of the natural, scenic, and recreational values” of the Big Thicket area, of which floodplains and wetlands are a part. The preferred alternative would have negligible, short-term, and highly localized adverse impacts on floodplains and wetlands, with moderate beneficial impacts and a net positive effect. Because major adverse impacts are not anticipated to occur under the preferred alternative, the proposed action will not result in impairment to floodplain and wetland resources.
- **Vegetation**—Big Thicket National Preserve was established “to assure the preservation, conservation, and protection of the natural, scenic, and recreational values” of the Big Thicket area, of which vegetation resources are a part. Anticipated impacts to vegetation resources under the preferred alternative would include negligible, short-term, and highly localized adverse impacts with moderate beneficial impacts and a net positive effect. Because major adverse impacts are not anticipated to occur under the preferred alternative, the proposed action will not result in impairment to vegetation resources.
- **Fish and Wildlife**—Big Thicket National Preserve was established “to assure the preservation, conservation, and protection of the natural, scenic, and recreational values” of the Big Thicket area, of which fish and wildlife are a part. The preferred alternative would result in negligible, short-term, highly localized adverse impacts to fish and wildlife resources but result in moderate, widespread, and long-term beneficial impacts with a net positive effect. Because major adverse impacts are not anticipated to occur under the preferred alternative, the proposed action will not result in impairment to fish and wildlife resources.

In conclusion, as guided by this analysis, good science and scholarship, advice from subject matter experts and others who have relevant knowledge and experience, and the results of public involvement activities, it is the Superintendent’s professional judgment that there would be no impairment of park resources and values from implementation of the preferred alternative.

ERRATA SHEET
FERAL HOG MANAGEMENT PLAN AND ENVIRONMENTAL ASSESSMENT
BIG THICKET NATIONAL PRESERVE

Changes are indicated by bold text.

Page 4, Section 1.1 Objectives of Taking Action, change the following sentence:

“Comply with policies on endangered species, exotic species, and recreation, as specified in BTNP’s enabling legislation.”

to

“Comply with policies on endangered species, exotic species, and ~~recreation~~ **traditional uses**, as specified in BTNP’s enabling legislation.”

Page 13, Section 1.3 Issues and Impact Topics Evaluated, change the following sentence:

“Potential issues under both the no action and the action alternative include compliance with policies on endangered species, exotic species, and multiple-use recreation, as specified in enabling legislation for BTNP.”

to

“Potential issues under both the no action and the action alternative include compliance with policies on endangered species **and exotic species**, ~~and multiple-use recreation~~, as specified in the enabling legislation for BTNP.”

Page 17, Section 1.4 Issues and Impact Topics Eliminated from Further Analysis, insert the following sentences:

“Regional impacts would occur throughout BTNP and adjacent lands, but also exhibit effects throughout the Pineywoods. **The Pineywoods Vegetational Area, as delineated and described by Gould *et al.* (1960) and later by others (e.g., Keith *et al.* 1978; Hatch *et al.* 1990), encompasses the nearly level to gently undulating region of east Texas entirely within the Gulf Coastal Plains physiographic region and within which BTNP occurs. The dominant vegetation type is a mixed pine-hardwood forest on uplands and a mixed hardwood forest on the lowlands. Soils are characteristically pale to dark gray sands or sandy loams that are generally acidic, and similar climatic conditions occur throughout the region, with an average annual rainfall of 35 to 50 inches distributed relatively evenly throughout the year (Keith *et al.* 1978; Hatch *et al.* 1990)."**

Page 19, Section 1.4 Issues and Impact Topics Eliminated From Further Analysis, Socioeconomics, change the following sentence:

“Mitigation measures described in section 2.2 (Protection of Visitor Use and Experience) would minimize proposed-action effects on soundscapes.”

to

“Mitigation measures described in section 2.2 (Protection of Visitor Use and Experience) would minimized proposed-action effects on **socioeconomics soundscapes**.”

Page 23, Section 2.2 Alternative B: Implement a Feral Hog Management Plan, change the following sentence:

“Trained dogs could be used to aid in the tracking and shooting of hogs.”

to

“Trained dogs with **GPS locating collars** could be used to aid in the tracking and shooting of hogs.”

Page 23, Section 2.2 Alternative B: Implement a Feral Hog Management Plan, Directed Trapping Program (Live-Capture), remove the following language:

“Several portable, ~~lightweight~~, cage traps as well as corral traps, would be built or purchased.”

Page 23, Section 2.2 Alternative B: Implement a Feral Hog Management Plan, Directed Trapping Program (Live-Capture), change the following sentence:

“Lightweight portable traps that could be transported by hand or on a small trail cart (pushed or pulled by hand) would mainly be used in remote areas, with corral traps also used in more accessible locations.”

to

“~~Lightweight~~ Portable traps that could be transported by hand or on a small trail cart (pushed or pulled by hand) would mainly be used in remote areas, with corral traps also used in more accessible locations.”

Page 26, Section 2.2 Alternative B: Implement a Feral Hog Management Plan, Directed Shooting Program, remove the following sentence:

~~“If a wounded or potentially wounded animal could not be located during the same day of operations, the area would be returned to and searched until the animal is located.”~~

Page 27, Section 2.2 Alternative B: Implement a Feral Hog Management Plan, “Judas Hog” Tracking/Radio-Telemetry, change the following sentence:

“NPS employees participating in this component of the management program would be required to complete a wildlife immobilization practitioner course.”

to

“NPS ~~employees~~ personnel and authorized agents participating in this component of the management program would be required to complete a wildlife immobilization practitioner course.”

Page 28, Section 2.2 Alternative B: Implement a Feral Hog Management Plan, *Use of Dogs*, insert the following text:

“Use of dogs with GPS locating collars would be considered for locating and tracking hogs where other alternatives have failed or become ineffective.”

and

“Use of trained dogs with GPS locating collars and handlers would limit potential effects on non-target species, visitor use and experience, and adjacent landowners, as well as minimize the likelihood of dogs being injured or lost (and subsequently becoming feral if not recovered.”

Pages 28, Section 2.2 Alternative B: Implement a Feral Hog Management Plan, *Use of Dogs*, insert the following sentence:

“Compliance with AVMA Animal Welfare Principles (2011) and other standards specified in their contract for the human treatment of their dogs would be required. Each individual dog would be required to have a GPS locating collar.”

Pages 28 and 29, Section 2.2 Alternative B: Implement a Feral Hog Management Plan, *Use of Dogs*, change the following sentence:

“Guidelines could also include dog-control measures (e.g., tracking collars, display of competence, leashing requirements, etc.), dog protection measures (e.g., cut vests, cut collars, venomous snake bite response protocol, provision of first aid veterinary kit at all times in the field, etc.), and additional measures to prevent conflict with BTNP user groups.”

to

“Guidelines could also include other dog-control measures (e.g., ~~tracking collars,~~ display of competence, leashing requirements, etc.), dog protection measures (e.g., cut vests, cut collars, venomous snake bite response protocol, provision of first aid veterinary kit at all times in the field, etc.), and additional measures to prevent conflict with BTNP user groups.”

Pages 32, Section 2.2 Alternative B: Implement a Feral Hog Management Plan, Mitigation Measures of the Preferred Alternative, *Protection of Soils and Vegetation*, remove the following language:

“Only ~~lightweight~~ portable cage traps, corral traps, tree stands, and blinds would be used in most areas.”

Pages 32 and 33, Section 2.2 Alternative B: Implement a Feral Hog Management Plan, Mitigation Measures of the Preferred Alternative, *Protection of Soils and Vegetation*, insert the following sentence:

“Movement of materials by vehicle (truck or UTV) would be restricted to areas where their use is already approved, with no expansion or alteration of existing roads, trails, or rights-of-way. A “no-rutting” policy would be implemented to restrict vehicular access from areas where or when moist soil conditions or naturally low soil bulk density would result in unacceptable soil compaction or related adverse impacts to geologic resources.”

Pages 33, Section 2.2 Alternative B: Implement a Feral Hog Management Plan, Mitigation Measures of the Preferred Alternative, *Protection of Wildlife and Species of Special Concern*, insert the following sentence:

“Fencing would be of a height that does not restrict movement of white-tailed deer. All non-target wildlife that is caught, injured, or killed by NPS personnel and authorized agents in the directed shooting and trapping programs would be required to be reported according to protocol established for the Feral Hog Management Plan. Additionally, NPS would define specific protocol for dealing with injured, non-target wildlife species.”

Page 34, Section 2.2 Alternative B: Implement a Feral Hog Management Plan, Mitigation Measures of the Preferred Alternative, *Protection of Wildlife and Species of Special Concern*, insert the following text at the end of this sub-section:

“Through Section 7 consultation, the NPS determined that the proposed action “may affect but is not likely to adversely affect” the federally-threatened

Louisiana black bear (*Ursus americanus luteolus*) but will have “no effect” on other federally endangered or threatened species of potential occurrence. Additional mitigation measures detailed by USFWS for Louisiana black bear include:

- All hunters (NPS personnel and authorized agents working under the feral hog management plan) will be required to complete NPS approved training, which will include the identification of black bear vs. feral hog in low light conditions;
- Post more bear vs. hog identification signage up throughout Preserve to minimize accidental bear shootings;
- Presence/absence surveys will be conducted before (feral hog management) activities commence to determine if bears are in area. If (bear) presence is detected by site or signs, then hunting and trapping activities will cease and areas will be avoided until bear presence is no longer detected; and
- If a Louisiana black bear is caught in a trap, shot, or harassed by hunting dogs, all hog hunting activities will cease, the NPS will immediately notify the U.S. Fish and Wildlife Service Coastal Ecological Services Field Office in Houston, Texas and initiate formal consultation procedures pursuant to Section 7 of the Act.”

Page 38, Section 2.6 Summary of Alternatives, Table 2 Extent that Each Alternative Meets Project Objectives, change the following cell:

“Comply with policies on endangered species, exotic species, and multiple-use recreation as specified in enabling legislation”

to

“Comply with policies on endangered species and exotic species, ~~and multiple-use recreation~~ as specified in enabling legislation”

Page 45, Section 2.6 Summary of Alternatives, Table 4: Summary of Impacts of Each Alternative, Preserve Operations, Alternative B, Preferred Alternative, change the following sentence :

“Implementation of a feral hog management plan under the preferred alternative would result in short-term, moderate negative effects on Preserve operations due to increased demand on existing equipment, an expanded resource management program, increased need for specialized personnel training and certification, and other needs and adaptations associated with a major resource management effort.”

to

“Implementation of a feral hog management plan under the preferred alternative would result in short-term, moderate negative effects on Preserve operations due to increased demand on existing equipment, an expanded resource management program, increased need for specialized personnel training and certification, and other needs and adaptations associated with ~~a major~~ an extensive resource management effort.”

Page 63, Section 3.4 Impacts on Vegetation, 3.4.1 Affected Environment, change the following sentence:

“Plant species include the federally-endangered Texas trailing phlox (*Phlox nivalis* subsp. *texensis*), which is known to occur, and the Navasota ladies-tresses (*Spiranthes parksii*), which is likely to occur, in addition to the federal candidate species Neches River rose-mallow (*Hibiscus dasycalyx*), which has been documented in BTNP.”

to

“Plant species include the federally-endangered Texas trailing phlox (*Phlox nivalis* subsp. *texensis*), which is known to occur, and the federally-endangered Navasota ladies-tresses (*Spiranthes parksii*), which is likely to occur, in addition to the federally-threatened Neches River rose-mallow (*Hibiscus dasycalyx*), which has not been documented in BTNP but may occur.”

Page 90, Section 5.0 Bibliography, insert the following citations:

Gould, F.W., G.O. Hoffman, and C.A. Rechenthin. 1960. Vegetational areas of Texas. TX Agri. Ext. Serv. L-492.

Hatch, S.L., K.N. Gandhi, and L.E. Brown. 1990. Checklist of the Vascular Plants of Texas. MP 1655. Texas A&M University, Texas Agricultural Experiment Station, College Station, TX, USA.

Page 91, Section 5.0 Bibliography, insert the following citation:

Keith, A.R., J. Hamilton, and D. Kennard. 1978. Preserving Texas' Natural Heritage. PRP 31. University of Texas, School of Public Affairs, Austin, TX, USA.

SUBSTANTIVE COMMENTS

(From Richard and Bonnie Donovan, the Lone Star Chapter of the Sierra Club, and Dave McHugh)

No.	Comment	Response
1	Feral hogs are a huge problem all over the state and are going to be controlled only with a concerted effort by many agencies. This is a state issue and must be addressed by the state. Shooters alone are going to have minimal effect in reducing these animal's numbers. Trapping is essential and it is going to be an ongoing effort. As you know, hogs are very intelligent and trapping numbers may diminish. As time goes by, good dogs, and men that know how to use them, may be necessary to keep the number manageable.	Comment noted. All of these methods have been included in the chosen alternative.
2	Page 3, 1.1 Objectives of Taking Action and page 13, 1.3 Issues and Impact Topics Evaluated, the NPS uses in this EA several times the phrase "ecological structures and functional processes". NPS should explain clearly what this means in relation to natural resources in BTNP and feral hog control.	The "feral hog damage to native plants, animals, and the ecological structures and functional processes upon which they are dependent" is described in detail throughout the Environmental Assessment. The quoted text is part of a summary.
3	Page 7, 1.2.2 Big Thicket National Preserve Enabling Act, NPS states "Other activities, including the extraction of minerals, oil and gas could be permitted is [sic] such activities could be conducted without jeopardizing the natural values for which the area seeks to preserve." The Sierra Club is not aware of any minerals, other than oil/gas, that are allowed to be extracted from BTNP. If this statement is true then NPS has failed in this matter since oil/gas activities negatively impact quiet, the enjoyment of natural sounds, and vistas of BTNP. Other natural resources may have been negatively impacted like groundwater and wildlife which can be disturbed by oil/gas activities.	This comment is outside the scope of the Feral Hog Management Plan and Environmental Assessment.
4	Page 13, 1.2.3 Approve NPS Planning Documents, NPS states "additional compliance may be necessary for site-specific actions where the potential for sensitive resources exists or the actions in an area or is of a nature that creates a public concern. The public would be notified of any such proposals prior to implementation." NPS should give an example of a site-specific action that may be "a public concern". NPS should define what a "public concern" is and should state clearly how the public will be notified about such a proposal and what the public input process	The public would be notified according to the National Environmental Policy Act, NPS Directors Order 12, and any other applicable laws, policies, rules, or regulations.

	will be for a "public concern".	
5	<p>Page 13, 1.3 Issues and Impact Topics Evaluated, NPS mentions "multiple-use recreation". NPS does not operate under a "multiple-use" directive from the U.S. Congress. The NPS directive from the U.S. Congress is more protection and preservation so that the public can enjoy the natural resources of the National Park System. NPS should state clearly what "multiple-use recreation" is and where it is located in the BTNP.</p>	Please see errata sheet.
6	<p>Page 13, 1.3 Issues and Impact Topics Evaluated, NPS states "may have a measurable effect, defined as "moderate" or greater intensity (as described in Section 1.4)." NPS fails to define what "measurable" is and what methodology will be used to measure each of the effects that the eight impact topics analyzed have. Without this information the public cannot review, comment on, and understand all potential environmental impacts of the proposal.</p>	This information can be found in section 3.0 <i>Affected Environment and Environmental Consequences</i> .
7	<p>Page 14, Water Quality and Quantity, page 15, Floodplains and Wetlands, page 15, Vegetation (includes Rare & Unusual Vegetation and Plant Species of Special Concern), page 16, Fish and Wildlife (includes Species of Concern, Unique or Important Wildlife or Wildlife Habitat, and Unique or Important Fish or Fish Habitat), page 17, Introduce or Promote Non-Native Species (Plant or Animal), pages 32 and 33, Mitigation Measures of the Preferred Alternative, Protection of Soils and Vegetation, pages 41-44 and 46, Alternative B, Preferred Alternative, NPS states that there will be "sedimentation caused by soil disturbance during limited vehicular access or the placement of traps, blinds, or fencing ... vehicular traffic". NPS uses the phrase "limited vehicular access" throughout the EA and refers to the use of trucks and utility terrain vehicles (UTVs). NPS must clearly state what "limited vehicular access" means, how this will be determined, how this will be policed, how often this will be policed, what happens when excess access occurs, what monitoring will be done, etc.</p> <p>The Sierra Club is very concerned about the use of existing gravel or natural surface roads and roads that are closed for access and have not been use for years by trucks and UTVs for</p>	<p>NPS has chosen to include the use of UTVs and small trucks in the chosen alternative because they will allow greater access to remote areas of BTNP. This will allow NPS and authorized agents to more successfully meet the objectives of the Feral Hog Management Plan. NPS has chosen to limit UTV and small truck use to roads currently approved for use to limit the impact to the natural and cultural resources of BTNP.</p> <p>NPS has clearly stated on page 23, 25, and 32-33 that "limited vehicular access" refers to the use of trucks or UTVs "where vehicles are currently approved for use and where access is possible without expanding or altering existing dirt roads, trails, or rights of way" (page 23).</p> <p>NPS has analyzed the impacts anticipated from the chosen alternative, including the limited vehicular access described above, throughout the EA. As stated in this analysis, NPS anticipates negligible impacts to geologic resources, water quality, wetlands, vegetation, fish and wildlife, and non-native invasive plants as a result of the chosen alternative. NPS also anticipates minor impacts to visitor use and experience.</p> <p>Thank you for the suggestion of including a "no-rutting" policy in the chosen alternative.</p>

<p>feral hog control purposes. The additional soil erosion, sedimentation of water, soil compaction, rutting, vegetation trampling/crushing, and other impacts must be stated, defined, and specific mitigation measures required and NPS must state what will and will not be acceptable. For instance, NPS could use a mitigation measure that there will be no truck or UTV access when the soils are wet. However, NPS fails to address the damage that could occur due to roads and trails if vehicles are used during wet weather and when soils are wet and how this avoidable damage can be prevented.</p> <p>NPS does not state how many miles of roads will be opened to vehicular access, the location of those roads, what sensitive areas exist next to those roads, how wide the roads are, what units the roads are in, etc. NPS provides the public with almost no information about what it plans to do and where this will take place with regard to vehicular use, access, and traffic. The public must have this information so that it can review, comment on, and understand all the potential environmental impacts of the proposal.</p> <p>When NPS legally allows certain people to use trucks and UTVs in BTNP other people who illegally use vehicles will find these roads or access-ways and will use them for illegal access, poaching, vandalism, trash dumping, and other illegal actions. These vehicles also create noise pollution which negatively impacts quiet, the enjoyment of natural sounds, and solitude. NPS does not discuss this issue in a complete way as the National Environmental Policy Act (NEPA) requires and does not provide adequate mitigation measures for how such access will be prevented or controlled. For instance, using natural or human barriers, like logs or other obstacles to impede illegal use or legal use in areas where there should be no access are not considered as mitigation measures.</p> <p>Pages 23-25, Directed Trapping Program (Live-Capture), NPS states "Trucks and utility vehicles could be used for access and transport of traps, where vehicles are currently approved for use and where access was possible without expanding or altering</p>	<p>NPS has included this mitigation measure, which is reflected in the errata sheet.</p> <p>NPS has found in the past that barriers often entice those participating in illegal activities rather than dissuading them. NPS uses natural barriers when possible to disguise administrative roads and fire breaks.</p> <p>Board roads, or matting, were not considered as part of the chosen alternative due to their lack of feasibility. They are cost and time prohibitive given the limited vehicular use expected.</p>
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	<p>existing direct roads, trails, and rights-of-way." The Sierra Club opposes the use of trucks or UTVs on hiking trails. The use of these large vehicles on hiking trails will result in the enlargement of these trails, rutting, vegetation trampling/crushing, soil erosion, and other negative environmental impacts. Recreational enjoyment will be diminished by the use of these vehicles on hiking trails. Except in emergencies, NPS should treat hiking trails as the facility and resource that they are.</p> <p>NPS fails to require mitigation measures, like board roads, that would prevent a lot of this unnecessary damage from occurring or prevention of road or trail use during wet weather. The "greatest extent possible" means nothing if there is no definition for this term and no specific mitigation measures are required.</p> <p>Pages 32 and 33, Mitigation Measures of the Preferred Alternative, Protection of Soils and Vegetation, the Sierra Club does not support use of old roads and hiking trails for trucks and UTVs. There are no mitigation measures like the use of logs and other obstacles, raking trails, returning the trail to its original surface, filling in ruts, and ripping compacted surfaces to ensure that roads and trails will not be permanently damaged by truck and UTV uses, no use in wet weather, and hiding the entry points of any pathways so that illegal truck and ATV use is not encouraged.</p> <p>Page 34, Protection of Water Quality and Quantity, Wetlands and Floodplains, the mitigation measures are not sufficient for protection of these resources as noted above for roads and trails. In addition, a buffer of at least several hundred feet should be placed between truck and UTV use and rivers, streams, and wetlands to reduce soil, water, and other environmental impacts.</p>	
8	<p>Page 16, Visitor Use and Experience (includes Recreation Resources, Visitor Experience Aesthetic Resources, etc.), NPS fails to list "vehicular access and traffic". Vehicle access and traffic can reduce visitor use and enjoyment of BTNP due to the environmental impacts that noise pollution has on quiet, enjoyment of natural sounds, and solitude. This is an environmental impact that should be listed and analyzed in the EA.</p>	<p>This information can be found in section 3.0 <i>Affected Environment and Environmental Consequences</i>.</p>

<p>9</p>	<p>Page 17, 1.4 Issues and Impact Topics Eliminated From Further Analysis and page 48, Context, NPS fails to define "localized impacts" because it includes the term "limited area" but does not state what "limited area" is. NPS introduces later in the EA another category of "localized impacts" called "highly localized" (pages 41-44, page 46, Alternative B, Preferred Alternative, page 54, 3.1.4 and 3.1.4.2, page 57, 3.2.4 and 3.2.4.2, page 61, 3.3.4 and 3.3.4.2, page 65, 3.4.4 and 3.4.4.2, page 69, 3.5.4 and 3.5.4.2 and page 80, 3.8.4) and provides no definition or description of how "highly localized" is different from "localized." Whether "highly localized" refers to an area in acres disturbed or miles disturbed or any other measure is not stated. Without a specific definition for what "limited area" is the NPS can arbitrarily change the definition whenever it wants. Each time an incident or citizen complaint is made the NPS, because it does not have a definition for "limited area", can avoid its responsibility and frustrate citizen concerns. NPS must be held accountable and must provide definitions of what environmental impacts are and are not acceptable.</p> <p>NPS also refers to "Pineywoods" (pages 17 and 48) for "regional impacts" but this term is not defined. The public must be clearly told what the term "Pineywoods" means to NPS. The Sierra Club has heard different people give different definitions for "Pineywoods". The Sierra Club does not agree with the "regional scale" impacts definition that is used on pages 52, 56, 59, 63, 68, and 78 because it is so general, so large in scale, and it is only applied to "major thresholds of change" that there are no impact activities inside BTNP that will ever exceed a "major threshold of change". A glossary is needed which defines key words and phrases.</p> <p>There are actions that are negative to BTNP that do not meet the "major threshold of change" but are indeed "major". For instance, construction of multiple oil/gas wells inside a unit of BTNP with accompanying roads, pipelines, etc., would be significant, cross a "major threshold of change", and would fragment the landscape of a unit, but they would not be "regional in scale" and therefore not, according to the inadequate</p>	<p>NPS has defined localized impacts as those that are "spatially restricted to a limited area that can be easily delineated or specified" and in contrast defined widespread impacts as those that are "throughout BTNP and potentially extending into adjacent lands".</p> <p>Please see the errata sheet regarding a definition for "Pineywoods".</p> <p>NPS tailors its impact thresholds to the purpose and need of each document. Feral hog management is a regional issue, and one that impacts the Preserve on a broad basis. As such, major impacts would be those that impact the Preserve and the region on the same broad basis. If the project were spatially limited, then the impact definitions would be spatially limited as well.</p> <p>In the EA, NPS took a "hard look" by considering the direct, indirect, and cumulative impacts of the proposed action on the environment, along with connected, cumulative and similar actions. Impacts were described in terms of context, duration, and timing using four impact intensity threshold definitions (negligible, minor, moderate, major), which are defined for each impact topic in the <i>Affected Environment</i> and <i>Environmental Consequences</i> chapter. If the intensity of an impact could be described quantitatively, the numerical data was presented; otherwise the impacts were described qualitatively.</p> <p>Regarding best professional judgment, in its NEPA analysis NPS brings together technical specialists who possess the knowledge and skills to assess the effects of the proposal in an interdisciplinary team, and it is their judgment that forms the basis of the analysis. This is consistent with CEQ's requirement of interdisciplinary preparation. The ultimate purpose of NEPA, as CEQ has noted, is not better documents, but better decisions.</p> <p>This is even truer of NPS determinations regarding impairment which (as explained in Management Policies) are expressly to be determined "in the professional judgment of the responsible NPS manager."</p> <p>NPS has clearly stated on page 17 that it equates "no measureable effects" to less than</p>
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<p>"major threshold of change" that NPS how has, be "major." NPS must revise its "thresholds of change" so that they reflect what "moderate" and "major" changes really are in BTNP.</p> <p>NPS fails to give any quantitative measure of the environmental impacts that it describes. For instance, how much soil erosion, water sedimentation, vegetation trampling/crushing, etc., is allowed before negligible, minor, moderate, and major thresholds of change are reached or exceeded. NPS should state plainly for specific environmental impacts what quantitative damage is allowed for each of these thresholds. The public must have this information so that it can review, comment on, and understand all potential environmental impacts of the proposal.</p> <p>Further, NPS fails to state what definition of "best professional judgment" it uses for this EA. Without this the public does not know the level of analysis that NPS will use to makes its environmental impact determinations.</p> <p>NPS states that "NPS defines "measurable" impacts as moderate or greater effects. It equates "no measurable effects" as minor or less effects". However, on page 52, geologic resources, page 55, water quality and quantity, page 59, floodplains and wetlands, page 63, vegetation, page 67, fish and wildlife, page 70, visitor use, health and safety, and experience, page 75, Preserve operations, and page 78, non-native species, under Minor, NPS states that "Impacts would result in a detectable change" or similar wording.</p> <p>If the impacts are detectable, then they are or should be measurable. The same holds true, for instance, with "Negligible" on page 52, which is defined in part as "the change ... would not be of any measurable or perceptible consequence". This definition indicates "Negligible" as being potentially being measurable. The entire basis for NPS's environmental impacts analysis, assessment, and evaluation is incorrect and does not make sense. When NPS states on pages 17 and 18 that "No measurable effect" is used by NPS in determining if a categorical exclusion applies or if impact topics may be dismissed from</p>	<p>moderate effects in this document. In doing so, NPS has defined a "measurable effect". This definition is not equal to an effect that can be merely detected, which NPS has defined as a minor impact in this document. NPS has defined these terms in sections 1.4 Issues and Impact Topics Eliminated From Further Analysis and 3.0 Affected Environment and Environmental Consequences. Although the terms "measurable" and "detectable" may be interpreted as equal by the Sierra Club, they have been clearly defined as differing levels of effect in this document.</p>
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	<p>further evaluation in an EA or EIS. The use of "no measurable effects" in this EA pertains to whether NPS dismisses an impact topic from further evaluation in the EA. The reason NPS uses "no measurable effects" to determine whether impact topics are dismissed from further evaluation is to concentrate on the issues that are truly significant to the action in question ... rather than amassing needless detail" it has devised a system that is incorrect and does not do what NPS says it will. NPS says that measurable is a "Moderate or Major" threshold of change but its definitions for "Minor" make it clear that this threshold of change could be "measureable".</p>	
10	<p>Page 18, 1.4 Issues and Impact Topics Eliminated from Further Analysis, NPS that "there is little controversy on the subject or reasons to otherwise include the topic." NPS should state how it knows there is no "controversy" when the public comment period has not ended and it has not received and read the public's comments. This is specious reasoning that is used to ignore public concerns. The Sierra Club objects to this arbitrary and capricious reasoning.</p>	<p>Under NEPA "controversial" refers to circumstances where a substantial dispute exists as to the environmental consequences of the proposed action and does not refer to the existence of opposition to a proposed action, the effect of which is relatively undisputed.</p>
11	<p>Page 18, Soundscapes, the Sierra Club does not agree with the NPS that Soundscapes should be not be analyzed as an important and significant environmental issue. The use of UTVs and trucks deep within the BTNP units will create noise and disturbance that should be analyzed, assessed, and evaluated. The important elements in BTNP of quiet, natural sounds, solitude, and the disturbance of wildlife will be affected by the noise pollution from firing guns and the use of trucks and UTVs in BTNP. The Sierra Club request that NPS analyze Soundscapes in the EA.</p>	<p>NPS has determined that although there will be impacts to the soundscape of BTNP due to the chosen alternative, they will not be greater than minor. As stated in the EA, these impacts from the chosen action will be minimized by mitigation measures and localized.</p>
12	<p>Page 21, Indian Trust Resources, the Sierra Club is surprised that the NPS ignores the Alabama-Coushatta Indian Reservation, which is on the boundary of one BTNP unit, the Big Sandy Creek Unit, when talking about coordinating with Native peoples. The NPS should contact and ask the Alabama-Coushatta Indian Tribe about its interests in the BTNP and feral hog control.</p>	<p>NPS has not ignored the Alabama-Coushatta Tribe of Texas. As stated in section 4.4 <i>Native American Consultation</i>, NPS has contacted the Tribe via scoping, a consultation letter, and the availability of the Environmental Assessment.</p>
13	<p>Page 21, Climate Change, NPS must address climate change adequately and comprehensively. Climate change is due</p>	<p>Climate change is a subject of concern for NPS. However, as stated in the EA, climate change research is still largely lacking a quantifiable</p>

<p>mostly to the release of carbon dioxide (CO₂) air pollution from activities like the combustion of oil/natural gas and their products. Climate change will alter existing ecosystems and make it more difficult for plants and animals to adapt successfully to these changed ecosystems.</p> <p>NPS has failed to adequately address climate change. NPS does not even state that the transportation it allows in this proposal will result in CO₂ emissions. NPS does not estimate how many CO₂ emissions will be generated from the burning of fossil fuels or their products (gasoline). NPS must answer questions like:</p> <ol style="list-style-type: none"> 1. How will BTNP be affected by climate change? 2. What can be done to create more resilient and resistant habitats and ecosystems? 3. What can BTNP do to reduce CO₂ or other greenhouse gas emissions? 4. What can be done to assist plants and animals so they can adapt to climate change? <p>NPS should prepare and include in the FHMP/EA a climate change ecological resilience and resistance plan (CCERRP). The CCERRP would assess the biological and ecological elements in BTNP and the effects that climate change has had and will have on them. The CCERRP would also assist plants, animals, and ecosystems in adapting to climate change and would require monitoring of changes and mitigation measure effectiveness. The CCERRP would be based on:</p> <ol style="list-style-type: none"> 1. Protection of existing functioning ecosystems in BTNP. 2. Reduction of stressors on the ecosystems in BTNP. 3. Restoration of natural functioning ecological processes in BTNP. 4. Use of natural recovery in BTNP, in most instances. 5. Acquisition of buffers and corridors to 	<p>method for predicting its effects.</p> <p>NPS has considered the impact to air quality due to localized emissions from vehicle exhaust, however, as is stated in section 1.4 <i>Impact Topics Dismissed From Further Analysis</i>, these impacts were found to be negligible and localized.</p>
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	<p>expand and ensure connectivity of ecosystems in BTNP.</p> <p>6. Intervention to manipulate (manage) ecosystems in BTNP only as a last resort.</p> <p>7. Reduction of greenhouse gas emissions from BTNP and transportation and operation elements of the FHMP.</p>	
14	<p>Page 22, 2.0 Alternatives, the NPS does not analyze all reasonable alternatives for this EA as required by NEPA. For instance, to ensure human safety of feral hog reduction operations, near the boundaries of BTNP units or where houses or other structures are located adjacent to the boundary or within the boundary of BTNP, only trained professional hunters/trappers or trained NPS employees should be allowed to kill/trap feral logs. There is no discussion about this issue in any alternative.</p> <p>There is no alternative, other than the required No Action Alternative, that requires that trucks or UTVs are not used or their use is reduced to the minimum level for feral hog control. There is no alternative that addresses the lack of NPS personnel to monitor legal use of trucks or UTVs in BTNP. If NPS allows trucks or UTVs the FHMP/EA must have, but does not, a complete discussion, analysis, evaluation, and assessment about how NPS will control such use via mitigation measures for each alternative presented and include the regulations, rules, standards, guidelines, methods, and personnel, and numbers of personnel, it will need to ensure compliance and no illegal truck or UTV use by hunters/trappers.</p> <p>There is no alternative analyzed that requires the use of one or more professional hunters that rotate through BTNP and other national parks (like Big Bend National Park), state parks, and wildlife management areas. Implementation of professional hunter rotation is a method that can reduce the cost of the FHMP program by spreading it among several agencies and land units.</p> <p>There is no alternative analyzed that requires a cooperative technical assistance program with agencies, like Texas Parks & Wildlife Department (TPWD), and works with adjacent</p>	<p>NPS has chosen to use adaptive management in the chosen alternative. Following adaptive management principles, NPS has identified a number of management techniques that may be used to take hogs. Throughout the lifespan of the Feral Hog Management Plan, NPS will tailor the use of these techniques to the changing and adapting hog population. Frequent monitoring will be used to assess the efficacy of each technique.</p>

and area landowners to emphasize feral hog reduction so the feral hog population of an entire area is reduced. An aggressive program to enlist other landowners should be one of the major elements of any FHMP.

There is no alternative analyzed that **requires** the prioritization of units and areas within units where feral hog populations are highest, the greatest damage is being done, and sensitive plant communities or other natural resources are at risk. This prioritization of units and areas within units for the removal of feral hogs would include an analysis of sensitive areas and their locations; safety for other users of BTNP; and safety for humans that live or use areas that are adjacent to or within the boundaries of BTNP.

There is no alternative analyzed that **requires** that NPS conduct an inventory and estimation of feral hog populations and or carrying capacity in units and areas within units where reduction is possible.

There is no alternative analyzed that **requires** a procedure that accurately determines the success of the feral hog reduction program; the reduction of specific feral hog populations; total numbers of feral hogs to be killed each year; and the methods used to kill/capture feral hogs that can match these goals.

There is no alternative analyzed that **requires** the re-introduction of native predators that prey on feral hogs in BTNP.

There is no alternative analyzed that **requires** that hiking trails not be used for feral hog hunting/trapping. The Sierra Club opposes the use of hiking trails as roads for trucks and UTVs due to the negative impacts to soil, water quality, and recreation that will occur. The only use of hiking trails for other than hiking is in emergency situations or for appropriate maintenance. Use of trucks or UTVs on hiking trails sends a message that it is okay to use motorized vehicles on hiking trails and begins the process of trail widening and vegetation trampling/crushing that will degrade the hiking experience. The NPS must discuss, analyze, assess, and evaluate the issue of hiking trail use by trucks and UTVs in the

	FHMP/EA.	
15	<p>Page 23, 2.2 Alternative B Implement a Feral Hog Management Plan and pages 28 and 29, Use of Dogs, NPS should require that each dog used for feral hog control has a GPS tag so it can be tracked and its movements can be analyzed.</p>	Thank you for this recommended mitigation measure. It has been included via the errata sheet.
16	<p>NPS must require all permitted trappers of feral hogs to report, keep, and submit records of any non-target wildlife that is caught, injured, or killed in traps. There should be a procedure to deal with non-target wildlife and take care of any non-target wildlife that is injured.</p> <p>NPS must require all permitted hunters/trappers of feral hogs to report, keep, and submit records of any non-target wildlife that is shot, injured, or killed. There should be a procedure to deal with non-target wildlife and take care of any that are injured.</p> <p>Pages 31 and 32, Monitoring and Research, NPS should require listing any non-target animal damage or interaction that occurs due to any activity where a feral hog is collected. Disease monitoring should be reported not "periodically" but every year for the safety of the public. NPS should commit to some type of transect or monitoring plots to determine rooting and wallowing and feral hog density.</p> <p>Page 33, Protection of Wildlife and Species of Special Concern, any non-target wildlife caught must be recorded, along with numbers, condition (injured or not), etc. so that it is clear how many non-target animals are being affected by the proposal.</p> <p>NPS must require all permitted hunters/trappers of feral hogs that use dogs to report, keep, and submit records of any non-target wildlife that is harassed, injured, or killed and any BTNP user that is affected by dog hunting/trapping. There should be a procedure to deal with non-target wildlife and take care of any that are injured and a way that BTNP users can report problems.</p>	Please see the errata sheet.
17	<p>NPS states that personnel that conduct trapping would be required to review the FHMP. However, there is no procedure for doing this and no requirement that NPS be able to verify that this has occurred.</p>	<p>NPS has described reporting and monitoring requirements in section 2.2 Alternative B: Implement A Feral Hog Management Plan. An environmental assessment is to be a "concise public document" that "briefly provide[s] sufficient evidence and analysis." 40 CFR</p>

	<p>One weakness in this FHMP is the failure to state explicitly what the monitoring program will be to ensure that hunters/trappers of feral hogs abide by the FHMP. There must be active NPS monitoring of anyone who uses traps and guns in BTNP so that safety and other concerns are adequately addressed and implemented. NPS should prepare, and should provide to the public for its comment, a monitoring program for the FHMP.</p> <p>NPS does not state how it will keep hog hunters and trappers apart so they do not endanger themselves by working within too close a proximity to each other.</p>	<p>§ 1508.9. To include the timing of document review or details on hunter coordination would amass unnecessary detail and merely make a long document longer.</p> <p>All components of the chosen alternative will be performed only by NPS or their authorized agents. These agents will be subject to the same rules, regulations, and mitigation requirements as NPS employees.</p>
18	<p>Pages 25-27, Directed Shooting Program, the Sierra Club supports use of small trail carts but not the use of trucks and UTVs for access for shooting feral hogs. The Sierra Club is concerned about the use of portable blinds/tree stands. First, NPS must regulate this so that people do not nail or in other ways damage trees when they install blinds/stands. If damage occurs then NPS should require repair of the damage and a fee must be paid to cover the damage. Second, the experience that the Sierra Club has had in Sam Houston National Forest is that people often place such blinds/stands right next to the Lone Star Hiking Trail which results in safety issues for hikers. There should be a minimum buffer of at least 300 feet that blinds/stands are placed away from hiking trails. The blinds/stands must be placed facing in the opposite direction from where the hiking trail is.</p>	<p>Please see response 7 regarding the use of UTV's and trucks.</p> <p>As stated in the EA, blinds would be temporary in nature and all human made materials would be removed from the field prior to departure. NPS has identified several safety measures in the EA, all of which are mandatory for NPS employees and their authorized agents.</p>

19	<p>The Sierra Club does not support the creation and maintenance of any "backcountry camps". A tent is all that is needed for camping in the backcountry.</p> <p>The Sierra Club opposes the creation and use of "primitive low-impact campsites." This phrase is not defined by NPS so there are no limits. The Sierra Club can see this morphing to hunters/trappers bringing in all kinds of creature comforts and making these campsites anything but primitive. If a hunter wants to stay out a few days then that person can bring a tent and campout like anyone else. There is no need for primitive campsites. Since NPS requires that hikers get a permit to campout feral hog hunters/trappers should also get a permit. The permit should state the location where camping will occur and the number of days that the hunter/trapper will be camped at that location.</p>	<p>NPS has defined the use of backcountry camps as those that "would follow 'Leave No Trace' principles, using only primitive, temporary, low impact materials and methods that would be removed after use leaving no long-term signs of disturbance."</p>
20	<p>How will NPS ensure that hunting/trapping during the night does not disturb wildlife? In particular many species are nocturnal or crepuscular and the use of lights when these invertebrates and vertebrates are active could result in harm to these animals. How will hunter safety be practiced during the night so that hunters and other campers are not endangered?</p> <p>Pages 65-70, 3.5 Impacts on Fish and Wildlife, the NPS has failed to consider the impacts that night hunting/trapping and the use of lights and vehicles will have on various invertebrate and vertebrate species. The Sierra Club recommends that the NPS use the book "Ecological Consequences of Artificial Night Lighting" edited by Catherine Rich and Travis Longcore, Island Press, 2006, as a resource for analysis of this issue.</p>	<p>Thank you for the recommendation. NPS has analyzed the impact to lightscape in section 1.4 <i>Impact Topics Dismissed From Further Analysis</i>.</p>
21	<p>NPS does not state how it will ensure that poachers do not take advantage of and use as a cover feral hog hunting/trapping. There must be procedures that ensure that law enforcement's job is not made more difficult by the FHMP.</p>	<p>NPS does not see illegal poaching as a consequence of feral hog management as a reasonably foreseeable future action. In the event that illegal poaching occurs, it will be addressed by NPS law enforcement.</p>
22	<p>NPS should also take into account how far the smell of a rotting feral hog will travel when setting distances from sensitive sensors.</p>	<p>In section 2.2 Alternative B: Implement A Feral Hog Management Plan, Final Disposition, NPS states it will move all killed hogs at least 200 feet from visitor use areas. This measure is designed to protect the viewshed of visitors as well as mitigate the smell of the hogs.</p>
23	<p>Pages 27-29, Judas Hog Tracking/Radio-</p>	<p>Please see the errata sheet.</p>

	Telemetry and Use of Dogs, NPS should require not only its employees but also any private persons who participate to complete a wildlife immobilization practitioner course.	
24	Page 29, Final Disposition, NPS should define what "relatively permanent surface waters" means. For streams, the terms used are ephemeral, intermittent, and perennial.	The term "relatively permanent surface waters" was used to capture not only riverine but also palustrine wetlands.
25	<p>Page 30, Protective Fencing, NPS does not provide a distance that research and monitoring exclosures will be sited from major visitor use areas. NPS should set a minimum distance that these structures will be sited from major visitor use areas.</p> <p>NPS should state clearly what the time period is that it will require fencing to be inspected for damage and maintenance instead of using words like "periodically" and "regularly". After all once a year could be interpreted as "periodically".</p>	Please see page 35 of the EA. Any research monitoring exclosures would be placed out of visitor sight and at least 200 feet from visitor use areas. NPS will monitor any fencing as needed for damage. This may vary due to storms or other natural disturbances, but will likely be quarterly.
26	Pages 34 and 35, Protection of Visitor Use and Experience, and Preserve Operations, NPS should state clearly how firearm use will be monitored and how often this will occur. Using the standard "whenever possible" to limit gun sounds via sound suppression on firearms is not protective enough. NPS should require sound suppression on all guns used so that noise pollution will be reduced as much as possible. The Sierra Club supports the use of federal professionals from USDA Wildlife Services as much as possible to ensure that reduction of feral hog populations can be done as efficiently and effectively as possible.	Comment noted. NPS describes the requirements for firearms use in the EA under section 2.2 Alternative B: Implement a Feral Hog Management Plan, Direct Shooting Program".
27	Pages 36 and 27, 2.3 Alternatives Considered But Eliminated from Further Analysis, the Sierra Club agrees that snares and the use of poison should not be used in BTNP. This Sierra Club does not agree that reintroduction of extirpated predators, like mountain lions, cannot be accomplished "due to lack of feasibility." There is no explanation about what this "lack of feasibility" is. The public deserves an explanation.	Species reintroduction is a complex process and is not feasible for addressing the feral hog issue discussed in this document. Therefore, it was dismissed due to lack of feasibility.
28	Page 45, Alternative B, Preferred Alternative, NPS states "would result in short-term, moderate negative effects on Preserve operations due to increased demand on existing equipment, an expanded resource management program, increased need for specialized personnel training and certification, and other needs and adaptations associated with a major resource management	<p>The mitigation measures discussed in section 2.2 <i>Alternative B: Implement a Feral Hog Management Plan</i> and the proposed actions are not mutually exclusive. They are part of the alternative and thus must be performed if it is to be implemented.</p> <p>NPS cannot comment on future funding or staffing because it is subject to Congressional</p>

	<p>effort." If this is a "major resource management effort" why will it not have a "major" threshold of change? Since BTNP has traditionally been underfunded and has operated far under its personnel level and since the trends are for this to continue and perhaps exacerbate how will this affect NPS in its ability to implement a FHNP? This is particularly an important question to answer since on page 48, Impact Type, NPS states that it "assumes that NPS personnel or authorized agents would apply mitigation measures to minimize or avoid impacts." Without sufficient people and money this will not occur.</p>	<p>approval.</p>
29	<p>Page 50, Draft General Management Plan (2013), NPS states "Logging within BTNP, which is a past use". This statement is not entirely true. A few years ago part of the Turkey Creek Unit was logged to remove Slash Pine and Longleaf Pine was planted in its place. The same may occur in other Slash Pine plantations in the future in BTNP.</p> <p>BTNP fails to list road building in the area which includes the recent expansion of U.S. 69 and other roads. Road building will be area of environmental impact in the future. Also the hike/bike trail from Kountze to the Visitor Center has been approved and has its own environmental impacts that should be analyzed.</p> <p>Page 53, 3.13.1 Cumulative Impacts, Alternative A, has road building and residential development missing from cumulative impacts considered; page 56, 3.2.3.1 Cumulative Impacts, Alternative A, has road building missing from cumulative impacts considered; page 60, 3.3.3.1 Cumulative Impacts, Alternative A, has road building and residential development as cumulative impacts considered; page 64, 3.4.3.1 Cumulative Impacts, Alternative A, has road building and residential development missing from cumulative impacts considered; page 68, 3.5.3.1 Cumulative Impacts, Alternative A, has road building and residential development missing from cumulative impacts considered; page 73, 3.6.3.1 Cumulative Impacts, Alternative A, has road building and residential development missing from</p>	<p>The "logging within BTNP" addresses past commercial logging. The Turkey Creek Unit slash pine project was considered restoration.</p> <p>In order to be considered in a NEPA document, a cumulative impact must 1) overlap both spatially and temporally with the predicted impacts of the proposed action and 2) be considered a reasonably foreseeable future action. The Texas Department of Transportation has not funded the U.S. 69 expansion, thus NPS does not consider it a reasonably foreseeable future action. The hike/bike trail does not overlap with the anticipated impact spatially.</p> <p>There are no specific roads or residential developments planned that would overlap spatially and temporally with the chosen alternative.</p>

	<p>cumulative impacts considered; page 76, 3.7.3.1 Cumulative Impacts, Alternative A, has road building and residential development missing from cumulative impacts considered; and page 79, 3.8.3.1 Cumulative Impacts, Alternative A, has road building and residential development missing from cumulative impacts considered.</p> <p>NPS must include in each description of cumulative impacts for each impact topic analyzed, the same cumulative impact elements and include both road building and residential development.</p>	
30	<p>Pages 51-81, 3.1 Impacts on Geologic Resources, 3.2 Impacts on Water Quality and Quantity, 3.3 Impacts on Floodplains and Wetlands, 3.4 Impacts on Vegetation, 3.5 Impacts on Fish and Wildlife, 3.6 Impacts on Visitor Use, Health and Safety, and Experience, 3.7 Impacts on Preserve Operations, and 3.8 Impacts on Non-Native Species, this EA fails to implement a court ruling in favor of the Sierra Club and against the NPS about assessment of impacts and the methodology used, from impairment and NEPA perspectives, where NPS was deemed inadequate, arbitrary, and capricious.</p> <p>NPS must quantify in the EA the impacts that potentially will occur and its methodology must remove the "conclusory statements" that Judge Bates ruled against. Judge Bates stated in his decision that the descriptors "negligible", "minor", "moderate", and "major" are largely undefined or are defined in a manner that includes few objective bounds. These descriptors must be defined with objective bounds. NPS must explain the basis for its conclusion that potentially "moderate" impacts are not significant under NEPA or impairment standards.</p> <p>NPS uses conclusory language that is embedded in the definitions for negligible, minor, moderate, and major and in other places in this EA. These conclusory words or phrases are undefined. Some of the conclusory words/phrases that NPS uses in this EA include:</p> <ol style="list-style-type: none"> 1. would be so slight, pages 52, 56, 59, 63, 67, 75, 78 2. would not be of any measurable or 	<p>In the opinion on summary judgment in <i>Sierra Club v. Mainella</i>, the Court held that NPS failed to adequately explain its conclusions. The Court did not direct NPS to remove conclusions from its analysis. NPS must reach some conclusions when completing an analysis document. Instead, the Court directed NPS to prepare a new environmental assessment that provides explanations to support its conclusions.</p> <p>NPS provided explanations for its conclusions in the EA in accordance with the Court's decision. For example, before drawing any conclusions in the <i>Affected Environment</i> and <i>Environmental Consequences</i> section of the EA, NPS detailed the sources of possible impacts for each proposed action, discussed the likely effects of each impact on the resources and values of the Preserve, and provided reasoning upon which to base its conclusions regarding the context, duration, timing, and intensity of the impacts.</p> <p>In the EA, NPS took a "hard look" by considering the direct, indirect, and cumulative impacts of the proposed action on the environment, along with connected, cumulative and similar actions. Impacts were described in terms of context, duration, and timing using four impact intensity threshold definitions (negligible, minor, moderate, major), which are defined for each impact topic in the <i>Affected Environment</i> and <i>Environmental Consequences</i> chapter. If the intensity of an impact could be described quantitatively, the numerical data was presented; otherwise the impacts were described qualitatively.</p> <p>The analysis in the EA demonstrates that the</p>

<p>perceptible consequence, pages 52, 56, 59, 63, 67, 75, 78</p> <p>3. change would be small and of little consequence, pages 52, 56, 59, 63, 67, 75, 78</p> <p>4. would be relatively simple and likely successful, pages 52, 56, 59, 63, 67, 75, 78</p> <p>5. would likely be needed, pages 52, 56, 59, 63, 67, 78</p> <p>6. could be extensive, pages 52, 56, 59, 63, 67, 75, 78</p> <p>7. would likely be successful, pages 52, 56, 59, 63, 67, 75, 78</p> <p>8. would be measurable and result in substantial consequences, pages 52, 56, 59, 63, 67, 78</p> <p>9. Extensive mitigation measures would be needed, pages 52, 56, 59, 63, 67, 78</p> <p>10. success would not be guaranteed, pages 52, 56, 59, 63, 67, 78</p> <p>11. would be below or at the level of detection, page 71</p> <p>12. would not likely be aware, page 71</p> <p>13. only a few visitors would be impacted, page 71</p> <p>14. changes would be slight, page 71</p> <p>15. effects would be slight, page 72</p> <p>16. would be readily apparent and likely long-term, page 72</p> <p>17. would likely be able to express an opinion about the changes, page 72</p> <p>18. would be readily apparent and have important long-term consequences, page 72</p> <p>19. would likely express a strong opinion about the changes, page 72</p> <p>20. would be readily apparent, page 75</p> <p>21. would result in a substantial change, page 75</p> <p>22. in a manner noticeable to staff and public, page 75</p> <p>23. would be readily apparent, page 75</p> <p>24. be markedly different from existing operations, page 75</p> <p>25. Mitigation measures to offset negative effects would be needed, would be extensive, page 75</p> <p>26. success could not be guaranteed, page 75</p> <p>27. could likely promote, page 78</p> <p>All of these conclusory and undefined phrases leave the public in a quandary about what the environmental impacts are, what their intensity is, and how different alternatives can be compared and differentiated. The public and decision-makers need this information</p>	<p>implementation of the described feral hog management strategies would create impacts that range in intensity from negligible to moderate levels. Whether impacts are significant under NEPA and whether they are unacceptable under NPS <i>Management Policies</i> are separate questions.</p> <p>The CEQ defines significant environmental impacts using the 10 guidelines listed in this FONSI. In the EA, significant impacts are defined as synonymous with major impacts, which is a typical methodology used in NPS environmental documents. In the FONSI, NPS relies on the major impact threshold definition, generally equating significant impacts with major impacts, and also applies the CEQ criteria. There are no major (significant) effects resulting from this proposal.</p> <p>The 2006 <i>Management Policies</i> state (§8.1.1) "the fact that a park use may have an impact does not necessarily mean it will be unacceptable or impair park resources or values for the enjoyment of future generations. Impacts may affect park resources or values and still be within the limits of the discretionary authority conferred by the Organic Act. In these situations, the Service will ensure that the impacts are unavoidable and cannot be further mitigated." The Preserve Enabling Act specifically lists the extraction of minerals, oil, and gas as an appropriate use if such activities could "<i>be conducted without jeopardizing the natural values for which the area seeks to preserve.</i>" The impacts described in the EA are an unavoidable consequence of that activity. They will not jeopardize the resources and values of the Preserve, for the reasons explained in the EA and FONSI. NPS also has made substantial efforts to mitigate impacts and expects that impacts will be mitigated.</p>
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	<p>clearly stated and transparently by the NPS so that it can be reviewed, commented on, and understood in relation to the environmental impacts of the FHMP.</p> <p>The NPS has not implemented Judge Bates' ruling in a convincing and complete manner. The Sierra Club objects to NPS ignoring Judge Bates' decision.</p> <p>NPS must not fail to take the "hard look" that Judge Bates admonished it to do. Ultimately, the Sierra Club asks the question "Why are moderate environmental impacts acceptable in the National Park System and in BTNP?" How can moderate environmental impacts assure BTNP's natural ecological integrity in perpetuity? How is this sustainable? The NPS has never explained this dichotomy. The EA must explain this dichotomy. The public must have this information so that it can review, comment on, and understand all the environmental impacts of the proposal.</p>	
31	<p>Pages 54 and 55, Impacts on Water Quality and Quantity, 3.2.1 Affected Environment, the water quality data used is 17-29 years old and is out-of-date. The public must know what the water quality is now in BTNP and not be given water quality data that is 17-29 years old.</p>	The cited work represents the most recent peer-reviewed studies for the project area.
32	<p>Page 63, 3.4 Impacts on Vegetation, 3.4.1 Affected Environment, U.S. Fish and Wildlife Service listed the Neches River Rose-Mallow as threatened in September 2013. The BTNP must acknowledge this in the EA.</p>	Please see the errata sheet.
33	<p>Pages 70-74, 3.6 Impacts on Visitor Use, Health and Safety, and Experience, NPS should report the feral hog carrying capacity of BTNP or develop a project to develop the carrying capacity. This will allow better analysis about the FHMP if it is implemented or is implemented ineffectively.</p>	There is no carrying capacity for an invasive species that has the potential to do damage to the natural and cultural resources of BTNP. Although the population is large and eradication is impossible, NPS will not designate an acceptable "carrying capacity" for the population.
34	<p>Page 23 - Directed Trapping Program - 2nd sentence "...several portable, lightweight, cage traps, as well as..." Remove lightweight here and all other such references. Portable is sufficient and traps capable of hold live hogs will not be lightweight.</p>	Please see the errata sheet.
35	<p>Page 26 "Any animal that is wounded and not immediately killed would be pursued, located, and killed as quickly and humanly as possible. If a wounded or potentially wounded animal could not be located during the same day of operations, the area would be returned to and</p>	Please see errata sheet.

	searched until the animal is located." The last sentence is asking the impossible. If the animal not quickly located, it is mobile enough to well out of the area by the next day.	
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