



ARTHUR CARHART NATIONAL WILDERNESS TRAINING CENTER

# MINIMUM REQUIREMENTS DECISION GUIDE WORKBOOK

*"...except as necessary to meet minimum requirements for the administration of the area for the purpose of this Act..."*

-- The Wilderness Act of 1964

**Project Title: Environmental Assessment and Management Plan for Non-native Wild Pigs within Congaree National Park**

## MRDG STEP 1

*Determine if Administrative Action is Necessary*

### Description of the Situation

*What is the situation that may prompt administrative action?*

The purpose of implementing a management plan for non-native wild pigs at Congaree National Park (CONG) is to reduce natural and cultural resource impacts associated with wild pigs and to reduce risks to human health and safety.

Non-native wild pigs are a severe threat to the park's ecosystem and outstanding natural and cultural resources due to disturbance behaviors such as rooting, wallowing, and the development of established wildlife trails; competition with and predation on native species (Lucas 1977, Beach 1993, Jolley 2007, Campbell and Long 2009, Mayer 2009); potential spread of non-native invasive plants (Mungall 2001, Campbell and Long 2009); potentially aggressive behavior toward humans; potential impairment of water quality (Atwill et al. 1997, Jay et al. 2007, Kaller et al. 2007); and disease (USDA 2012). At risk are bottomland hardwood ecosystem function, regeneration of bottomland hardwood canopy tree species, rare and imperiled species and ecological communities (including globally imperiled seepage forest communities and state listed plants), streams and stream banks, a variety of wetland and aquatic habitats, and numerous other natural resources. Non-native wild pigs are also a threat to upland longleaf pine habitats at the park, an imperiled ecological community and potential habitat for the federally endangered red-cockaded woodpecker and numerous rare and endangered plants. The planned restoration of longleaf pine ecosystem at the park would

also be at risk of wild pig damage. Cattle mounds and dikes, historic earthen structures associated with agriculture and listed on the National Register of Historic Places, are also at risk from wild pig disturbance. Non-native wild pigs cause physical and visual degradation of recreational resources such as hiking and canoeing trails and degrade the wilderness character of the park. In addition to damage caused by wild pigs on National Park Service property, the effect of wild pigs on adjacent landowners must be considered. Friebel (2007) found that wild pigs move freely between the park and adjacent private land and likely vice-versa. Research indicates that about 70 percent of a wild pig population must be removed each year for a sustained period of time to substantially reduce a wild population. Difficulty accessing the wilderness is likely to reduce the park's ability to achieve this level of population control.

### Options Outside of Wilderness

*Can action be taken outside of wilderness that adequately addresses the situation?*

☐ YES

**STOP – DO NOT TAKE ACTION IN WILDERNESS**

☒ NO

**EXPLAIN AND COMPLETE STEP 1 OF THE MRDG**

Explain:

Although management actions outside wilderness may be beneficial, if no management actions are taken within the wilderness boundary, wild pigs will likely retreat to the Congaree National Park wilderness as refuge from outside management actions. In such a case, wild pig density is likely to increase within wilderness as are the impacts of wild pig activities listed above.

### Criteria for Determining Necessity

*Is action necessary to meet any of the criteria below?*

#### A. Valid Existing Rights or Special Provisions of Wilderness Legislation

*Is action necessary to satisfy valid existing rights or a special provision in wilderness legislation (the Wilderness Act of 1964 or subsequent wilderness laws) that **requires** action? Cite law and section.*

☐ YES

☒ NO

Explain:

A review of applicable legislation indicates that there are no valid existing rights or special provisions in either the Wilderness Act of 1964 or other subsequent wilderness laws that specifically requires action to address wild pig management. It is not necessary to take action to honor any valid existing rights or satisfy Special Provisions of wilderness

legislation.

## B. Requirements of Other Legislation

*Is action necessary to meet the requirements of other federal laws? Cite law and section.*

☒ YES    ☐ NO

Explain:

Section 110 of the National Historic Preservation Act (NHPA) of 1966 requires that each federal agency must assume responsibility for the preservation of cultural resources owned or controlled by the agency and manage and maintain cultural resources in a way that considers the preservation of their historic, archeological, architectural, and cultural values. Wild pig damage to historic structures on the List of Classified Structures has been noted multiple times at CONG including in 2013. At least some wild pig damage was noted either on or adjacent to all of the eight structures (of nine CONG LCS) visited in March and April of 2013.

Other legislation supports park management of this non-native invasive species including:  
\*The Clean Water Act of 1972, including the provisions of Section 404 of the Act governing wetlands;

\*Executive Order 11990, Protection of Wetlands (May 24, 1977);

\*Migratory Bird Treaty Act of 1918 (40 Stat 755);

\*Animal Damage Control Act of 1931 (providing authority to remove injurious animals for the protection of birds and other wildlife); and

\*Executive Order 13112: Invasive Species (2/3/1999) and associated National Invasive Species Management Plan.

## C. Wilderness Character

*Is action necessary to preserve one or more of the qualities of wilderness character, including: Untrammeled, Undeveloped, Natural, Outstanding Opportunities for Solitude or Primitive and Unconfined Recreation, or Other Features of Value?*

UNTRAMMELED

☐ YES    ☒ NO

Explain:

Untrammeled = Wilderness is essentially unhindered and free from modern human control or manipulation.

Action is not necessary to preserve the untrammeled quality of wilderness character. The Untrammeled quality is defined as a lack of management, manipulation, or hindrance of the natural processes. The wild pig infestation does not constitute active trampling of the park

wilderness. Therefore, removal of feral pigs is not necessary to preserve the Untrameled quality of wilderness character.

## UNDEVELOPED

☐ YES    ☒ NO

Explain:

Undeveloped = Wilderness retains its primeval character and influence, and is essentially without permanent improvement or modern occupation.

Action is not necessary to preserve the Undeveloped quality of wilderness character.

The Undeveloped quality of wilderness character includes temporary roads, structures, installations, and the use of motorized equipment, mechanical transport, or landing of aircraft. The existence of the wild pig infestation is not related to any component of this quality and is not a development.

## NATURAL

☒ YES    ☐ NO

Explain:

Natural = Wilderness ecological systems are substantially free from the effects of modern civilization.

Taking action is necessary to correct an unnatural condition (i.e., a population of non-native, invasive wild pigs) that is a direct effect of modern civilization. The presence of non-native invasive wild pigs threatens the natural conditions of the wilderness because it prevents or diminishes the presence of native plant species, facilitates the spread of non-native invasive plants, impairs water quality through erosion at sites rooted by wild pigs and from pigs' fecal matter entering the water table and waterbodies, alters bottomland hardwood ecosystem function, reduces regeneration of bottomland hardwood canopy tree species, and threatens state listed rare and imperiled species and ecological communities.

Non-native wild pigs are also a threat to upland longleaf pine habitats, an imperiled ecological community and potential habitat for the federally endangered red-cockaded woodpecker. To allow the wild pig population to continue growing would be a direct effect of unintentional human influence.

## SOLITUDE OR PRIMITIVE & UNCONFINED RECREATION

☐ YES    ☒ NO

Explain:

Solitude or Primitive & Unconfined Recreation = Wilderness provides outstanding opportunities for solitude or primitive and unconfined recreation.

No action is necessary to preserve this quality. Reducing wild pig numbers will not improve opportunities for solitude, primitive recreation, or unconfined recreation. A reduction in pig numbers would reduce damage to park trails and would improve opportunities for visitors to experience natural sights and sounds in the wilderness. However, any such improvements would primarily be attributable to protecting or restoring the natural quality of wilderness character.

## OTHER FEATURES OF VALUE

☒ YES    ☐ NO

Explain:

Wilderness may contain other features of scientific, educational, scenic, or historical value.

Cattle mounds and dikes, historic earthen structures associated with agriculture and listed on the National Register of Historic Places, are at risk from wild pig disturbance. Ground disturbance caused by wild pigs was observed on or adjacent to all of the eight structures (of nine CONG LCS) visited in March and April of 2013.

Congaree National Park is unique and representative of a primarily intact ecosystem. It has garnered many designations that honor the park's outstanding qualities that are at risk because of the damage caused by non-native wild pigs. Congaree National Park is part of the United Nations Educational, Scientific and Cultural Organization's (UNESCO) South Atlantic Coastal Plain Biosphere Reserve (1983). It is designated as a Birdlife International /Audubon Society State level Important Bird Area (1998), an American Bird Conservancy Globally Important Bird Area (2001), a congressionally designated Wilderness area (Public Law 100-524, October 24, 1988), and a Ramsar Convention Wetland of International Importance (2012). In addition to these designations, the portion of Cedar Creek that flows from Wise Lake to the Congaree River comprises South Carolina's only Outstanding National Resource Water (SC R.61-69 2006). All of these designations may be substantially, negatively affected through the impact of wild pig activities.

### Step 1 Decision

*Is administrative action necessary in wilderness?*

### Decision Criteria

- |  |   |  |
|--|---|--|
| A. Existing Rights or Special Provisions | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO |
| B. Requirements of Other Legislation     | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO            |
| C. Wilderness Character                  |   |  |
| Untrammeled                              | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO |
| Undeveloped                              | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO |
| Natural                                  | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO            |
| Outstanding Opportunities                | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO |
| Other Features of Value                  | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO            |

Is administrative action necessary in wilderness?

☒ YES

**EXPLAIN AND PROCEED TO STEP 2 OF THE MRDG**

☐ NO

**STOP – DO NOT TAKE ACTION IN WILDERNESS**

Explain:

The disturbance caused by non-native invasive wild pigs negatively affects the Natural quality of wilderness character and Other Features of Value.

Wild pig disturbance threatens the Natural quality of wilderness character because it prevents or diminishes the presence of native plant species, facilitates the spread of non-native invasive plants, impairs water quality through erosion at sites rooted by wild pigs and from pigs' fecal matter entering the water table and waterbodies, alters bottomland hardwood ecosystem function, reduces regeneration of bottomland hardwood canopy tree species, and threatens state listed rare and imperiled species and ecological communities. Non-native wild pigs are also a threat to upland longleaf pine habitats, an imperiled ecological community and potential habitat for the federally endangered red-cockaded woodpecker. To allow the wild pig population to continue growing would be a direct effect of unintentional human influence. Section 110 of the National Historic Preservation Act (NHPA) of 1966 requires that each federal agency must assume responsibility for the preservation of cultural resources owned or controlled by the agency and manage and maintain cultural resources in a way that considers the preservation of their historic, archeological, architectural, and cultural values. Wild pig damage to historic structures on the List of Classified Structures has been noted multiple times at CONG including in 2013. At least some wild pig damage was noted either on or adjacent to all of the eight structures (of nine CONG LCS) visited in March and April of 2013. These historic structures are Other Features of Value that are located within wilderness at Congaree National Park.

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## MRDG STEP 2

Determine the Minimum Activity

### Other Direction

Is there "special provisions" language in legislation (or other Congressional direction) that explicitly **allows** consideration of a use otherwise prohibited by Section 4(c)?

**AND/OR**

Has the issue been addressed in agency policy, management plans, species recovery plans, or agreements with other agencies or partners?

☒ YES

**DESCRIBE DOCUMENTS & DIRECTION BELOW**

☐ NO

**SKIP AHEAD TO COMPONENTS OF THE ACTION BELOW**

Describe Documents & Direction:

Animal Damage Control Act of 1931 provides authority to remove injurious animals for the protection of birds and other wildlife.

The Executive Order 13112, Invasive Species, mandates that Federal agencies work to prevent the introduction of invasive species and provide for their control and to minimize the economic, ecological, and human health impacts that invasive species cause.

The NPS Management Policies 2006 (6.3 Wilderness Preservation and Management, 6.3.7. Natural Resource Management) support taking action within wilderness to "...correct past mistakes, the impacts of human use, and influences originating outside of wilderness boundaries."

Congaree Swamp National Monument General Management Plan (1988) long term management objectives includes reducing the spread of, and to the extent necessary and practicable, eliminating existing populations of exotic animals and plants introduced through man's activities.

Congaree National Park's Resource Management Plan (2004) identifies non-native feral hogs as a severe threat to the natural and cultural resources of CONG and, thus, a top management priority.

### Components of the Action

*What are the discrete components or phases of the action?*

Component X: Example: Transportation of personnel to the project site



Component 1:	Transportation of personnel to the project site.
Component 2:	Transportation of materials and supplies to the project site.
Component 3:	Treatment method and timing of treatment.
Component 4:	Tools, equipment, and supplies used for wild pig management.
Component 5:	Crew camps.
Component 6:	Research component.
Component 7:	Condition of site after project.
Component 8:	Information and education of public and other stakeholders.
Component 9:	

### **Proceed to the alternatives.**

Refer to the [MRDG Instructions](#) regarding alternatives and the effects to each of the comparison criteria.

## MRDG STEP 2: Alternative 1

**Alternative 1:** Continue Current Management - USDA Wildlife Wildlife Services conducts limited wild pig management activities and monitoring for disease.

### Description of the Alternative

*What are the details of this alternative? When, where, and how will the action occur? What mitigation measures will be taken?*

In this alternative, CONG would continue an existing interagency agreement funded at the current level of \$25,000 with the United States Department of Agriculture (USDA) Wildlife Services to conduct limited wild pig management activities. These activities would include trapping and shooting, direct targeted harvest operations, and monitoring for disease. USDA Wildlife Services biologists would leave pig carcasses in the field to naturally decompose, which is in keeping with hog management activities within the NPS and the state of South Carolina. Monitoring of wild pig disturbance and wild pig population management could be conducted through the USDA. Stratified random sampling techniques may be used to select transect locations. Transects would be GPSd and revisited over time. Monitoring would be conducted, at most, on a quarterly basis. (Note: Resource Management staff at CONG completed compliance for this work in 2008 under a Categorical Exclusion.)

### Mitigation

Employee training would include information on wilderness regulations and the need to maintain and enhance wilderness character. The selection of work areas, campsites, and travel routes would be made in such a way as to protect wilderness character, as would decisions regarding project timing, temporary closures, or other actions. Temporary plot markers would be discrete. They would consist of rebar pounded deeply into the soil with only a small section (5" - 6") left above the ground. Rebar would be tagged with identifying numbers. Permanent markers would be GPSd using highly accurate GPS units (e.g., Trimble). Traps would be removed when they are no longer in use. Crew camps would be temporary and signs of human activity within a crew camp would be obliterated. Research indicates that about 70 percent of a wild pig population must be removed each year for a sustained period of time to substantially reduce a wild population. Difficulty accessing the wilderness is likely to reduce the park's ability to achieve this level of population control.

### Component Activities

*How will each of the components of the action be performed under this alternative?*

<u>Component of the Action</u>		Activity for this Alternative
X	<i>Example: Transportation of personnel to the project site</i>	<i>Example: Personnel will travel by horseback</i>
1	Transportation of personnel to the project site.	Transportation of personnel to the project site is by foot or non-motorized boat.
2	Transportation of materials and supplies to the project site.	Transportation of materials and supplies to the project site is by foot or non-motorized boat.
3	Treatment method and timing of treatment.	Management activities includes trapping and shooting, direct targeted harvest operations, and monitoring for disease. Pig carcasses are left in the field to naturally decompose. Management is limited and will not keep pace with the growing wild pig population.
4	Tools, equipment, and supplies used for wild pig management.	Equipment and supplies includes traps of varying sizes and firearms. Monitoring tools will include GPS, data sheets, writing implements.
5	Crew camps.	Crew camps may be needed.
6	Research component.	Research includes monitoring of hog disturbance and disease monitoring.
7	Condition of site after project.	After control operations are completed, traps will be removed from the field, signs of human activity will be obliterated, pig carcasses will be dragged out of public view and at least 200' from permanent water bodies.
8	Information and education of public and other stakeholders.	Public awareness will be promoted by working with community leaders to maintain communication and resolve any problems as quickly as possible. Information on the wild pig management program will be regularly conveyed to park visitors through interpretive products. The following activities could be used to communicate information on non-native wild pigs, their impacts on native ecosystems, and the wild pig management program: posters, articles in news bulletins, bulletin board fliers, exhibits, signs, brochures, PowerPoint or video presentations. Press opportunities will be used to circulate factual information on non-native wild pigs and the management program to the public.

		Information on pig biology, impacts, and the management program would also be presented to park employees on a regular basis to maintain organization-wide knowledge and consistency.
9		

### Wilderness Character

*What is the effect of each component activity on the qualities of wilderness character? What mitigation measures will be taken?*

#### UNTRAMMELED

<a href="#">Component Activity for this Alternative</a>		Positive	Negative	No Effect
X	<i>Example: Personnel will travel by horseback</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Transportation of personnel to the project site is by foot or non-motorized boat.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Transportation of materials and supplies to the project site is by foot or non-motorized boat.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Management activities includes trapping and shooting, direct targeted harvest operations, and monitoring for disease. Pig carcasses are left in the field to naturally decompose. Management is limited and will not keep pace with the growing wild pig population.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	Equipment and supplies includes traps of varying sizes and firearms. Monitoring tools will include GPS, data sheets, writing implements.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5	Crew camps may be needed.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6	Research includes monitoring of hog disturbance and disease monitoring.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7	After control operations are completed, traps will be removed from the field, signs of human activity will be obliterated, pig carcasses will be dragged out of public view and at least 200' from permanent water bodies.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8	Public awareness will be promoted by working with community leaders to maintain communication and resolve any problems as quickly as possible. Information on the wild pig management program will be regularly conveyed to park visitors through interpretive products. The following activities could be used to communicate information on non-native wild	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	pigs, their impacts on native ecosystems, and the wild pig management program: posters, articles in news bulletins, bulletin board fliers, exhibits, signs, brochures, PowerPoint or video presentations. Press opportunities will be used to circulate factual information on non-native wild pigs and the management program to the public. Information on pig biology, impacts, and the management program would also be presented to park employees on a regular basis to maintain organization-wide knowledge and consistency.			
9		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Number of Effects		0	-2	NE
<b><u>Untrammeled Total Rating</u></b>		<b>-2</b>		

Explain:

*Untrammeled = Wilderness is essentially unhindered and free from modern human control or manipulation. This quality is degraded by modern human activities or actions that control or manipulate the components or processes of ecological systems inside the wilderness.*

The trapping and shooting of wild pigs, a non-native, introduced component of the CONG ecosystem, would negatively affect the Untrammeled quality of wilderness character by actively manipulating the biophysical environment. Elements of this alternative involving transportation, use of temporary base camps, and monitoring would not constitute manipulation of the biophysical environment and thus would not affect the Untrammeled quality.

#### UNDEVELOPED

<b><u>Component Activity for this Alternative</u></b>		Positive	Negative	No Effect
X	<i>Example: Personnel will travel by horseback</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Transportation of personnel to the project site is by foot or non-motorized boat.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Transportation of materials and supplies to the project site is by foot or non-motorized boat.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Management activities includes trapping and shooting, direct targeted harvest operations, and monitoring for disease. Pig carcasses are left in the field to naturally decompose. Management is limited and will not keep pace with the growing wild pig population.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	Equipment and supplies includes traps of varying sizes and firearms. Monitoring tools will include GPS,	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	data sheets, writing implements.			
5	Crew camps may be needed.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6	Research includes monitoring of hog disturbance and disease monitoring.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7	After control operations are completed, traps will be removed from the field, signs of human activity will be obliterated, pig carcasses will be dragged out of public view and at least 200' from permanent water bodies.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	Public awareness will be promoted by working with community leaders to maintain communication and resolve any problems as quickly as possible. Information on the wild pig management program will be regularly conveyed to park visitors through interpretive products. The following activities could be used to communicate information on non-native wild pigs, their impacts on native ecosystems, and the wild pig management program: posters, articles in news bulletins, bulletin board fliers, exhibits, signs, brochures, PowerPoint or video presentations. Press opportunities will be used to circulate factual information on non-native wild pigs and the management program to the public. Information on pig biology, impacts, and the management program would also be presented to park employees on a regular basis to maintain organization-wide knowledge and consistency.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Number of Effects		+1	-4	NE
<u>Undeveloped Total Rating</u>		<b>-3</b>		

Explain:

*Undeveloped = Wilderness retains its primeval character and influence, and is essentially without permanent improvement or modern occupation. This quality is degraded by the presence of structures, installations, habitations, and by the use of motor vehicles, motorized equipment, or mechanical transport that increases people's ability to occupy or modify the environment. Permanent markers for long term monitoring will have a negative effect on this quality of wilderness character.*

Plot markers and traps are developments. Although not permanent, even the temporary presence of traps during trapping operations and crew camps would negatively affect the Undeveloped quality of wilderness character. Permanent markers for long term monitoring would also have a negative effect on this quality.

# NATURAL

<u>Component Activity for this Alternative</u>		Positive	Negative	No Effect
X	<i>Example: Personnel will travel by horseback</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Transportation of personnel to the project site is by foot or non-motorized boat.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Transportation of materials and supplies to the project site is by foot or non-motorized boat.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Management activities includes trapping and shooting, direct targeted harvest operations, and monitoring for disease. Pig carcasses are left in the field to naturally decompose. Management is limited and will not keep pace with the growing wild pig population.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Equipment and supplies includes traps of varying sizes and firearms. Monitoring tools will include GPS, data sheets, writing implements.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Crew camps may be needed.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6	Research includes monitoring of hog disturbance and disease monitoring.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7	After control operations are completed, traps will be removed from the field, signs of human activity will be obliterated, pig carcasses will be dragged out of public view and at least 200' from permanent water bodies.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8	Public awareness will be promoted by working with community leaders to maintain communication and resolve any problems as quickly as possible. Information on the wild pig management program will be regularly conveyed to park visitors through interpretive products. The following activities could be used to communicate information on non-native wild pigs, their impacts on native ecosystems, and the wild pig management program: posters, articles in news bulletins, bulletin board fliers, exhibits, signs, brochures, PowerPoint or video presentations. Press opportunities will be used to circulate factual information on non-native wild pigs and the management program to the public. Information on pig biology, impacts, and the management program would also be presented to park employees on a regular basis to maintain organization-wide knowledge and consistency.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Total Number of Effects	2	0	NE
<b><u>Natural Total Rating</u></b>	<b>+2</b>		

Explain:

*Natural = Wilderness ecological systems are substantially free from the effects of modern civilization. This quality is affected by intended or unintended effects of modern civilization on the ecological systems inside the wilderness since the area was designated.*

Reducing numbers of non-native wild pigs would substantially improve the Natural quality. Plot markers, traps, and firearms would not affect the Natural quality.

Wild pigs have been introduced by humans, accidentally and purposefully, repeatedly, since 1540. Their presence in the Congaree National Park Wilderness has a substantial negative impact on the Natural quality of wilderness. Non-native wild pigs are a severe threat to the park's ecosystem and outstanding natural resources due to disturbance behaviors. Bottomland hardwood ecosystem function, regeneration of bottomland hardwood canopy tree species, rare and imperiled species and ecological communities (including globally imperiled seepage forest communities and state listed plants), streams and stream banks, a variety of wetland and aquatic habitats, and numerous other natural resources are altered as a consequence of non-native wild pig activities. The upland longleaf pine habitats, an imperiled ecological community and potential habitat for the federally endangered red-cockaded woodpecker and numerous rare and endangered plants, are also substantially impacted.

#### SOLITUDE OR PRIMITIVE & UNCONFINED RECREATION

<u>Component Activity for this Alternative</u>		Positive	Negative	No Effect
X	<i>Example: Personnel will travel by horseback</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Transportation of personnel to the project site is by foot or non-motorized boat.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Transportation of materials and supplies to the project site is by foot or non-motorized boat.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Management activities includes trapping and shooting, direct targeted harvest operations, and monitoring for disease. Pig carcasses are left in the field to naturally decompose. Management is limited and will not keep pace with the growing wild pig population.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	Equipment and supplies includes traps of varying sizes and firearms. Monitoring tools will include GPS, data sheets, writing implements.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5	Crew camps may be needed.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6	Research includes monitoring of hog disturbance and	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



	disease monitoring.			
7	After control operations are completed, traps will be removed from the field, signs of human activity will be obliterated, pig carcasses will be dragged out of public view and at least 200' from permanent water bodies.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8	Public awareness will be promoted by working with community leaders to maintain communication and resolve any problems as quickly as possible. Information on the wild pig management program will be regularly conveyed to park visitors through interpretive products. The following activities could be used to communicate information on non-native wild pigs, their impacts on native ecosystems, and the wild pig management program: posters, articles in news bulletins, bulletin board fliers, exhibits, signs, brochures, PowerPoint or video presentations. Press opportunities will be used to circulate factual information on non-native wild pigs and the management program to the public. Information on pig biology, impacts, and the management program would also be presented to park employees on a regular basis to maintain organization-wide knowledge and consistency.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Number of Effects		1	-4	NE
<b><u>Solitude or Primitive &amp; Unconfined Rec. Total Rating</u></b>		<b>-3</b>		

Explain:

*Solitude or Primitive & Unconfined Recreation = Wilderness provides outstanding opportunities for solitude or primitive and unconfined recreation. This quality is impacted by settings that degrade or improve these opportunities. An alternative which increases solitude, removes infrastructure that diminishes primitive recreation, or removes a management restriction would have a positive impact on this quality. Some management actions may be found to be necessary to preserve one or more of the other qualities even though this quality would be degraded.*

Encountering workers traveling to and from work sites for such short periods of time has virtually no effect on this quality. The presence of individuals in the wilderness conducting monitoring and wild pig population control activities would reduce the opportunity for solitude and primitive recreation. It would also be necessary to close some areas of the park while shooting operations are conducted, which would impinge on the opportunity for unconfined recreation. Postive effects from reducing pig numbers include reduced damage to trails and other recreational resources, as well as improved opportunities for visitors to experience

natural sights and sounds in the wilderness. Wild pigs have been introduced to the United States over the course of many years. They cause extensive damage to natural ecosystems.

## OTHER FEATURES OF VALUE

<u>Component Activity for this Alternative</u>		Positive	Negative	No Effect
X	<i>Example: Personnel will travel by horseback</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Transportation of personnel to the project site is by foot or non-motorized boat.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Transportation of materials and supplies to the project site is by foot or non-motorized boat.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Management activities includes trapping and shooting, direct targeted harvest operations, and monitoring for disease. Pig carcasses are left in the field to naturally decompose. Management is limited and will not keep pace with the growing wild pig population.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Equipment and supplies includes traps of varying sizes and firearms. Monitoring tools will include GPS, data sheets, writing implements.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5	Crew camps may be needed.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6	Research includes monitoring of hog disturbance and disease monitoring.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7	After control operations are completed, traps will be removed from the field, signs of human activity will be obliterated, pig carcasses will be dragged out of public view and at least 200' from permanent water bodies.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8	Public awareness will be promoted by working with community leaders to maintain communication and resolve any problems as quickly as possible. Information on the wild pig management program will be regularly conveyed to park visitors through interpretive products. The following activities could be used to communicate information on non-native wild pigs, their impacts on native ecosystems, and the wild pig management program: posters, articles in news bulletins, bulletin board fliers, exhibits, signs, brochures, PowerPoint or video presentations. Press opportunities will be used to circulate factual information on non-native wild pigs and the management program to the public. Information on pig biology, impacts, and the management program would also be presented to park employees on a regular basis to maintain organization-wide	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	knowledge and consistency.			
9		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Number of Effects		1	0	NE
<u>Other Features of Value Total Rating</u>		+1		

Explain:

*An alternative that degrades any values or characteristics of this wilderness (i.e. "ecological, geological, or other features of scientific, educational, scenic, or historical value") that are not accounted for in the above qualities would be a negative impact to this quality. An alternative that improves them would have a positive impact on this quality. Heritage and cultural resources including historic sites, and paleontological localities are included here.*

Reducing wild pig numbers would have a positive effect on historic structures in the park , as well on soil composition and structure, vegetation communities, etc. Reducing the wild pig population will also decrease damage of historic structures caused by wild pig rooting. All of the park's LCS are within the floodplain, the majority of these are adjacent to the Congaree River where pig activity is highest. In the absence of sufficient effort, population control is not possible. The limited control achieved through this alternative, however, would result in continued damage to historic structures by wild pigs.

### Other Criteria

*What is the effect of each component activity on other comparison criteria? What mitigation measures will be taken?*

### MAINTAINING TRADITIONAL SKILLS

<u>Component Activity for this Alternative</u>		Positive	Negative	No Effect
X	<i>Example: Personnel will travel by horseback</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Transportation of personnel to the project site is by foot or non-motorized boat.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Transportation of materials and supplies to the project site is by foot or non-motorized boat.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Management activities includes trapping and shooting, direct targeted harvest operations, and monitoring for disease. Pig carcasses are left in the field to naturally decompose. Management is limited and will not keep pace with the growing wild pig population.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	Equipment and supplies includes traps of varying sizes and firearms. Monitoring tools will include GPS, data sheets, writing implements.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5	Crew camps may be needed.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6	Research includes monitoring of hog disturbance and disease monitoring.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7	After control operations are completed, traps will be removed from the field, signs of human activity will be obliterated, pig carcasses will be dragged out of public view and at least 200' from permanent water bodies.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8	Public awareness will be promoted by working with community leaders to maintain communication and resolve any problems as quickly as possible. Information on the wild pig management program will be regularly conveyed to park visitors through interpretive products. The following activities could be used to communicate information on non-native wild pigs, their impacts on native ecosystems, and the wild pig management program: posters, articles in news bulletins, bulletin board fliers, exhibits, signs, brochures, PowerPoint or video presentations. Press opportunities will be used to circulate factual information on non-native wild pigs and the management program to the public. Information on pig biology, impacts, and the management program would also be presented to park employees on a regular basis to maintain organization-wide knowledge and consistency.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Number of Effects		3	0	NE
<u>Maintaining Traditional Skills Total Rating</u>		+3		

Explain:

Traditional skills would be maintained by transporting materials and supplies on foot and using hand tools. No motorized/mechanized equipment would be used, apart from GPS units.

#### SPECIAL PROVISIONS

<u>Component Activity for this Alternative</u>		Positive	Negative	No Effect
X	<i>Example: Personnel will travel by horseback</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Transportation of personnel to the project site is by foot or non-motorized boat.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Transportation of materials and supplies to the project site is by foot or non-motorized boat.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3	Management activities includes trapping and shooting, direct targeted harvest operations, and monitoring for disease. Pig carcasses are left in the field to naturally decompose. Management is limited and will not keep pace with the growing wild pig population.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	Equipment and supplies includes traps of varying sizes and firearms. Monitoring tools will include GPS, data sheets, writing implements.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5	Crew camps may be needed.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6	Research includes monitoring of hog disturbance and disease monitoring.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7	After control operations are completed, traps will be removed from the field, signs of human activity will be obliterated, pig carcasses will be dragged out of public view and at least 200' from permanent water bodies.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8	Public awareness will be promoted by working with community leaders to maintain communication and resolve any problems as quickly as possible. Information on the wild pig management program will be regularly conveyed to park visitors through interpretive products. The following activities could be used to communicate information on non-native wild pigs, their impacts on native ecosystems, and the wild pig management program: posters, articles in news bulletins, bulletin board fliers, exhibits, signs, brochures, PowerPoint or video presentations. Press opportunities will be used to circulate factual information on non-native wild pigs and the management program to the public. Information on pig biology, impacts, and the management program would also be presented to park employees on a regular basis to maintain organization-wide knowledge and consistency.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Number of Effects		0	0	NE
<b><u>Special Provisions Total Rating</u></b>		<b>0</b>		

Explain:

There are no special provisions associated with this alternative.

#### ECONOMICS & TIME CONSTRAINTS

<u>Component Activity for this Alternative</u>	Positive	Negative	No Effect
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X	<i>Example: Personnel will travel by horseback</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Transportation of personnel to the project site is by foot or non-motorized boat.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Transportation of materials and supplies to the project site is by foot or non-motorized boat.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Management activities includes trapping and shooting, direct targeted harvest operations, and monitoring for disease. Pig carcasses are left in the field to naturally decompose. Management is limited and will not keep pace with the growing wild pig population.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
4	Equipment and supplies includes traps of varying sizes and firearms. Monitoring tools will include GPS, data sheets, writing implements.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5	Crew camps may be needed.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6	Research includes monitoring of hog disturbance and disease monitoring.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7	After control operations are completed, traps will be removed from the field, signs of human activity will be obliterated, pig carcasses will be dragged out of public view and at least 200' from permanent water bodies.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8	Public awareness will be promoted by working with community leaders to maintain communication and resolve any problems as quickly as possible. Information on the wild pig management program will be regularly conveyed to park visitors through interpretive products. The following activities could be used to communicate information on non-native wild pigs, their impacts on native ecosystems, and the wild pig management program: posters, articles in news bulletins, bulletin board fliers, exhibits, signs, brochures, PowerPoint or video presentations. Press opportunities will be used to circulate factual information on non-native wild pigs and the management program to the public. Information on pig biology, impacts, and the management program would also be presented to park employees on a regular basis to maintain organization-wide knowledge and consistency.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Number of Effects		0	-3	NE
<b><u>Economics &amp; Time Constraints Total Rating</u></b>		<b>-3</b>		

Explain:

USDA would conduct disease monitoring as able using USDA funds designated for this purpose. NPS would continue to contract at the existing level of \$25,000 per year. This amount is insufficient to provide adequate wild pig population control. NPS would conduct rapid assessment in the field. Little additional time would be required for this purpose.

### Safety of Visitors & Workers

*What is the effect of each component activity on the safety of visitors and workers? What mitigation measures will be taken?*

### SAFETY OF VISITORS & WORKERS

<u>Component Activity for this Alternative</u>		Positive	Negative	No Effect
X	<i>Example: Personnel will travel by horseback</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Transportation of personnel to the project site is by foot or non-motorized boat.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Transportation of materials and supplies to the project site is by foot or non-motorized boat.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Management activities includes trapping and shooting, direct targeted harvest operations, and monitoring for disease. Pig carcasses are left in the field to naturally decompose. Management is limited and will not keep pace with the growing wild pig population.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	Equipment and supplies includes traps of varying sizes and firearms. Monitoring tools will include GPS, data sheets, writing implements.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5	Crew camps may be needed.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6	Research includes monitoring of hog disturbance and disease monitoring.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7	After control operations are completed, traps will be removed from the field, signs of human activity will be obliterated, pig carcasses will be dragged out of public view and at least 200' from permanent water bodies.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8	Public awareness will be promoted by working with community leaders to maintain communication and resolve any problems as quickly as possible. Information on the wild pig management program will be regularly conveyed to park visitors through interpretive products. The following activities could be used to communicate information on non-native wild pigs, their impacts on native ecosystems, and the	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



	wild pig management program: posters, articles in news bulletins, bulletin board fliers, exhibits, signs, brochures, PowerPoint or video presentations. Press opportunities will be used to circulate factual information on non-native wild pigs and the management program to the public. Information on pig biology, impacts, and the management program would also be presented to park employees on a regular basis to maintain organization-wide knowledge and consistency.			
9		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Number of Effects		2	-1	NE
<b><u>Safety of Visitors &amp; Workers Total Rating</u></b>		<b>+1</b>		

Explain:

Implementing this alternative would have minimal impacts on safety for park visitors or workers. Active shooting operations pose some risk of accidental injury to park visitors and workers, but this risk is minimized by established safety procedures. Hiking to work sites, use of hand tools, and conducting monitoring activities would pose minor safety risks. All potential hazards can be mitigated through adequate staff training, development of established safety procedures, and effective communication.

Failure to manage wild pig populations would result in increased spread of diseases that are present in the current population and increase the likelihood of visitor encounters with wild pigs that may result in harm to park staff and the visiting public. Reduction of wild pig numbers would thus enhance the safety of visitors and workers.

### Summary Ratings for Alternative 1

<b><u>Wilderness Character</u></b>	
Untrammeled	-2
Undeveloped	-3
Natural	+2
Solitude or Primitive & Unconfined Recreation	-3
Other Features of Value	+1
<b>Wilderness Character Summary Rating</b>	<b>-5</b>
<b><u>Other Criteria</u></b>	
Maintaining Traditional Skills	+3



Special Provisions	0
Economics & Time Constraints	-3
<b>Other Criteria Summary Rating</b>	<b>0</b>

<b><u>Safety</u></b>	
Safety of Visitors & Workers	+1
<b>Safety Summary Rating</b>	<b>+1</b>

DRAFT

## MRDG STEP 2: Alternative 2

**Alternative 2:** Establish an Integrated Wild Pig Management Program, with No Use of Motorized Tools or Transport.

### Description of the Alternative

*What are the details of this alternative? When, where, and how will the action occur? What mitigation measures will be taken?*

This alternative would involve continuing USDA's present pig control work funded at an increased level and training park staff in conducting wild pig management activities. These activities would include trapping, shooting, disease monitoring, pig disturbance monitoring, installing exclosures in sensitive areas, and research. In some instances, pig control could involve the use of dogs. No motorized vehicles or equipment would be used in any pig management activities within the wilderness boundary. All trapping, monitoring, exclosure, and research sites would be reached on foot or by paddling. Overnight camps could be used by USDA and NPS personnel, with no permanent structures. Monitoring of wild pig disturbance and wild pig population management would continue. Stratified random sampling techniques would be used to select transect locations. Transects would be GPSd and revisited over time. Monitoring would be conducted, at most, on a quarterly basis. Limited amounts of rebar or similar material would be used to mark plots.

### Mitigation

Same as Alternative 1. Employee training would include information on wilderness regulations and the need to maintain and enhance wilderness character. The selection of work areas, campsites, and travel routes would be made in such a way as to protect wilderness character, as would decisions regarding project timing, temporary closures, or other actions. Permanent plot markers would be discrete. They would consist of rebar pounded deeply into the soil with only a small section (5" - 6") left above the ground. Rebar would be tagged with identifying numbers. Permanent markers would be GPSd using highly accurate GPS units (e.g., Trimble). Traps would be removed when they are no longer in use. Crew camps would be temporary and signs of human activity within a crew camp would be obliterated. Research indicates that about 70 percent of a wild pig population must be removed each year for a sustained period of time to substantially reduce a wild population. Difficulty accessing the wilderness is likely to reduce the park's ability to achieve this level of population control.

### Component Activities

*How will each of the components of the action be performed under this alternative?*

<u>Component of the Action</u>	Activity for this Alternative
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X	<i>Example: Transportation of personnel to the project site</i>	<i>Example: Personnel will travel by horseback</i>
1	Transportation of personnel to the project site.	Transportation of personnel to the project site is by foot or non-motorized boat.
2	Transportation of materials and supplies to the project site.	Transportation of materials and supplies to the project site is by foot or non-motorized boat.
3	Treatment method and timing of treatment.	Management activities includes trapping and shooting, direct targeted harvest operations, and monitoring for disease. Pig carcasses are left in the field to naturally decompose. Although active management increases, challenges posed by accessing sites on foot or via non-motorized boat is likely to reduce effectiveness.
4	Tools, equipment, and supplies used for wild pig management.	Equipment and supplies includes traps of varying sizes, protective fencing and firearms. Trained tracking dogs may be used to improve recovery of wounded animals and as the wild pig population within the target area is reduced. Monitoring tools will include GPS, data sheets, writing implements.
5	Crew camps.	Crew camps may be needed.
6	Research component.	Research includes monitoring of wild pig disturbance and disease monitoring. Research may also include, but is not limited to, work conducted to gather information on wild pig movements, sounder composition and territory, and effect on plant and animal community. Fencing may be used.
7	Condition of site after project.	After control operations are completed, traps will be removed from the field, signs of human activity will be obliterated, pig carcasses will be dragged out of public view and at least 200' from permanent water bodies.
8	Information and education of public and other stakeholders.	Public awareness will be promoted by working with community leaders to maintain communication and resolve any problems as quickly as possible. Information on the wild pig management program will be regularly conveyed to park visitors through interpretive products. The following

		activities could be used to communicate information on non-native wild pigs, their impacts on native ecosystems, and the wild pig management program: posters, articles in news bulletins, bulletin board fliers, exhibits, signs, brochures, PowerPoint or video presentations. Press opportunities will be used to circulate factual information on non-native wild pigs and the management program to the public. Information on pig biology, impacts, and the management program would also be presented to park employees on a regular basis to maintain organization-wide knowledge and consistency.
9		

### Wilderness Character

*What is the effect of each component activity on the qualities of wilderness character? What mitigation measures will be taken?*

#### UNTRAMMELED

<a href="#">Component Activity for this Alternative</a>		Positive	Negative	No Effect
X	<i>Example: Personnel will travel by horseback</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Transportation of personnel to the project site is by foot or non-motorized boat.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Transportation of materials and supplies to the project site is by foot or non-motorized boat.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Management activities includes trapping and shooting, direct targeted harvest operations, and monitoring for disease. Pig carcasses are left in the field to naturally decompose. Although active management increases, challenges posed by accessing sites on foot or via non-motorized boat is likely to reduce effectiveness.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	Equipment and supplies includes traps of varying sizes, protective fencing and firearms. Trained tracking dogs may be used to improve recovery of wounded animals and as the wild pig population within the target area is reduced. Monitoring tools will include GPS, data sheets, writing implements.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5	Crew camps may be needed.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

6	Research includes monitoring of wild pig disturbance and disease monitoring. Research may also include, but is not limited to, work conducted to gather information on wild pig movements, sounder composition and territory, and effect on plant and animal community. Fencing may be used.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7	After control operations are completed, traps will be removed from the field, signs of human activity will be obliterated, pig carcasses will be dragged out of public view and at least 200' from permanent water bodies.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8	Public awareness will be promoted by working with community leaders to maintain communication and resolve any problems as quickly as possible. Information on the wild pig management program will be regularly conveyed to park visitors through interpretive products. The following activities could be used to communicate information on non-native wild pigs, their impacts on native ecosystems, and the wild pig management program: posters, articles in news bulletins, bulletin board fliers, exhibits, signs, brochures, PowerPoint or video presentations. Press opportunities will be used to circulate factual information on non-native wild pigs and the management program to the public. Information on pig biology, impacts, and the management program would also be presented to park employees on a regular basis to maintain organization-wide knowledge and consistency.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Number of Effects		0	-3	NE
<b><u>Untrammeled Total Rating</u></b>		<b>-3</b>		

Explain:

*Untrammeled = Wilderness is essentially unhindered and free from modern human control or manipulation. This quality is degraded by modern human activities or actions that control or manipulate the components or processes of ecological systems inside the wilderness.*

This alternative would increase the scope of wild pig management in the park, thereby negatively affecting the Untrammeled quality of wilderness character. The nature of these impacts would not differ dramatically from those in Alternative 1, but they would be more pervasive in the park. As in Alternative 1, the trapping and shooting of wild pigs would negatively affect the Untrammeled quality of wilderness character by actively manipulating the biophysical environment. The use of exclosures and potentially larger base camps that are established for longer periods of time or with greater frequency would also consitute

trammeling. Elements of this alternative involving transportation and monitoring would not affect the Untrammelled quality.

## UNDEVELOPED

<u>Component Activity for this Alternative</u>		Positive	Negative	No Effect
X	<i>Example: Personnel will travel by horseback</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Transportation of personnel to the project site is by foot or non-motorized boat.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Transportation of materials and supplies to the project site is by foot or non-motorized boat.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Management activities includes trapping and shooting, direct targeted harvest operations, and monitoring for disease. Pig carcasses are left in the field to naturally decompose. Although active management increases, challenges posed by accessing sites on foot or via non-motorized boat is likely to reduce effectiveness.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	Equipment and supplies includes traps of varying sizes, protective fencing and firearms. Trained tracking dogs may be used to improve recovery of wounded animals and as the wild pig population within the target area is reduced. Monitoring tools will include GPS, data sheets, writing implements.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5	Crew camps may be needed.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6	Research includes monitoring of wild pig disturbance and disease monitoring. Research may also include, but is not limited to, work conducted to gather information on wild pig movements, sounder composition and territory, and effect on plant and animal community. Fencing may be used.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7	After control operations are completed, traps will be removed from the field, signs of human activity will be obliterated, pig carcasses will be dragged out of public view and at least 200' from permanent water bodies.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	Public awareness will be promoted by working with community leaders to maintain communication and resolve any problems as quickly as possible. Information on the wild pig management program will be regularly conveyed to park visitors through interpretive products. The following activities could be used to communicate information on non-native wild pigs, their impacts on native ecosystems, and the wild pig management program: posters, articles in	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	news bulletins, bulletin board fliers, exhibits, signs, brochures, PowerPoint or video presentations. Press opportunities will be used to circulate factual information on non-native wild pigs and the management program to the public. Information on pig biology, impacts, and the management program would also be presented to park employees on a regular basis to maintain organization-wide knowledge and consistency.			
9		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Number of Effects		+1	-4	NE
<u>Undeveloped Total Rating</u>		-3		

Explain:

*Undeveloped = Wilderness retains its primeval character and influence, and is essentially without permanent improvement or modern occupation. This quality is degraded by the presence of structures, installations, habitations, and by the use of motor vehicles, motorized equipment, or mechanical transport that increases people's ability to occupy or modify the environment.*

This alternative calls for the use of exclosures, in addition to the plot markers and traps called for in Alternative 1. Plot markers, traps, and exclosures are developments and would have a negative effect on the Undeveloped quality of wilderness character. Although not permanent, even the temporary presence of traps, exclosures, and crew camps would negatively affect this quality. Permanent markers for long term monitoring would also have a negative effect on this quality.

#### NATURAL

<u>Component Activity for this Alternative</u>		Positive	Negative	No Effect
X	Example: Personnel will travel by horseback	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Transportation of personnel to the project site is by foot or non-motorized boat.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Transportation of materials and supplies to the project site is by foot or non-motorized boat.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Management activities includes trapping and shooting, direct targeted harvest operations, and monitoring for disease. Pig carcasses are left in the field to naturally decompose. Although active management increases, challenges posed by accessing sites on foot or via non-motorized boat is likely to reduce effectiveness.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Equipment and supplies includes traps of varying	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	sizes, protective fencing and firearms. Trained tracking dogs may be used to improve recovery of wounded animals and as the wild pig population within the target area is reduced. Monitoring tools will include GPS, data sheets, writing implements.			
5	Crew camps may be needed.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6	Research includes monitoring of wild pig disturbance and disease monitoring. Research may also include, but is not limited to, work conducted to gather information on wild pig movements, sounder composition and territory, and effect on plant and animal community. Fencing may be used.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7	After control operations are completed, traps will be removed from the field, signs of human activity will be obliterated, pig carcasses will be dragged out of public view and at least 200' from permanent water bodies.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8	Public awareness will be promoted by working with community leaders to maintain communication and resolve any problems as quickly as possible. Information on the wild pig management program will be regularly conveyed to park visitors through interpretive products. The following activities could be used to communicate information on non-native wild pigs, their impacts on native ecosystems, and the wild pig management program: posters, articles in news bulletins, bulletin board fliers, exhibits, signs, brochures, PowerPoint or video presentations. Press opportunities will be used to circulate factual information on non-native wild pigs and the management program to the public. Information on pig biology, impacts, and the management program would also be presented to park employees on a regular basis to maintain organization-wide knowledge and consistency.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Number of Effects		+2	0	NE
<u>Natural Total Rating</u>		+2		

Explain:

*Natural = Wilderness ecological systems are substantially free from the effects of modern civilization. This quality is affected by intended or unintended effects of modern civilization on the ecological systems inside the wilderness since the area was designated.*



Impacts to this quality would be substantially the same as under Alternative 1. Reducing numbers of non-native wild pigs would materially improve the Natural quality. Plot markers, traps, exclosures, and firearms would not affect the Natural quality.

The presence of wild pigs in the Congaree National Park Wilderness has a substantial negative impact on the Natural quality of wilderness. Non-native wild pigs are a severe threat to the park's ecosystem and outstanding natural resources due to disturbance behaviors. Challenges associated with accessing wilderness and transporting equipment and supplies (traps in particular) would likely reduce the efficiency of wild pig management efforts resulting in continued degradation of the Natural quality through pig damage.

## SOLITUDE OR PRIMITIVE & UNCONFINED RECREATION

<a href="#">Component Activity for this Alternative</a>		Positive	Negative	No Effect
X	<i>Example: Personnel will travel by horseback</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Transportation of personnel to the project site is by foot or non-motorized boat.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Transportation of materials and supplies to the project site is by foot or non-motorized boat.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Management activities includes trapping and shooting, direct targeted harvest operations, and monitoring for disease. Pig carcasses are left in the field to naturally decompose. Although active management increases, challenges posed by accessing sites on foot or via non-motorized boat is likely to reduce effectiveness.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	Equipment and supplies includes traps of varying sizes, protective fencing and firearms. Trained tracking dogs may be used to improve recovery of wounded animals and as the wild pig population within the target area is reduced. Monitoring tools will include GPS, data sheets, writing implements.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5	Crew camps may be needed.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6	Research includes monitoring of wild pig disturbance and disease monitoring. Research may also include, but is not limited to, work conducted to gather information on wild pig movements, sounder composition and territory, and effect on plant and animal community. Fencing may be used.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7	After control operations are completed, traps will be removed from the field, signs of human activity will be obliterated, pig carcasses will be dragged out of public view and at least 200' from permanent water bodies.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

8	Public awareness will be promoted by working with community leaders to maintain communication and resolve any problems as quickly as possible. Information on the wild pig management program will be regularly conveyed to park visitors through interpretive products. The following activities could be used to communicate information on non-native wild pigs, their impacts on native ecosystems, and the wild pig management program: posters, articles in news bulletins, bulletin board fliers, exhibits, signs, brochures, PowerPoint or video presentations. Press opportunities will be used to circulate factual information on non-native wild pigs and the management program to the public. Information on pig biology, impacts, and the management program would also be presented to park employees on a regular basis to maintain organization-wide knowledge and consistency.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Number of Effects		+1	-4	NE
<b><u>Solitude or Primitive &amp; Unconfined Rec. Total Rating</u></b>		<b>-3</b>		

Explain:

*Solitude or Primitive & Unconfined Recreation = Wilderness provides outstanding opportunities for solitude or primitive and unconfined recreation. This quality is impacted by settings that degrade or improve these opportunities. An alternative which increases solitude, removes infrastructure that diminishes primitive recreation, or removes a management restriction would have a positive impact on this quality. Some management actions may be found to be necessary to preserve one or more of the other qualities even though this quality would be degraded.*

Encountering workers traveling to and from work sites for such short periods of time has virtually no effect on this quality. Impacts to this quality would be substantially the same as under Alternative 1. The presence of individuals in the wilderness conducting monitoring and wild pig population control activities would reduce the opportunity for solitude and primitive recreation. It would also be necessary to close some areas of the park while shooting operations are conducted, which would impinge on the opportunity for unconfined recreation. Postive effects from reducing pig numbers include improved opportunities for visitors to experience natural sights and sounds in the wilderness.

#### OTHER FEATURES OF VALUE

<u>Component Activity for this Alternative</u>	Positive	Negative	No Effect
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X	<i>Example: Personnel will travel by horseback</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Transportation of personnel to the project site is by foot or non-motorized boat.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Transportation of materials and supplies to the project site is by foot or non-motorized boat.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Management activities includes trapping and shooting, direct targeted harvest operations, and monitoring for disease. Pig carcasses are left in the field to naturally decompose. Although active management increases, challenges posed by accessing sites on foot or via non-motorized boat is likely to reduce effectiveness.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	Equipment and supplies includes traps of varying sizes, protective fencing and firearms. Trained tracking dogs may be used to improve recovery of wounded animals and as the wild pig population within the target area is reduced. Monitoring tools will include GPS, data sheets, writing implements.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5	Crew camps may be needed.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6	Research includes monitoring of wild pig disturbance and disease monitoring. Research may also include, but is not limited to, work conducted to gather information on wild pig movements, sounder composition and territory, and effect on plant and animal community. Fencing may be used.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7	After control operations are completed, traps will be removed from the field, signs of human activity will be obliterated, pig carcasses will be dragged out of public view and at least 200' from permanent water bodies.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8	Public awareness will be promoted by working with community leaders to maintain communication and resolve any problems as quickly as possible. Information on the wild pig management program will be regularly conveyed to park visitors through interpretive products. The following activities could be used to communicate information on non-native wild pigs, their impacts on native ecosystems, and the wild pig management program: posters, articles in news bulletins, bulletin board fliers, exhibits, signs, brochures, PowerPoint or video presentations. Press opportunities will be used to circulate factual information on non-native wild pigs and the management program to the public. Information on pig biology, impacts, and the management program would also be presented to park employees on a	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	regular basis to maintain organization-wide knowledge and consistency.			
9		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Number of Effects		+1	-1	NE
<b><u>Other Features of Value Total Rating</u></b>		<b>0</b>		

Explain:

*An alternative that degrades any values or characteristics of this wilderness (i.e. "ecological, geological, or other features of scientific, educational, scenic, or historical value") that are not accounted for in the above qualities would be a negative impact to this quality. An alternative that improves them would have a positive impact on this quality. Heritage and cultural resources including historic sites, and paleontological localities are included here.*

Reducing wild pig numbers would have a positive effect on historic structures in the park, as well on soil composition and structure, vegetation communities, etc. Management effectiveness would be increased through increased control options within this alternative but limitations in accessing and deploying traps within wilderness may result in reduced effectiveness. The component activities for this alternative would have no or negligible impacts on Other Features of Value.

### Other Criteria

*What is the effect of each component activity on other comparison criteria? What mitigation measures will be taken?*

### MAINTAINING TRADITIONAL SKILLS

<b><u>Component Activity for this Alternative</u></b>		Positive	Negative	No Effect
X	<i>Example: Personnel will travel by horseback</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Transportation of personnel to the project site is by foot or non-motorized boat.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Transportation of materials and supplies to the project site is by foot or non-motorized boat.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Management activities includes trapping and shooting, direct targeted harvest operations, and monitoring for disease. Pig carcasses are left in the field to naturally decompose. Although active management increases, challenges posed by accessing sites on foot or via non-motorized boat is likely to reduce effectiveness.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	Equipment and supplies includes traps of varying sizes, protective fencing and firearms. Trained	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	tracking dogs may be used to improve recovery of wounded animals and as the wild pig population within the target area is reduced. Monitoring tools will include GPS, data sheets, writing implements.			
5	Crew camps may be needed.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6	Research includes monitoring of wild pig disturbance and disease monitoring. Research may also include, but is not limited to, work conducted to gather information on wild pig movements, sounder composition and territory, and effect on plant and animal community. Fencing may be used.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7	After control operations are completed, traps will be removed from the field, signs of human activity will be obliterated, pig carcasses will be dragged out of public view and at least 200' from permanent water bodies.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8	Public awareness will be promoted by working with community leaders to maintain communication and resolve any problems as quickly as possible. Information on the wild pig management program will be regularly conveyed to park visitors through interpretive products. The following activities could be used to communicate information on non-native wild pigs, their impacts on native ecosystems, and the wild pig management program: posters, articles in news bulletins, bulletin board fliers, exhibits, signs, brochures, PowerPoint or video presentations. Press opportunities will be used to circulate factual information on non-native wild pigs and the management program to the public. Information on pig biology, impacts, and the management program would also be presented to park employees on a regular basis to maintain organization-wide knowledge and consistency.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Number of Effects		+3	0	NE
<u>Maintaining Traditional Skills Total Rating</u>		+3		

Explain:

Traditional skills would be maintained by transporting materials and supplies on foot and using hand tools. No motorized/mechanized equipment would be used, apart from GPS units.

#### SPECIAL PROVISIONS

<u>Component Activity for this Alternative</u>	Positive	Negative	No Effect
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X	<i>Example: Personnel will travel by horseback</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Transportation of personnel to the project site is by foot or non-motorized boat.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Transportation of materials and supplies to the project site is by foot or non-motorized boat.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Management activities includes trapping and shooting, direct targeted harvest operations, and monitoring for disease. Pig carcasses are left in the field to naturally decompose. Although active management increases, challenges posed by accessing sites on foot or via non-motorized boat is likely to reduce effectiveness.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	Equipment and supplies includes traps of varying sizes, protective fencing and firearms. Trained tracking dogs may be used to improve recovery of wounded animals and as the wild pig population within the target area is reduced. Monitoring tools will include GPS, data sheets, writing implements.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5	Crew camps may be needed.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6	Research includes monitoring of wild pig disturbance and disease monitoring. Research may also include, but is not limited to, work conducted to gather information on wild pig movements, sounder composition and territory, and effect on plant and animal community. Fencing may be used.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7	After control operations are completed, traps will be removed from the field, signs of human activity will be obliterated, pig carcasses will be dragged out of public view and at least 200' from permanent water bodies.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8	Public awareness will be promoted by working with community leaders to maintain communication and resolve any problems as quickly as possible. Information on the wild pig management program will be regularly conveyed to park visitors through interpretive products. The following activities could be used to communicate information on non-native wild pigs, their impacts on native ecosystems, and the wild pig management program: posters, articles in news bulletins, bulletin board fliers, exhibits, signs, brochures, PowerPoint or video presentations. Press opportunities will be used to circulate factual information on non-native wild pigs and the management program to the public. Information on pig biology, impacts, and the management program would also be presented to park employees on a	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	regular basis to maintain organization-wide knowledge and consistency.			
9		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Number of Effects		0	0	NE
<b><u>Special Provisions Total Rating</u></b>		<b>0</b>		

Explain:

There are no special provisions associated with this alternative.

## ECONOMICS & TIME CONSTRAINTS

<u>Component Activity for this Alternative</u>		Positive	Negative	No Effect
X	<i>Example: Personnel will travel by horseback</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Transportation of personnel to the project site is by foot or non-motorized boat.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Transportation of materials and supplies to the project site is by foot or non-motorized boat.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Management activities includes trapping and shooting, direct targeted harvest operations, and monitoring for disease. Pig carcasses are left in the field to naturally decompose. Although active management increases, challenges posed by accessing sites on foot or via non-motorized boat is likely to reduce effectiveness.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	Equipment and supplies includes traps of varying sizes, protective fencing and firearms. Trained tracking dogs may be used to improve recovery of wounded animals and as the wild pig population within the target area is reduced. Monitoring tools will include GPS, data sheets, writing implements.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5	Crew camps may be needed.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6	Research includes monitoring of wild pig disturbance and disease monitoring. Research may also include, but is not limited to, work conducted to gather information on wild pig movements, sounder composition and territory, and effect on plant and animal community. Fencing may be used.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7	After control operations are completed, traps will be removed from the field, signs of human activity will be obliterated, pig carcasses will be dragged out of public view and at least 200' from permanent water bodies.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



8	Public awareness will be promoted by working with community leaders to maintain communication and resolve any problems as quickly as possible. Information on the wild pig management program will be regularly conveyed to park visitors through interpretive products. The following activities could be used to communicate information on non-native wild pigs, their impacts on native ecosystems, and the wild pig management program: posters, articles in news bulletins, bulletin board fliers, exhibits, signs, brochures, PowerPoint or video presentations. Press opportunities will be used to circulate factual information on non-native wild pigs and the management program to the public. Information on pig biology, impacts, and the management program would also be presented to park employees on a regular basis to maintain organization-wide knowledge and consistency.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Number of Effects		0	-6	NE
<b><u>Economics &amp; Time Constraints Total Rating</u></b>		<b>-6</b>		

Explain:

Fully funding an integrated program will require additional funds to increase USDA's time on the ground, hire and train CONG staff to conduct wild pig management work, and acquire equipment and supplies to conduct management operations. A range of possible treatment options exist. This is the most ambitious and likely to be the most successful but is also the most costly. Year 1 is estimated to cost approximately \$221,220 (two USDA staff and travel @ \$70,000, equipment and supplies for USDA and NPS program @ approximately \$50,000, one 44 week youth intern @ \$13,3384, GS-06 three-year term @ approximately \$44,520, one six month seasonal interpreter @ approximately \$19,395, vehicle rental and gas for 10 months @ approximately \$7,200, travel training @ approximately \$3,000). Each year, costs will be reduced. As CONG staff become trained, USDA will spend less time on wild pig population control in the park. Interpretive materials will be produced in year 1. Costs for year 2 is estimated to be \$184,400 and \$165,300 for year 3.

Note that this is an estimate only. Costs will vary depending on many factors.

### **Safety of Visitors & Workers**

*What is the effect of each component activity on the safety of visitors and workers? What mitigation measures will be taken?*

### **SAFETY OF VISITORS & WORKERS**



<u>Component Activity for this Alternative</u>		Positive	Negative	No Effect
X	<i>Example: Personnel will travel by horseback</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Transportation of personnel to the project site is by foot or non-motorized boat.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Transportation of materials and supplies to the project site is by foot or non-motorized boat.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Management activities includes trapping and shooting, direct targeted harvest operations, and monitoring for disease. Pig carcasses are left in the field to naturally decompose. Although active management increases, challenges posed by accessing sites on foot or via non-motorized boat is likely to reduce effectiveness.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	Equipment and supplies includes traps of varying sizes, protective fencing and firearms. Trained tracking dogs may be used to improve recovery of wounded animals and as the wild pig population within the target area is reduced. Monitoring tools will include GPS, data sheets, writing implements.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5	Crew camps may be needed.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6	Research includes monitoring of wild pig disturbance and disease monitoring. Research may also include, but is not limited to, work conducted to gather information on wild pig movements, sounder composition and territory, and effect on plant and animal community. Fencing may be used.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7	After control operations are completed, traps will be removed from the field, signs of human activity will be obliterated, pig carcasses will be dragged out of public view and at least 200' from permanent water bodies.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8	Public awareness will be promoted by working with community leaders to maintain communication and resolve any problems as quickly as possible. Information on the wild pig management program will be regularly conveyed to park visitors through interpretive products. The following activities could be used to communicate information on non-native wild pigs, their impacts on native ecosystems, and the wild pig management program: posters, articles in news bulletins, bulletin board fliers, exhibits, signs, brochures, PowerPoint or video presentations. Press opportunities will be used to circulate factual information on non-native wild pigs and the management program to the public. Information on	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	pig biology, impacts, and the management program would also be presented to park employees on a regular basis to maintain organization-wide knowledge and consistency.			
9		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Number of Effects		+2	-1	NE
<b><u>Safety of Visitors &amp; Workers Total Rating</u></b>		<b>+1</b>		

Explain:

Implementing this alternative would have minimal impacts on safety for park visitors or workers. Active shooting operations pose some risk of accidental injury to park visitors and workers, but this risk is minimized by established safety procedures. Hiking to work sites, use of hand tools, and conducting monitoring activities would pose minor safety risks. All potential hazards can be mitigated through adequate staff training, development of established safety procedures, and effective communication.

Failure to manage wild pig populations would result in increased spread of diseases that are present in the current population and increase the likelihood of visitor encounters with wild pigs that may result in harm to park staff and the visiting public. Reduction of wild pig numbers would thus enhance the safety of visitors and workers.

## Summary Ratings for Alternative 2

<b><u>Wilderness Character</u></b>	
Untrammeled	-3
Undeveloped	-3
Natural	+2
Solitude or Primitive & Unconfined Recreation	-3
Other Features of Value	0
<b>Wilderness Character Summary Rating</b>	<b>-7</b>
<b><u>Other Criteria</u></b>	
Maintaining Traditional Skills	+3
Special Provisions	0
Economics & Time Constraints	-6
<b>Other Criteria Summary Rating</b>	<b>-3</b>

<b><u>Safety</u></b>	
Safety of Visitors & Workers	+1
<b>Safety Summary Rating</b>	<b>+1</b>

DRAFT

## MRDG STEP 2: Alternative 3

**Alternative 3:** Establish an Integrated Wild Pig Management Program, with Limited Use of Motorized Tools and Transport.

### Description of the Alternative

*What are the details of this alternative? When, where, and how will the action occur? What mitigation measures will be taken?*

This alternative is similar to Alternative 2, but some limited use of motorized equipment and transport would be allowed.

Like Alternative 2, this alternative would involve continuing USDA's present pig-control work at an increased level, while also training park staff in wild pig management activities. These activities would include trapping, shooting, disease monitoring, pig disturbance monitoring, installing exclosure fencing in sensitive areas, and research. In some instances, pig control could involve the use of dogs. Most trapping, monitoring, exclosure, and research sites would be reached on foot or by paddling; however, motorized vehicles would be used on existing old roads and trails to transport personnel, traps, and exclosure materials. Battery operated drills may be used to put traps together. Overnight camps could be used by control personnel, with no permanent structures. Monitoring of wild pig disturbance and wild pig population management would continue. Stratified random sampling techniques would be used to select transect locations. Transects would be GPSd and revisited over time. Monitoring would be conducted, at most, on a quarterly basis. Limited amounts of rebar or similar material would be used to mark plots.

### Mitigation

Same as alternatives 1 and 2. Employee training would include information on wilderness regulations and the need to maintain and enhance wilderness character. The selection of work areas, campsites, and travel routes would be made in such a way as to protect wilderness character, as would decisions regarding project timing, temporary closures, or other actions. Permanent plot markers would be discrete. They would consist of rebar pounded deeply into the soil with only a small section (5" - 6") left above the ground. Rebar would be tagged with identifying numbers. Permanent markers would be GPSd using highly accurate GPS units (e.g., Trimble). Traps would be removed when they are no longer in use. Crew camps would be temporary and signs of human activity within a crew camp would be obliterated.

## Component Activities

*How will each of the components of the action be performed under this alternative?*

<u>Component of the Action</u>		Activity for this Alternative
X	<i>Example: Transportation of personnel to the project site</i>	<i>Example: Personnel will travel by horseback</i>
1	Transportation of personnel to the project site.	Most trapping, monitoring, exclosure, and research sites would be reached on foot or by paddling; however, motorized vehicles would be used on existing old roads and trails to transport personnel, traps, and exclosure materials.
2	Transportation of materials and supplies to the project site.	Most of the materials and supplies will be transported to the project site is by foot or non-motorized boat; however, motorized vehicles would be used on existing old roads and trails to transport traps, exclosure materials and other equipment and supplies into the wilderness.
3	Treatment method and timing of treatment.	Management activities includes trapping and shooting, direct targeted harvest operations, and monitoring for disease. Pig carcasses are left in the field to naturally decompose.
4	Tools, equipment, and supplies used for wild pig management.	Equipment and supplies includes traps of varying sizes, protective fencing, battery operated drills and firearms. Trained tracking dogs may be used to improve recovery of wounded animals and as the wild pig population within the target area is reduced. Monitoring tools will include GPS, data sheets, writing implements.
5	Crew camps.	Crew camps may be needed.
6	Research component.	Research includes monitoring of wild pig disturbance and disease monitoring. Research may also include, but is not limited to, work conducted to gather information on wild pig movements, sounder composition and territory, and effect on plant and animal community. Fencing may be used.
7	Condition of site after project.	After control operations are completed, traps will be removed from the field, signs of human activity will be obliterated, pig

		carcasses will be dragged out of public view and at least 200' from permanent water bodies.
8	Information and education of public and other stakeholders.	Public awareness will be promoted by working with community leaders to maintain communication and resolve any problems as quickly as possible. Information on the wild pig management program will be regularly conveyed to park visitors through interpretive products. The following activities could be used to communicate information on non-native wild pigs, their impacts on native ecosystems, and the wild pig management program: posters, articles in news bulletins, bulletin board fliers, exhibits, signs, brochures, PowerPoint or video presentations. Press opportunities will be used to circulate factual information on non-native wild pigs and the management program to the public. Information on pig biology, impacts, and the management program would also be presented to park employees on a regular basis to maintain organization-wide knowledge and consistency.
9		

### Wilderness Character

*What is the effect of each component activity on the qualities of wilderness character? What mitigation measures will be taken?*

### UNTRAMMELED

<a href="#">Component Activity for this Alternative</a>		Positive	Negative	No Effect
X	<i>Example: Personnel will travel by horseback</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Most trapping, monitoring, exclosure, and research sites would be reached on foot or by paddling; however, motorized vehicles would be used on existing old roads and trails to transport personnel, traps, and exclosure materials.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	Most of the materials and supplies will be transported to the project site is by foot or non-motorized boat; however, motorized vehicles would be used on existing old roads and trails to transport traps, exclosure materials and other equipment and supplies into the wilderness.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3	Management activities includes trapping and shooting, direct targeted harvest operations, and monitoring for disease. Pig carcasses are left in the field to naturally decompose.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	Equipment and supplies includes traps of varying sizes, protective fencing, battery operated drills and firearms. Trained tracking dogs may be used to improve recovery of wounded animals and as the wild pig population within the target area is reduced. Monitoring tools will include GPS, data sheets, writing implements.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5	Crew camps may be needed.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6	Research includes monitoring of wild pig disturbance and disease monitoring. Research may also include, but is not limited to, work conducted to gather information on wild pig movements, sounder composition and territory, and effect on plant and animal community. Fencing may be used.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7	After control operations are completed, traps will be removed from the field, signs of human activity will be obliterated, pig carcasses will be dragged out of public view and at least 200' from permanent water bodies.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8	Public awareness will be promoted by working with community leaders to maintain communication and resolve any problems as quickly as possible. Information on the wild pig management program will be regularly conveyed to park visitors through interpretive products. The following activities could be used to communicate information on non-native wild pigs, their impacts on native ecosystems, and the wild pig management program: posters, articles in news bulletins, bulletin board fliers, exhibits, signs, brochures, PowerPoint or video presentations. Press opportunities will be used to circulate factual information on non-native wild pigs and the management program to the public. Information on pig biology, impacts, and the management program would also be presented to park employees on a regular basis to maintain organization-wide knowledge and consistency.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Number of Effects		0	-5	NE
<b><u>Untrammled Total Rating</u></b>		<b>-5</b>		

Explain:

*Untrammelled = Wilderness is essentially unhindered and free from modern human control or manipulation. This quality is degraded by modern human activities or actions that control or manipulate the components or processes of ecological systems inside the wilderness.*

This alternative would increase the scope of wild pig management in the park more than the other two alternatives. The nature of the impacts on the Untrammelled quality of wilderness character would not differ dramatically from those in alternatives 1 and 2, but impacts would be more pervasive due to the greater efficiency achieved by the use of motorized vehicles. As in alternatives 1 and 2, the trapping and shooting of wild pigs would negatively affect the Untrammelled quality of wilderness character by actively manipulating the biophysical environment. The use of exclosures and potentially larger base camps that are established for longer periods of time or with greater frequency would also constitute trammeling, as would clearing vegetation to re-open and maintain old roadbeds. Elements of this alternative involving monitoring would not affect the Untrammelled quality.

#### UNDEVELOPED

<a href="#">Component Activity for this Alternative</a>		Positive	Negative	No Effect
X	Example: Personnel will travel by horseback	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Most trapping, monitoring, exclosure, and research sites would be reached on foot or by paddling; however, motorized vehicles would be used on existing old roads and trails to transport personnel, traps, and exclosure materials.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	Most of the materials and supplies will be transported to the project site is by foot or non-motorized boat; however, motorized vehicles would be used on existing old roads and trails to transport traps, exclosure materials and other equipment and supplies into the wilderness.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	Management activities includes trapping and shooting, direct targeted harvest operations, and monitoring for disease. Pig carcasses are left in the field to naturally decompose.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	Equipment and supplies includes traps of varying sizes, protective fencing, battery operated drills and firearms. Trained tracking dogs may be used to improve recovery of wounded animals and as the wild pig population within the target area is reduced. Monitoring tools will include GPS, data sheets, writing implements.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5	Crew camps may be needed.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6	Research includes monitoring of wild pig disturbance	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



	and disease monitoring. Research may also include, but is not limited to, work conducted to gather information on wild pig movements, sounder composition and territory, and effect on plant and animal community. Fencing may be used.			
7	After control operations are completed, traps will be removed from the field, signs of human activity will be obliterated, pig carcasses will be dragged out of public view and at least 200' from permanent water bodies.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	Public awareness will be promoted by working with community leaders to maintain communication and resolve any problems as quickly as possible. Information on the wild pig management program will be regularly conveyed to park visitors through interpretive products. The following activities could be used to communicate information on non-native wild pigs, their impacts on native ecosystems, and the wild pig management program: posters, articles in news bulletins, bulletin board fliers, exhibits, signs, brochures, PowerPoint or video presentations. Press opportunities will be used to circulate factual information on non-native wild pigs and the management program to the public. Information on pig biology, impacts, and the management program would also be presented to park employees on a regular basis to maintain organization-wide knowledge and consistency.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Number of Effects		+1	-6	NE
<u>Undeveloped Total Rating</u>		<b>-5</b>		

Explain:

*Undeveloped = Wilderness retains its primeval character and influence, and is essentially without permanent improvement or modern occupation. This quality is degraded by the presence of structures, installations, habitations, and by the use of motor vehicles, motorized equipment, or mechanical transport that increases people's ability to occupy or modify the environment. Permanent markers for long term monitoring will have a negative effect on this quality of wilderness character.*

Plot markers, traps, exclosures, and mechanized equipment are developments and would have a negative effect on the Undeveloped quality of wilderness character. This alternative calls for the use of motorized equipment, permanent markers for long term monitoring, the temporary presence of traps, exclosure fencing, and temporary crew camps. In addition, old road beds, trails, and former logging roads could be used by motorized equipment to move

equipment and supplies into the wilderness. Motorized equipment and mechanical transport make it easier for people to occupy and modify the land, as do re-opening and maintaining old roads and trails. Although new and permanent roads would not be developed within Congaree's wilderness, some maintenance and use of existing roads and trails will make the imprint of man more evident.

## NATURAL

<u>Component Activity for this Alternative</u>		Positive	Negative	No Effect
X	<i>Example: Personnel will travel by horseback</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Most trapping, monitoring, exclosure, and research sites would be reached on foot or by paddling; however, motorized vehicles would be used on existing old roads and trails to transport personnel, traps, and exclosure materials.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	Most of the materials and supplies will be transported to the project site is by foot or non-motorized boat; however, motorized vehicles would be used on existing old roads and trails to transport traps, exclosure materials and other equipment and supplies into the wilderness.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	Management activities includes trapping and shooting, direct targeted harvest operations, and monitoring for disease. Pig carcasses are left in the field to naturally decompose.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Equipment and supplies includes traps of varying sizes, protective fencing, battery operated drills and firearms. Trained tracking dogs may be used to improve recovery of wounded animals and as the wild pig population within the target area is reduced. Monitoring tools will include GPS, data sheets, writing implements.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Crew camps may be needed.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6	Research includes monitoring of wild pig disturbance and disease monitoring. Research may also include, but is not limited to, work conducted to gather information on wild pig movements, sounder composition and territory, and effect on plant and animal community. Fencing may be used.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7	After control operations are completed, traps will be removed from the field, signs of human activity will be obliterated, pig carcasses will be dragged out of public view and at least 200' from permanent water bodies.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

8	Public awareness will be promoted by working with community leaders to maintain communication and resolve any problems as quickly as possible. Information on the wild pig management program will be regularly conveyed to park visitors through interpretive products. The following activities could be used to communicate information on non-native wild pigs, their impacts on native ecosystems, and the wild pig management program: posters, articles in news bulletins, bulletin board fliers, exhibits, signs, brochures, PowerPoint or video presentations. Press opportunities will be used to circulate factual information on non-native wild pigs and the management program to the public. Information on pig biology, impacts, and the management program would also be presented to park employees on a regular basis to maintain organization-wide knowledge and consistency.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Number of Effects		-2	+2	NE
<b>Natural Total Rating</b>		<b>0</b>		

Explain:

*Natural = Wilderness ecological systems are substantially free from the effects of modern civilization. This quality is affected by intended or unintended effects of modern civilization on the ecological systems inside the wilderness since the area was designated.*

Reducing numbers of non-native wild pigs would materially improve the Natural quality of wilderness character.

Plot markers, traps, exclosures, and firearms would not affect the Natural quality.

Re-opening and maintaining old roadbeds and trails for motorized use would negatively affect the Natural quality. In the long term, however, improved access to the wilderness via motorized vehicles and using existing logging roads, old road beds, and trails would increase the effectiveness of control activities by facilitating the movement of people, equipment, and supplies (traps in particular). Increased efficiency has the potential to reduce wild pig populations to a level that would substantially reduce pig damage and its effect on the Natural quality.

#### SOLITUDE OR PRIMITIVE & UNCONFINED RECREATION

<u>Component Activity for this Alternative</u>		Positive	Negative	No Effect
X	<i>Example: Personnel will travel by horseback</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Most trapping, monitoring, exclosure, and research sites would be reached on foot or by paddling; however, motorized vehicles would be used on	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	existing old roads and trails to transport personnel, traps, and exclosure materials.			
2	Most of the materials and supplies will be transported to the project site is by foot or non-motorized boat; however, motorized vehicles would be used on existing old roads and trails to transport traps, exclosure materials and other equipment and supplies into the wilderness.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	Management activities includes trapping and shooting, direct targeted harvest operations, and monitoring for disease. Pig carcasses are left in the field to naturally decompose.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	Equipment and supplies includes traps of varying sizes, protective fencing, battery operated drills and firearms. Trained tracking dogs may be used to improve recovery of wounded animals and as the wild pig population within the target area is reduced. Monitoring tools will include GPS, data sheets, writing implements.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5	Crew camps may be needed.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6	Research includes monitoring of wild pig disturbance and disease monitoring. Research may also include, but is not limited to, work conducted to gather information on wild pig movements, sounder composition and territory, and effect on plant and animal community. Fencing may be used.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7	After control operations are completed, traps will be removed from the field, signs of human activity will be obliterated, pig carcasses will be dragged out of public view and at least 200' from permanent water bodies.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8	Public awareness will be promoted by working with community leaders to maintain communication and resolve any problems as quickly as possible. Information on the wild pig management program will be regularly conveyed to park visitors through interpretive products. The following activities could be used to communicate information on non-native wild pigs, their impacts on native ecosystems, and the wild pig management program: posters, articles in news bulletins, bulletin board fliers, exhibits, signs, brochures, PowerPoint or video presentations. Press opportunities will be used to circulate factual information on non-native wild pigs and the management program to the public. Information on pig biology, impacts, and the management program	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	would also be presented to park employees on a regular basis to maintain organization-wide knowledge and consistency.			
9		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Number of Effects		+2	-6	NE
<b><u>Solitude or Primitive &amp; Unconfined Rec. Total Rating</u></b>		<b>-4</b>		

Explain:

*Solitude or Primitive & Unconfined Recreation = Wilderness provides outstanding opportunities for solitude or primitive and unconfined recreation. This quality is impacted by settings that degrade or improve these opportunities. An alternative which increases solitude, removes infrastructure that diminishes primitive recreation, or removes a management restriction would have a positive impact on this quality. Some management actions may be found to be necessary to preserve one or more of the other qualities even though this quality would be degraded.*

The presence of individuals in the wilderness conducting monitoring and wild pig population control activities would reduce the opportunity for solitude and primitive recreation. It would also be necessary to close some areas of the park while shooting operations are conducted, which would impinge on the opportunity for unconfined recreation. The sounds of motorized equipment will also degrade this quality of wilderness character. Keeping old roads open and passable will reduce challenges for those seeking a primitive and unconfined recreational opportunity. Improving the ability to transport personnel and equipment and supplies to remote areas will likely increase the efficiency of wild pig management efforts, resulting in reduced physical and visual degradation of recreational resources through wild pig damage.

#### OTHER FEATURES OF VALUE

<u>Component Activity for this Alternative</u>		Positive	Negative	No Effect
X	<i>Example: Personnel will travel by horseback</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Most trapping, monitoring, exclosure, and research sites would be reached on foot or by paddling; however, motorized vehicles would be used on existing old roads and trails to transport personnel, traps, and exclosure materials.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Most of the materials and supplies will be transported to the project site is by foot or non-motorized boat; however, motorized vehicles would be used on existing old roads and trails to transport traps, exclosure materials and other equipment and supplies into the wilderness.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Management activities includes trapping and shooting, direct targeted harvest operations, and	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	monitoring for disease. Pig carcasses are left in the field to naturally decompose.			
4	Equipment and supplies includes traps of varying sizes, protective fencing, battery operated drills and firearms. Trained tracking dogs may be used to improve recovery of wounded animals and as the wild pig population within the target area is reduced. Monitoring tools will include GPS, data sheets, writing implements.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Crew camps may be needed.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6	Research includes monitoring of wild pig disturbance and disease monitoring. Research may also include, but is not limited to, work conducted to gather information on wild pig movements, sounder composition and territory, and effect on plant and animal community. Fencing may be used.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7	After control operations are completed, traps will be removed from the field, signs of human activity will be obliterated, pig carcasses will be dragged out of public view and at least 200' from permanent water bodies.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8	Public awareness will be promoted by working with community leaders to maintain communication and resolve any problems as quickly as possible. Information on the wild pig management program will be regularly conveyed to park visitors through interpretive products. The following activities could be used to communicate information on non-native wild pigs, their impacts on native ecosystems, and the wild pig management program: posters, articles in news bulletins, bulletin board fliers, exhibits, signs, brochures, PowerPoint or video presentations. Press opportunities will be used to circulate factual information on non-native wild pigs and the management program to the public. Information on pig biology, impacts, and the management program would also be presented to park employees on a regular basis to maintain organization-wide knowledge and consistency.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Number of Effects		+4	0	NE
<b><u>Other Features of Value Total Rating</u></b>		<b>+4</b>		

Explain:

*An alternative that degrades any values or characteristics of this wilderness (i.e. "ecological,*

geological, or other features of scientific, educational, scenic, or historical value") that are not accounted for in the above qualities would be a negative impact to this quality. An alternative that improves them would have a positive impact on this quality. Heritage and cultural resources including historic sites, and paleontological localities are included here.

Reducing wild pig numbers would have a positive effect on historic structures in the park, as well on soil composition and structure, vegetation communities, etc. Improving the ability to transport personnel and equipment and supplies to remote areas will likely increase the efficiency of wild pig management efforts, resulting in reduced physical and visual degradation of recreational resources through wild pig damage.

### Other Criteria

*What is the effect of each component activity on other comparison criteria? What mitigation measures will be taken?*

### MAINTAINING TRADITIONAL SKILLS

<u>Component Activity for this Alternative</u>		Positive	Negative	No Effect
X	<i>Example: Personnel will travel by horseback</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Most trapping, monitoring, exclosure, and research sites would be reached on foot or by paddling; however, motorized vehicles would be used on existing old roads and trails to transport personnel, traps, and exclosure materials.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	Most of the materials and supplies will be transported to the project site is by foot or non-motorized boat; however, motorized vehicles would be used on existing old roads and trails to transport traps, exclosure materials and other equipment and supplies into the wilderness.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	Management activities includes trapping and shooting, direct targeted harvest operations, and monitoring for disease. Pig carcasses are left in the field to naturally decompose.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	Equipment and supplies includes traps of varying sizes, protective fencing, battery operated drills and firearms. Trained tracking dogs may be used to improve recovery of wounded animals and as the wild pig population within the target area is reduced. Monitoring tools will include GPS, data sheets, writing implements.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5	Crew camps may be needed.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



6	Research includes monitoring of wild pig disturbance and disease monitoring. Research may also include, but is not limited to, work conducted to gather information on wild pig movements, sounder composition and territory, and effect on plant and animal community. Fencing may be used.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7	After control operations are completed, traps will be removed from the field, signs of human activity will be obliterated, pig carcasses will be dragged out of public view and at least 200' from permanent water bodies.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8	Public awareness will be promoted by working with community leaders to maintain communication and resolve any problems as quickly as possible. Information on the wild pig management program will be regularly conveyed to park visitors through interpretive products. The following activities could be used to communicate information on non-native wild pigs, their impacts on native ecosystems, and the wild pig management program: posters, articles in news bulletins, bulletin board fliers, exhibits, signs, brochures, PowerPoint or video presentations. Press opportunities will be used to circulate factual information on non-native wild pigs and the management program to the public. Information on pig biology, impacts, and the management program would also be presented to park employees on a regular basis to maintain organization-wide knowledge and consistency.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Number of Effects		+3	-3	NE
<b><u>Maintaining Traditional Skills Total Rating</u></b>		<b>0</b>		

Explain:

Traditional skills would be maintained by transporting materials and supplies on foot and using hand tools. Most trapping, monitoring, exclosure, and research sites would be reached on foot or by paddling. However, motorized vehicles would be used on existing old roads and trails to transport personnel, traps, and exclosure materials.

#### SPECIAL PROVISIONS

<u>Component Activity for this Alternative</u>		Positive	Negative	No Effect
X	<i>Example: Personnel will travel by horseback</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Most trapping, monitoring, exclosure, and research sites would be reached on foot or by paddling;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



	however, motorized vehicles would be used on existing old roads and trails to transport personnel, traps, and exclosure materials.			
2	Most of the materials and supplies will be transported to the project site is by foot or non-motorized boat; however, motorized vehicles would be used on existing old roads and trails to transport traps, exclosure materials and other equipment and supplies into the wilderness.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Management activities includes trapping and shooting, direct targeted harvest operations, and monitoring for disease. Pig carcasses are left in the field to naturally decompose.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	Equipment and supplies includes traps of varying sizes, protective fencing, battery operated drills and firearms. Trained tracking dogs may be used to improve recovery of wounded animals and as the wild pig population within the target area is reduced. Monitoring tools will include GPS, data sheets, writing implements.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5	Crew camps may be needed.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6	Research includes monitoring of wild pig disturbance and disease monitoring. Research may also include, but is not limited to, work conducted to gather information on wild pig movements, sounder composition and territory, and effect on plant and animal community. Fencing may be used.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7	After control operations are completed, traps will be removed from the field, signs of human activity will be obliterated, pig carcasses will be dragged out of public view and at least 200' from permanent water bodies.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8	Public awareness will be promoted by working with community leaders to maintain communication and resolve any problems as quickly as possible. Information on the wild pig management program will be regularly conveyed to park visitors through interpretive products. The following activities could be used to communicate information on non-native wild pigs, their impacts on native ecosystems, and the wild pig management program: posters, articles in news bulletins, bulletin board fliers, exhibits, signs, brochures, PowerPoint or video presentations. Press opportunities will be used to circulate factual information on non-native wild pigs and the management program to the public. Information on	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	pig biology, impacts, and the management program would also be presented to park employees on a regular basis to maintain organization-wide knowledge and consistency.			
9		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Number of Effects		0	0	NE
<b><u>Special Provisions Total Rating</u></b>		<b>0</b>		

Explain:

There are no special provisions associated with this alternative.

#### ECONOMICS & TIME CONSTRAINTS

<u>Component Activity for this Alternative</u>		Positive	Negative	No Effect
X	<i>Example: Personnel will travel by horseback</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Most trapping, monitoring, exclosure, and research sites would be reached on foot or by paddling; however, motorized vehicles would be used on existing old roads and trails to transport personnel, traps, and exclosure materials.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Most of the materials and supplies will be transported to the project site is by foot or non-motorized boat; however, motorized vehicles would be used on existing old roads and trails to transport traps, exclosure materials and other equipment and supplies into the wilderness.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Management activities includes trapping and shooting, direct targeted harvest operations, and monitoring for disease. Pig carcasses are left in the field to naturally decompose.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	Equipment and supplies includes traps of varying sizes, protective fencing, battery operated drills and firearms. Trained tracking dogs may be used to improve recovery of wounded animals and as the wild pig population within the target area is reduced. Monitoring tools will include GPS, data sheets, writing implements.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5	Crew camps may be needed.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6	Research includes monitoring of wild pig disturbance and disease monitoring. Research may also include, but is not limited to, work conducted to gather information on wild pig movements, sounder composition and territory, and effect on plant and	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	animal community. Fencing may be used.			
7	After control operations are completed, traps will be removed from the field, signs of human activity will be obliterated, pig carcasses will be dragged out of public view and at least 200' from permanent water bodies.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8	Public awareness will be promoted by working with community leaders to maintain communication and resolve any problems as quickly as possible. Information on the wild pig management program will be regularly conveyed to park visitors through interpretive products. The following activities could be used to communicate information on non-native wild pigs, their impacts on native ecosystems, and the wild pig management program: posters, articles in news bulletins, bulletin board fliers, exhibits, signs, brochures, PowerPoint or video presentations. Press opportunities will be used to circulate factual information on non-native wild pigs and the management program to the public. Information on pig biology, impacts, and the management program would also be presented to park employees on a regular basis to maintain organization-wide knowledge and consistency.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Number of Effects		0	-6	NE
<b>Economics &amp; Time Constraints Total Rating</b>		<b>-6</b>		

Explain:

Fully funding an integrated program will require additional funds to increase USDA's time on the ground, hire and train CONG staff to conduct wild pig management work, and acquire equipment and supplies to conduct management operations. This is the most ambitious and likely to be the most successful but is also the most costly. Year 1 is estimated to cost approximately \$221,220 (two USDA staff and travel @ \$70,000, equipment and supplies for USDA and NPS program @ approximately \$50,000, one 44 week youth intern @ \$13,384, GS-06 three-year term @ approximately \$44,520, one six month seasonal interpreter @ approximately \$19,395, vehicle rental and gas for 10 months @ approximately \$7,200, travel training @ approximately \$3,000). Each year, costs will be reduced. As CONG staff become trained, USDA will spend less time on wild pig population control in the park. Interpretive materials will be produced in year 1. Costs for year 2 is estimated to be \$184,400 and \$165,300 for year 3.

Note that this is an estimate only. Costs will vary depending on many factors.

### Safety of Visitors & Workers

*What is the effect of each component activity on the safety of visitors and workers? What mitigation measures will be taken?*

#### SAFETY OF VISITORS & WORKERS

<a href="#">Component Activity for this Alternative</a>		Positive	Negative	No Effect
X	Example: Personnel will travel by horseback	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	Most trapping, monitoring, exclosure, and research sites would be reached on foot or by paddling; however, motorized vehicles would be used on existing old roads and trails to transport personnel, traps, and exclosure materials.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Most of the materials and supplies will be transported to the project site is by foot or non-motorized boat; however, motorized vehicles would be used on existing old roads and trails to transport traps, exclosure materials and other equipment and supplies into the wilderness.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Management activities includes trapping and shooting, direct targeted harvest operations, and monitoring for disease. Pig carcasses are left in the field to naturally decompose.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	Equipment and supplies includes traps of varying sizes, protective fencing, battery operated drills and firearms. Trained tracking dogs may be used to improve recovery of wounded animals and as the wild pig population within the target area is reduced. Monitoring tools will include GPS, data sheets, writing implements.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5	Crew camps may be needed.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6	Research includes monitoring of wild pig disturbance and disease monitoring. Research may also include, but is not limited to, work conducted to gather information on wild pig movements, sounder composition and territory, and effect on plant and animal community. Fencing may be used.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7	After control operations are completed, traps will be removed from the field, signs of human activity will be obliterated, pig carcasses will be dragged out of public view and at least 200' from permanent water bodies.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8	Public awareness will be promoted by working with community leaders to maintain communication and	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	resolve any problems as quickly as possible. Information on the wild pig management program will be regularly conveyed to park visitors through interpretive products. The following activities could be used to communicate information on non-native wild pigs, their impacts on native ecosystems, and the wild pig management program: posters, articles in news bulletins, bulletin board fliers, exhibits, signs, brochures, PowerPoint or video presentations. Press opportunities will be used to circulate factual information on non-native wild pigs and the management program to the public. Information on pig biology, impacts, and the management program would also be presented to park employees on a regular basis to maintain organization-wide knowledge and consistency.			
9		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Number of Effects		+1	-1	NE
<b><u>Safety of Visitors &amp; Workers Total Rating</u></b>		<b>0</b>		

Explain:

Implementing this alternative would have minimal impacts on safety for park visitors or workers. Active shooting operations pose some risk of accidental injury to park visitors and workers, but this risk is minimized by established safety procedures. Hiking to work sites, use of hand tools, and conducting monitoring activities would pose minor safety risks. Use of motorized equipment poses accident-related risks, but access to vehicles in an emergency could speed the provision of needed medical care. All potential hazards can be mitigated through adequate staff training, development of established safety procedures, and effective communication.

Failure to manage wild pig populations would result in increased spread of diseases that are present in the current population and increase the likelihood of visitor encounters with wild pigs that may result in harm to park staff and the visiting public. Reduction of wild pig numbers would thus enhance the safety of visitors and workers.

### Summary Ratings for Alternative 3

<b><u>Wilderness Character</u></b>	
Untrammeled	-5
Undeveloped	-5
Natural	0

Solitude or Primitive & Unconfined Recreation	-4
Other Features of Value	+4
<b>Wilderness Character Summary Rating</b>	<b>-10</b>

<b><u>Other Criteria</u></b>	
Maintaining Traditional Skills	0
Special Provisions	0
Economics & Time Constraints	-6
<b>Other Criteria Summary Rating</b>	<b>-6</b>

<b><u>Safety</u></b>	
Safety of Visitors & Workers	0
<b>Safety Summary Rating</b>	<b>0</b>

## MRDG STEP 2: Alternative Comparison

<a href="#">Alternative 1:</a>	Continue Current Management - USDA Wildlife Wildlife Services conducts limited wild pig management activities and monitoring for disease.
<a href="#">Alternative 2:</a>	Establish an Integrated Wild Pig Management Program, with No Use of Motorized Tools or Transport.
<a href="#">Alternative 3:</a>	Establish an Integrated Wild Pig Management Program, with Limited Use of Motorized Tools and Transport.
<a href="#">Alternative 4:</a>	

Wilderness Character	<a href="#">Alt 1</a>		<a href="#">Alt 2</a>		<a href="#">Alt 3</a>		<a href="#">Alt 4</a>	
	+	-	+	-	+	-	+	-
Untrammeled	0	2	0	3	0	5		
Undeveloped	1	4	1	4	1	6		
Natural	2	0	2	0	2	2		
Solitude or Primitive & Unconfined Rec.	1	4	1	4	2	6		
Other Features of Value	1	0	1	1	4	0		
Total Number of Effects	5	10	5	12	9	19		
<b>Wilderness Character Rating</b>	<b>-5</b>		<b>-7</b>		<b>-10</b>			

Other Criteria	<a href="#">Alt 1</a>		<a href="#">Alt 2</a>		<a href="#">Alt 3</a>		<a href="#">Alt 4</a>	
	+	-	+	-	+	-	+	-
Maintaining Traditional Skills	3	0	3	0	3	3		
Special Provisions	0	0	0	0	0	0		
Economics & Time Constraints	0	3	0	6	0	6		
Total Number of Effects	3	3	3	6	3	9		
<b>Other Criteria Rating</b>	<b>0</b>		<b>-3</b>		<b>-6</b>			

Safety	<a href="#">Alt 1</a>		<a href="#">Alt 2</a>		<a href="#">Alt 3</a>		<a href="#">Alt 4</a>	
	+	-	+	-	+	-	+	-
Safety of Visitors & Workers	2	1	2	1	1	1		
<b>Safety Rating</b>	<b>+1</b>		<b>+1</b>		<b>0</b>			

## MRDG STEP 2: Alternatives Not Analyzed

### Alternatives Not Analyzed

*What alternatives were considered by not analyzed? Why were they not analyzed?*

#### *1. No wild pig control, wild pig damage would be monitored*

In this alternative, Congaree National Park would not conduct any wild pig management activities. However, disturbance caused by wild pigs would be monitored. Monitoring would be conducted on foot. Monitoring would consist of a series of simple walking transects that could include segments of existing hiking trails, stream banks, slough margins, unimproved roads, old logging grades, and the interior of dominant forest types at the park (mixed bottomland hardwoods, cypress-tupelo swamps) and other targeted habitats or special resource sites as needed. These transects could also incorporate the existing large forest monitoring plots that were used for prior hog disturbance research in the park over several years preceding the onset of management, linking the monitoring protocol to prior baseline data. Permanent plots could be established for long term monitoring. Monitoring would also include use of Southeast Coast Inventory and Monitoring Network's Rapid Vegetation Assessment of wild pig disturbance.

This alternative was not analyzed because it does not meet the purpose and need for the project, as described in the environmental assessment.

#### *2. Public Hunting*

Public hunting on NPS property was eliminated from further consideration for several reasons. First and foremost, public hunting is prohibited by the establishing legislation and federal regulations (36 CFR 2.2). In addition, public hunting is unlikely to contribute substantially to pig management efforts within the park. Recreational hunting can achieve reduction of animals with relatively low reproductive potential. However, animals with very high reproductive potential, such as non-native wild pigs, are much more difficult to control and require a well-focused, comprehensive, and sustained effort by wildlife reduction professionals. The substantial effort which would be required to manage public hunting at the park would be cost prohibitive and public hunting would be incompatible with other visitor uses currently established at the park.

#### *3. Trap and relocate*

Live capture and relocation of wild pigs from CONG was eliminated from further analysis. Live capture and relocation of wild pigs is illegal within the state of South Carolina without a permit. Also, swine brucellosis and pseudorabies has been documented in wild pig populations at CONG and the surrounding area. Movement and relocation of live animals could result in infection of other feral populations and livestock. The USDA would strongly object and prohibit the relocation of non-native wild pigs.



#### *4. Park-wide or Large-area Fencing*

Fencing the perimeter of CONG or large areas within the park to conduct fenced-zone removal of wild pigs and to prevent or reduce movement of wild pigs into the park was eliminated from further analysis due to: wilderness impacts; impacts to visitor experience; potential alterations that fencing could have on the natural movement of water, sediments, flood debris, native biota, etc. within and through the park; the frequent and severe damage that flooding would cause to fences; and the prohibitive cost of installation and maintenance.

#### *5. Use of Snares*

Snares and trapping methods other than live capture traps were eliminated from further analysis due to the concern that native non-target wildlife could be negatively affected by these methods.

#### *6. Poisoning/Toxicants/Contraceptives/Sterilization*

Use of poisoning agents or toxicants was eliminated from further analysis due to the concern that native non-target wildlife could be negatively affected. Although research into species specific delivery methods is being conducted, no species specific delivery method has been found and no toxicants are currently registered for use with feral ungulates in the United States.

Contraceptives or sterilization could be a low-impact means to reduce non-native wild pig populations; however, no effective or feasible means of sterilization or contraception are currently available for non-native wild pigs. Therefore, this alternative was eliminated from further analysis. If sterilization and contraceptive technologies for controlling non-native wild pigs are developed in the future, this alternative should be re-evaluated.

#### *7. Biological Control*

The use of biological controls, such as the reintroduction of predators, was eliminated from further analysis due to lack of feasibility and low likelihood of substantial contribution to wild pig management efforts within the park.

## MRDG STEP 2: Decision

Refer to the [MRDG Instructions](#) before identifying the selected alternative and explaining the rationale for the selection.

Selected Alternative	
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- |                                     |  |
|-------------------------------------|--|
| <input type="checkbox"/>            | <a href="#">Alternative 1:</a> Continue Current Management - USDA Wildlife Wildlife Services conducts limited wild pig management activities and monitoring for disease. |
| <input type="checkbox"/>            | <a href="#">Alternative 2:</a> Establish an Integrated Wild Pig Management Program, with No Use of Motorized Tools or Transport.   |
| <input checked="" type="checkbox"/> | <a href="#">Alternative 3:</a> Establish an Integrated Wild Pig Management Program, with Limited Use of Motorized Tools and Transport.                                   |

### Explain Rationale for Selection:

Continued disturbance by wild pigs will have an increasingly negative impact on the park's wilderness character. Non-native wild pigs are a severe threat to the park's ecosystem and outstanding natural resources due to disturbance behaviors such as rooting, wallowing, and the development of established wildlife trails; competition with and predation on native species; potential spread of non-native invasive plants; potential impairment of water quality; and disease. At risk are bottomland hardwood ecosystem function, regeneration of bottomland hardwood canopy tree species, rare and imperiled species and ecological communities (including globally imperiled seepage forest communities and state listed plants), streams and stream banks, a variety of wetland and aquatic habitats, and numerous other natural resources. Non-native wild pigs are also a threat to upland longleaf pine habitats at the park, an imperiled ecological community and potential habitat for the federally endangered red-cockaded woodpecker and numerous rare and endangered plants.

The selected alternative is not the alternative that has the least negative impact on wilderness character. However, this alternative represents the minimum requirement necessary for the administration of the Congaree National Park wilderness as wilderness. Research indicates that about 70 percent of a wild pig population must be removed each year for a sustained period of time to substantially reduce a wild population. Difficulty accessing the wilderness is likely to reduce the park's ability to achieve this level of population control.

Management to reduce impacts of non-native species is consistent with the National Park Service (NPS) policy to protect natural ecosystems. The impacts of non-native wild pigs, the need for a control program, and management objectives to reduce the non-native wild pig population are described in the Congaree National Park's General Management Plan and

Resource Management Plan and in numerous references in the park's resource management files. The NPS Management Policies 2006 and NPS 77 provide direction for management of exotic species. The NPS Management Policies 2006 task NPS units with maintaining "as parts of the natural ecosystems of parks all plants and animals native to park ecosystems" and preventing non-native species from displacing native species if this displacement can be prevented by management. "High priority will be given to managing exotic species that have, or potentially could have, a substantial impact on park resources, and that can reasonably be expected to be successfully controlled...Where an exotic species cannot be successfully eliminated, managers will seek to contain the exotic species to prevent further spread or resource damage."

Describe Monitoring & Reporting Requirements:

### Approval of Prohibited Uses

Which of the prohibited uses found in Section 4(c) of the Wilderness Act are approved in the selected alternative and for what quantity?

- |                                     |                       |   |
|-------------------------------------|-----------------------|---|
| <input checked="" type="checkbox"/> | Mechanical Transport: | ORVs and potentially wagons may be used to transport traps into the Congaree Wilderness. This will improve the ability of NPS staff and representatives to access areas and intensively trap and remove entire sounders. Traps are heavy. Transporting by hand will pose a safety risk to workers. One to two ORVs and one to two wagons will be permitted to move traps. All wagons and ORVs must be equipped with light weight low pressure tires or other tires designed to reduce impact. Mechanized equipment and motorized vehicles may be restricted by park management in wet conditions. |
| <input checked="" type="checkbox"/> | Motorized Equipment:  | Battery operated drills may be used to put traps together in the field. One to two drills may be used.  |
| <input checked="" type="checkbox"/> | Motor Vehicles:       | ORVs and potentially wagons may be used to transport traps into the Congaree Wilderness. This will improve the ability of NPS staff and representatives to access areas and intensively trap and remove entire sounders. Traps are heavy. Transporting by hand will pose a safety risk to workers. One to two ORVs and one to two wagons will be permitted to move traps. All wagons and ORVs must be equipped with light weight low pressure tires or other tires designed to reduce impact. Mechanized equipment and motorized vehicles may be restricted by park management in wet conditions. |

<input type="checkbox"/>	Motorboats:	
<input type="checkbox"/>	Landing of Aircraft:	
<input checked="" type="checkbox"/>	Temporary Roads:	All ORVs will be operated on existing logging roads. Tree removal may be conducted to make roads passable but no other work will be done to maintain the existing roads. No new roads will be created. Mechanized equipment and motorized vehicles may be restricted by park management in wet conditions.
<input type="checkbox"/>	Structures:	
<input checked="" type="checkbox"/>	Installations:	Traps, fences and rebar used to mark monitoring plots are all installations. Traps will not be visible from existing trails, Cedar Creek or the Congaree River. Fences will only be used if needed to protect sensitive resources. They will be out of view of visitors to the greatest extent possible and materials will be selected that help camouflage them. Two to three pieces of rebar or camouflaged PVC pipe may be installed to delineate each monitoring plot. Rebar blends in with surroundings. If PVC is used, it will be camouflaged to blend in with the background.

Record and report any authorizations of Wilderness Act Section 4(c) prohibited uses according to agency policies or guidance.

Refer to agency policies for the following review and decision authorities:

Prepared	Name	Position	
	Signature	Date	

Recommended	Name	Position	
	Signature	Date	

Recommend	Name	Position	
	Signature	Date	

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Approved	Name	Position	
	Signature		Date

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