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Trailhead Construction Project for the Woods Ferry Trail

USDA Forest Service

Enoree Ranger District
Chester County, South Carolina
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FOREST SERVICE
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DEPARTMENT OF AGRICULTURE

Contents

1.0 Purpose and Need For Action

1.1 Introduction

The Sumter National Forest is proposing activities to construct a trailhead parking lot and connector trail, which would:

- Accommodate large truck and trailers that equestrian rider's use, and
- Tie the new trailhead to the existing trail system.

1.2 Purpose and Need

The purpose of this project is to construct a trailhead parking area for the Woods Ferry Horse Trail. There is a need for a sustainable, well-designed, parking area that would accommodate the large truck and trailers that equestrian rider's use. Trail use has continued to increase over the last several years and the existing trailhead parking area, which can accommodate approximately five equestrian truck and trailer units, has become too small and there is no room for expansion on the current site. The overall trail experience would be enhanced by providing easy access and ample parking for recreational users.

A connector trail would also be needed to tie the new trailhead to the existing trail system.

This action provides an opportunity to work toward the forest management goals as described in the 2004 *Revised Sumter Land and Resource Management Plan Sumter National Forest* (Forest Plan). Forest Plan goals relevant to the trail and trailhead are summarized below:

Goal 22 – page 2-22

"Provide a spectrum of high quality nature-based recreational settings and opportunities that reflect the unique or exceptional resources of the Sumter and the interests of the recreating public on an environmentally sound and financially sustainable basis. Adapt management of recreation facilities and opportunities as needed to shift limited resources to those opportunities".

Goal 23 – page 2-22

"Where financially and environmentally feasible, enhance the following opportunities:

- Hiking, biking, canoe, kayak, raft and equestrian trail systems, especially in non-motorized settings with high quality landscapes.
- The high priority improvements, expansions, or additions of facilities to provide developed recreational opportunities."

The proposed project is located in management prescription 7.E.2. - Dispersed Recreation Area with Vegetation Management. Desired recreation experiences include such activities as horseback riding, hiking, hunting, fishing, mountain bike riding, OHV riding and nature study. The activities proposed are consistent with the management prescription of maintaining and improving recreational facilities to meet local demand and to reduce impacts to other resources. Recreation opportunities are in roaded and rural settings.

The emphasis of this district is a premier network of trails for riding OHVs, horses, mountain bikes, and hiking, as well as abundant opportunities for hunting and wildlife viewing.

1.3 Scoping

On December 4, 2015 a scoping letter was sent to interested agencies, groups and individuals asking for input to the proposed action. All public comments received during previous scoping efforts were considered by an interdisciplinary team (IDT). Four comment letters can be found in the project file. Comments received did not generate issues related to the proposal.

1.4 Decision to be Made

The environmental assessment (EA) discloses environmental effects of the no-action alternative and a proposed action. The Responsible Official, the Enoree Ranger District Ranger, will make a decision based on a review of the EA. The District Ranger must decide:

1. Whether to proceed with the action alternative or the "No Action" alternative.
2. Whether the decision that is selected would have a significant impact on the quality of the human environment or not. If a determination is made that the impact is not significant, then a "finding of no Significant Impact: (FONSI) would be prepared. Significant impacts on the quality of the human environment would require the preparation of an Environmental Impact Statement [NEPA, 1501.4 (c) and (e)]

The decision of the District Rangers would be documented in separate Decision Notices (FSH, 1909.15, 43.2)

1.5 Key Issues

No key issues were identified.

2.0 Alternatives

2.1 Alternatives Considered

2.1.1 Alternative 1: No Action

Under this alternative, no trailhead parking lot or connector trail would be constructed. There is an existing parking lot with a connector trail to the main horse trail. Parking would continue to allow only five trucks with horse trailers.

2.1.2 Alternative 2: Proposed Action

The proposed action would disturb approximately five acres. This would include constructing a new trailhead parking lot[1] and a connector trail, tying the trailhead to the existing trail system. (See maps).

The proposed action would clear forestland for gravel parking which would have approximately 20 pull-through parking spots and the following items:

- Site entrance sign on FS Road 305, Bucks Grave Road.
- Information Board
- Native pollinator seed mix would be planted in all disturbed areas adjacent to the parking area.
- Installation of donation tube, which would become a fee site if and when approved by regional fee board.
- Decommission existing trailhead location and associated trail 340A that leads to it on the north side of Turkey Creek. Trail section of 340A south of Turkey Creek would be kept to provide water access for equestrian trail users.
- The proposed action also includes the construction of a connector trail, approximately half a mile long and following Forest Service standards for a Trail Class III, equestrian, non-wilderness, trail.

The trailhead parking area would be constructed utilizing mechanized equipment to remove tree stumps and root balls and to level and grade the parking area. The parking area would be graveled and pull-through parking spaces would be designated. The trail would be constructed using mechanized equipment. All directional signs, kiosks and trail would be constructed and installed according to US Forest Service standards.

This proposal also includes the regular maintenance of the trail, parking area, signs, etc. Maintenance activities may include but would not be limited to; trail tread grading, trail corridor clearing and drainage reconstruction work when needed, occasional grading of parking lot and weed removal. Herbicide would be used to help control all vegetation within the graveled

parking area and eliminate the need to mow the area. Mowing a graveled parking area presents a liability issue and safety hazard with rocks ricocheting off parked vehicles and horses.

Glyphosate (Accord Concentrate or equivalent) herbicide will be applied by either backpack sprayers or with a tractor sprayer. The parking area would be sprayed 2 to 3 times a year. If application is by backpack sprayer, glyphosate herbicide would be mixed at a 2% rate with water and a 0.5% surfactant, with an estimated 10 gallons per acre of mix being applied. If application is by tractor sprayer, more water will be used, but the same per acre rate of 26 ounces herbicide would be applied.

Table 1. Summary of Proposed Project Compartment and Stands, Trailhead Construction Project for the Woods Ferry Horse Trail, Enoree Ranger District, Sumter National Forest

Comp	Stand	Acres	Proposed Action
7	12	1.5	Construct connector trail, tying the trailhead to the existing trail system.
7	13	3.5	Construct trailhead parking area for the Woods Ferry Horse Trail
Total		**5**	

2.2 Design Criteria

Forest-wide standards found in the Forest Plan would be followed during implementation of this project. In addition, *South Carolina Best Management Practices for Forestry* (2003) and *National Best Management Practices for Water Quality Management on National Forest System Lands* (2012), collectively referred to in this document as BMPs, and *Soil and Water Conservation Practices Guide for R8* (2002) would also be followed.

The following site-specific mitigation measures apply to alternative 2.

1. Directionally fall trees away from Georgia aster sites that would be designated by the biological staff.
2. Keep logging equipment and heavy machinery outside of Georgia aster sites designated by the biological staff.
3. Herbicide application methods within 40 feet from threatened, endangered, and sensitive (TES) species locations would use those methods which minimize or eliminate drift, including cut stump application, or direct foliar application using a wicking technique.
4. Erosion control measures, such as a silt fence, would be utilized as needed until the area is stabilized.
5. The requirement that mix water be carried to the site by the contractor or workers.
6. The requirement that trucks containing herbicide or tank mixed herbicide will not be allowed to park within 200 feet of a stream or pond.

2.3 Comparison of Alternatives

Measure	Alternative 1	Alternative 2
Parking Area	No	Accessible parking area for approximately 20 vehicles with horse trailers
Connector Trail	No	Connects the parking area to

Measure	Alternative 1	Alternative 2
		the Woods Ferry Horse Trail
Signage	No	Information Board for users
Maintenance	Continued maintenance at existing site	Maintenance work to include the use of herbicide (glyphosate) to control non-native invasive species at trailhead
Trailhead decommissioning	No	The old trailhead site would be decommissioned once the new site is completed
Water source still provided?	Yes	Yes

3.0 Environmental Consequences

This chapter describes the affected environment and discloses the environmental effects of the alternatives on the physical, biological and social environment. This chapter provides an analytical basis for the comparison of alternatives in the previous chapter.

3.1 Physical Environment

The physical environment is divided into soils, water, air quality, and climate change and carbon storage. All disturbances to the sites would comply with Forest Wide Standard and Guidelines for Soil and Water in the *Sumter National Forest Revised Land and Resource Management Plan*, which include State Best Management Practices.

3.1.1 Soils

Affected Environment

The project area is located on sandy clay loam soils. This site is currently occupied by a loblolly pine forest. This soil type is not sensitive to soil erosion and compaction.

Direct and Indirect Effects of Alternative 1: No Action

Under this alternative, no parking area or connector trail would be constructed. There is existing parking to access the Woods Ferry Horse Trail on FS Road 301C. There would be no disturbances to the soils under the no action alternative.

Cumulative Effects of Alternative 1: No Action

The number of acres affected by this alternative in relation to the Piedmont geographic area is very small. Within the immediate vicinity of this site, most of the acres are in a forested condition.

Future projects include Cox/Hughes timber sale, Georgia aster shortleaf timber sale and Chester County Stream and Riparian Restoration/Enhancement Project by Duke Energy which would work to help reduce additional soil erosion and keep the stream bank from continuing to erode and fail.

This alternative does not have any known cumulative effects.

Direct and Indirect Effects of Alternative 2: Proposed Action

This alternative introduces soil disturbances to the five acre site with the construction of:

- Parking lot for 20 pull-through parking spots for pickup trucks with horse trailers (gravel)
- Connector trail to attach the parking lot to the Woods Ferry Horse Trail

The potential for soil compaction occurs from use of heavy equipment for the parking area. The potential for soil erosion increases slightly with the removal of existing forest cover, however, the site has a slope of 3% or less, is comprised of sandy clay loam soils and the parking area would be graded to minimize runoff as well as covered with gravel, which would allow water to percolate through soils resulting in little or no additional erosion.

The parking area on FS Road 301C along with the associated trail 340A would become decommissioned with the construction of the parking area and connector trail. The decommissioned areas would be revegetated with desired native species mix, therefore decreasing any potential for soil erosion.

Construction activities can impact soils through disturbance and compaction from heavy equipment. Tree removal and grading activities have the potential to increase soil erosion through vegetation clearing and soil disturbance. Soil erosion is typically short-term, lasting only until under story vegetation has become reestablished and gravel is placed in parking area.

Herbicide spraying of the parking lot would have minimal effects on the soil resources due, in part, to the application methods and the gravel on the parking area. Minimal amounts of chemical would come in contact with the soil as most are targeted for application on the leaf surface and gravel parking lot. These application methods do not require disturbance to the soil litter or duff layer and therefore, erosion is not a concern.

Many field studies involving microbial activity in soil after glyphosate exposures note an increase in soil micro-organisms or microbial activity, while other studies have noted a transient decrease in soil fungi, bacteria and microbial activity (SERA, 2003b). There is a substantial body of information indicating that glyphosate is likely to enhance or have no effect on soil microorganisms (SERA, 2003b).

Cumulative Effects of Alternative 2: Proposed Action

The number of acres affected by this alternative in relation to the Piedmont geographic area is very small. Within the immediate vicinity of this site, most of the acres are in a forested condition.

Future projects include Cox/Hughes timber sale, Georgia aster shortleaf timber sale and Chester County Stream and Riparian Restoration/Enhancement Project by Duke Energy which would work to help reduce additional soil erosion and keep the stream bank from continuing to erode and fail.

This project would include using Best Management Practices to reduce erosion potential. The addition of this project when combined with other past and present land disturbances does not result in significant potential for soil compaction or erosion.

3.1.2 Water

Affected Environment

Turkey Creek and an Unnamed Tributary are estuarine systems connecting to the Broad River 1.5 miles and 0.4 miles respectively north of the site. This project does not disturb any wetlands or streams in the surrounding area.

Direct and Indirect Effects of Alternative 1: No Action

Under this alternative, no parking area or connecting trail would be constructed. There is an existing parking area and trail to Woods Ferry Horse Trail on FS Road 301C. There would be no additional impacts to water quality.

Cumulative Effects of Alternative 1: No Action

Future projects include Cox/Hughes timber sale, Georgia aster shortleaf timber sale and Chester County Stream and Riparian Restoration/Enhancement Project by Duke Energy which would work to help reduce additional soil erosion and keep the stream bank from continuing to erode and fail.

This alternative does not have any known cumulative effects

Direct and Indirect Effects of Alternative 2: Proposed Action

There would be no direct effects to water as no wetlands or streams would be disturbed during implementation of the project. However, indirect effects are possible, clearing and grading increases the potential for soil movement which in turn increases the risk of stream sedimentation. There is a small risk of sediments from heavy rains for a short time period after construction until plants can be established and gravel placed in parking area. Sedimentation is expected to be minimal since slopes are generally less than five percent and the intent is to have these sites covered with native vegetation and gravel.

Impacts to water resources from herbicide use would be reduced by following Forest Plan standards. Glyphosate would be sprayed on the parking area which is 0.4 miles from the closest stream. Glyphosate is not soil active which makes the risk of herbicide entering the stream almost non-existent

Cumulative Effects of Alternative 2: Proposed Action

The number of acres affected by this alternative in relation to the Piedmont geographic area is very small.

Future projects include Cox/Hughes timber sale, Georgia aster shortleaf timber sale and Chester County Stream and Riparian Restoration/Enhancement Project by Duke Energy which would work to help reduce additional soil erosion and keep the stream bank from continuing to erode and fail.

3.1.3 Air Quality

Affected Environment

Under the Federal Clean Air Act (CAA), as amended in 1977 and 1990 (40 CFR 50), the USEPA has established air quality standards in regard to the types of air pollutants emitted by internal combustion engines, such as those in aircraft, vehicles, and other sources. These National Ambient Air Quality Standards (NAAQS) are established for six contaminants, referred to as criteria pollutants, and apply to the ambient air (the air that the general public is exposed to every day). The criteria pollutants of most concern for the Sumter National Forest are particulate matter and ozone. Data is collected from a series of monitoring stations around the forest and is reported on an annual basis. Information for the 2014 fiscal year is contained in the 2014 Monitoring and Evaluation Annual Report, Revised Land and Resource Management Plan, Sumter National Forest- http://www.fs.usda.gov/detail/scnfs/landmanagement/planning/?cid=STELPRDB5261459 The report indicates that the most recent three-year averages are below the NAAQS (Data Source: http:www.epa.gov/airdata/ad_rep_mon.html)

Under the 1977 CAA Amendments, areas designated as Class 1 are provided the highest degree of regulatory protection from air pollution impacts. Areas Classified as Class II are protected under the CAA, but are identified for somewhat less stringent protection from air pollution damage relative to Class I areas. Ellicott Rock is one area of the Sumter NF listed as a Class I site. This area is not within close proximity to the project area, nor would it be affected by the proposed action. The remainder of the Sumter NF is considered Class II under the 1977 CAA Amendments. The air shed of the project currently meets Class II standards.

Direct, Indirect and Cumulative Effects of Alternative 1: No Action

No adverse effects to air quality are expected from the No Action alternative.

Direct, Indirect Effects of Alternative 2: Proposed Action

Minor impacts due to vehicles moving on gravel surfaced roadways and movement of soils during construction would result in potential increased levels of dust in the air but these impacts would be considered minimal and of short duration. Vehicle emissions would occur during project activities but would be of short duration and would not be measureable at the air shed scale. No changes to air quality are expected to result from implementation of the proposed action. The proposed action would be in compliance with the Clean Air Act, as amended.

Cumulative Effects for Alternatives 1 and 2

Effects on air quality mainly come from landscape level prescribed burning both on federal and private lands. Other activities include dust and vehicle emissions associated with ongoing activities on federal and private lands such as but not limited to farming, ranching, timber

harvesting, construction, and vehicles driving on roads. The area is predominantly a rural environment dominated by farmland and forests with low population densities. When emissions from the proposed action are considered with other on-going work, changes would not be measureable and no exceedance of air quality standards would occur. Air quality monitoring would continue to be measured and reported on an annual basis.

3.3.4 Climate Change and Carbon Storage

Affected Environment

On January 16,2009 the Chief of the US Forest Service directed the national forests to consider climate change during project planning. National forests were directed to consider the impacts that climate change would have on meeting goals and objectives stated in Forest Plans and the effects that the project contributes to climate change. The US Global Changes Research Program published a 2009 report (USGCRP 2009) on climate changes on different regions. Predictions for the Southeast include: air temperature increases; sea level rise; changes in the timing, location and quantity of precipitation; and increased frequency of extreme weather events such as hurricanes, heat waves, droughts and floods. These predicted changes would affect renewable resources, aquatic and terrestrial ecosystems and agriculture, with implications for human health. Human greenhouse gas (GHG) emissions, primarily carbon dioxide emissions (CO2), are the main source of accelerated climate change on a global scale.

The Template for Assessing Climate Change Impacts and Management Options (TACCIMO) was used to assess differences among three general circulation models for the Sumter National Forest. TACCIMO (USFS 2014) was used to create a report that summarizes the resulting climate change impacts and includes a literature report. Climate change, especially climate change variability (droughts and floods), may alter hydrologic characteristics of watersheds with implications for wildlife, forest productivity and human use. This climate change variability may result in long-term and seasonal changes in temperature that the parking area and connector trail project could influence ecosystem health and function. These impacts result from both long-term warming and from shorter term fluctuations in seasonal temperature that may interrupt or alter temperature dependent ecosystem processes.

The Trailhead Construction Project for the Woods Ferry Trail is a forested habitat and thus provide a source for uptake and storage of carbon. At the watershed scale and larger global scale it is not measureable. The affected environment for climate change is two-fold. First, climate change may affect the natural resources on the Enoree RD and the objectives for the project area. Secondly, vegetation management activities may affect carbon storage ability. In this case the affected environment is global. Climate change scenarios predict that increases in temperatures and drought occurrence in the Southeast could result in increased losses of carbon, possibly exacerbated by increased wildfire disturbance. The consequences of drought depend on annual and seasonal climate changes and whether the current drought adaptations of trees offer resistance and resilience to changing conditions. The seasonal severity of fire hazard

is projected to increase about 10 percent over the next century over much of the US with a 30 percent increase in fire hazard for the southeast predicted.

Direct, Indirect, and Cumulative Effects of Alternative 1: No Action

Alternative 1 would result in no short term change to the current trend for carbon storage or release in the project area. If climate change occurs, studies on longleaf pine (Pederson, Varner, and Palik 2007) indicate that drought exacerbates mortality because increased evaporative demand reduces vigor, which predisposes trees to insect and disease. Peaks in wildlife fire activity would also add to this mortality. Extensive forests of loblolly pine now exist in areas once dominated by mixtures of hardwoods, shortleaf pine, and less abundance of loblolly pine forests. Declines in agriculture as a result of loss of soil productivity, led to the establishment of more loblolly pine across the piedmont. Past and present projects including periodic prescribed burning, woodland creation and thinning (pulpwood, and intermediate) have reduced hazardous fuels, improved growing conditions for trees, and increased diversity of habitat conditions including development of understory grasses, forbs and shrubs on portions of national forest system lands. The Canadian and Hadley climate scenarios are referenced in Climate Change Impacts on the United States, The Potential Consequences of Climate Variability and Change, by the National Assessment Synthesis Team, US Global Change Research Program, 2000. The parking area and connector trail is currently a loblolly pine stand with a few mixed hardwoods. Potential gains and losses of carbon would be subject to changes in land-use, such as the conversion of forests to agricultural lands. Increase urbanization is occurring on private lands around the forest. However, national forest system lands provide for the long-term management of forested areas to offset these other changes in the piedmont.

Direct, Indirect and Cumulative Effects of Alternative 2: Proposed Action

Trees being removed from the 3.5 acre parking area would temporarily decrease the amount of carbon being sequestered. Native grasses and vegetation planted would build up the amount of carbon sequestered and also increase the amount of soil as the native grasses break down during dormant season in the winter. Finally, at a global or national scale, the short-term reduction in carbon stocks and sequestration rates of the proposed project are imperceptibly small, as are the potential long-term benefits. The action alternative would initially release carbon, leave fewer trees to store carbon, but would also create native grasses with a greater capacity for carbon storage and which may be more resistant to long-term climate change.

3.2 Biological Environment

The Biological environment is divided into six sections: Rare Communities and Non-Native Invasive Species (NNIS), Aquatic Communities, Management Indicator Species, Vegetation, Proposed Endangered, Threatened and Sensitive (PETS) Species, and Migratory Birds. Effects of the proposed action to PETS, are described in detail in a biological evaluation included in the appendix.

3.2.1 Non-Native Invasive Plants (NNIS) and Rare Communities

Affected Environment

Rare communities are plant associations or assemblages of plants and animals that occupy a small portion of the landscape but contribute significantly to plant and animal diversity. Wildlife and plants found in these areas are a combination of species commonly found across the forest, and species that are almost always found in or near these more specialized habitats. Rare communities can be forested or non-forested and address a wide-range of habitat conditions, from basic mesic coves to natural woodlands and rock outcrops. Some may be found as inclusions within larger stands and others may be larger. In coordination with NatureServe and other partners, a list of rare communities which are imperiled globally, or represent habitat for state or globally-impaired species, was developed for the Revised Land and Resource Management Plan Sumter National forest (Forest Plan). This list continues to be updated information on rare species and their habitats are compiled throughout the range of the species. Rare communities of significance on the Enoree Ranger District include the following:

Table 3.2.1-1. Rare Plant Communities with Potential to occur on the Enoree Ranger District, Sumter National Forest[2].

Rare Plant Community Group	Rare Plant Community
Bogs, Seeps, and Ponds	Piedmont Gabbro Upland Depression Forest Atlantic Upland Depression Willow Oak Swamp Forest Piedmont Low Elevation Headwater Seepage Swamp
Riverine Vegetation	Floodplain Canebrake Southern Piedmont Oak Bottomland Forest American Beech-Southern Sugar Maple/Common Pawpaw Forest Piedmont Triassic Basin Oak Bottomland Forest
Basic Mesic Forest	Basic Piedmont Mesic Mixed Hardwood Forest
Cliffs and Bluffs	Granite Dome or Dome Woodland
Rock Outcrops	Granitic Flatrock
Glades, Barrens, and Associated Woodlands	Piedmont Blackjack Prairie Piedmont Diabase Barren Piedmont Acid Hardpan Woodland Piedmont Montmorillonite Woodland Xeric Hardpan Forest Mafic Xeric or Dry-Mesic Piedmont Oak Forest Mafic Shortleaf Pine-Oak Woodland Rich Granitic Lower Piedmont Deciduous Woodland Southern Inner Piedmont Mafic Barren
Abandoned Mines	

[2] Based on "Carolinas and Georgia Piedmont Vegetation" (Natureserve 2001).

No known rare communities are present in the Trailhead Construction Project for the Woods Ferry Horse Trail.

NNIS

Non-native invasive plant infestations are increasing on the Enoree Ranger District. On the Sumter National forest, NNIS threaten biological resources, forest and watershed health, rare communities, and habitat for rare, threatened, and endangered species. Sites most heavily infested by NNIS plants are found along forest edges and openings, old home sites, open and closed roads, wildlife openings and floodplains. Oswalt (2004) found that 40 percent of forest inventory and analysis (FIA) plots sampled in South Carolina contained at least one NNIS plant species, and that sites of high infestation were most often correlated with high moisture and/or high light. Table 3.2.1-2 lists non-native invasive plant species within or adjacent to the stands proposed for the horse parking area and connector trail.

Table 3.2.1-2

Common Name	Latin Name
Autumn olive	Eleagnus umbellate
Chinaberry	Melia Azedarach
Japanese honeysuckle	Lonicera japonica
Chinese Lespedeza	Lespedeza cuneata

Direct and Indirect Effects of Alternative 1: No Action

Under the no action alternative, no additional ground-disturbing activities would take place, or activities which would increase availability of light for rapidly growing opportunistic non-native invasive plant species. Alternative 1 is expected to have a no direct or indirect effects on the spread of non-native invasive plants, and no impacts to rare communities since no additional activities will occur.

No cumulative effects of Alternative 1 on the introduction and spread of non-native invasive plants are anticipated, and on rare plant communities, as no direct or indirect effects are anticipated. Ongoing projects associated with other decisions, include timber harvesting, prescribed burning for hazard fuel reduction and wildlife habitat improvement, fire line reconstruction, road, trail, utility line and wildlife opening maintenance and herbicide use would continue, but there would be no additional cumulative effects associated with the no action alternative.

Direct, Indirect and Cumulative Effects of Alternative 2: Proposed Action

Non-native invasive plants already present in the stands would be kept in check by existing decisions that are in place to treat NNIS or to restore native vegetation in areas already treated. The introduction and spread of non-native invasive plants within the project area would be

monitored and the need for treatments evaluated periodically. A map of invasive plants in the project area and equipment would be inspected prior to entering or leaving an infested area.

Constructing a parking area and connector trail would improve conditions for the spread of non-native invasive plant species, by increasing light to the forest floor, creating bare soil providing a microsite for establishment and by introducing equipment and horses from other areas on site, which can bring in invasive plant species propagules, increasing the chances of establishment (Miller et. AL., 2010). Project design criteria, such as invasive plant treatments would minimize or eliminate the direct and indirect effects of activities proposed in Alternative 2, on the introduction and spread of non-native invasive plant species within these stands, particularly in areas of more continuous National Forest management. An existing forest-wide decision is in place to treat NNIS. NNIS for this project would be treated to ensure they do not spread from project activities or become a threat to the Georgia aster sites adjacent to the proposed parking area.

Rare communities would not be impacted because they are not found in the project areas. Only non-invasive annual or native seeds or plugs would be planted in areas associated with this proposal and no invasive plants would be intentionally introduced.

Indirectly, project activities would provide microsites for non-native invasive plants once soil has been disturbed. If non-native invasive plants are treated, these sites are likely to become dominated by native vegetation. Given that the design criteria is followed, indirect effects on the project would be minimized as treatments would allow native species to occupy the site particularly the decommissioned horse trail.

Non-native invasive plants continue to increase throughout the state and few incentives exist for private land owners to control these species once established. Many invasive plants colonize roadside habitats, and will continue to spread if left uncontrolled. Statewide, opportunities exist for private and state landowners to cost share with federal agencies to control invasive plants, and though Wyden amendment authorities and forests can treat adjacent lands when invasive plant populations pose a threat. The cumulative effects of project activities may impact and spread non-native invasive plants, when considering the incidence of non-native invasive plants on private lands, and the broken ownership patterns, impacts are likely to be somewhat higher. Rare communities would continue to be uncommon across the landscape of the South Carolina piedmont. No cumulative effects to rare communities are anticipated as a result of this proposal, as no rare communities within the project area were found. The project areas would be monitored for the introduction and spread of NNIS. NNIS treatments are possible on adjacent private lands if needed for control of NNIS onto national forest system lands.

3.2.2 Aquatic Communities

Affected Environment

Direct and Indirect Effects of Alternative 1: No Action

Turkey Creek and an Unnamed Tributary are estuarine systems connecting to the Broad River 1.5 miles and 0.4 miles respectively north of the site. This project does not disturb any wetlands or streams in the surrounding areas.

Cumulative Effects of Alternative 1: No Action

For this alternative there would be no direct or indirect effects to aquatic communities as the proposed parking area and connecting trail would not be constructed.

Direct and Indirect Effects of Alternative 2: Proposed Action

There would be no direct effects to the aquatic communities as no wetlands or streams would be disturbed during implementation of the project. However, indirect effects are possible to aquatic communities from sedimentation during and immediately following construction. These indirect effects are expected to be minimal as the aspect of the site is generally flat and it is intended to quickly cover the disturbed area with native vegetation or gravel.

Cumulative Effects of Alternative 2: Proposed Action

Increased use of the site overtime may have cumulative effects to the aquatic communities within and adjacent to Turkey Creek and the Unnamed Tributary. Generally, more people equate to more impacts to the environment. However, these impacts are expected to be minimal as the amount of use at any time would be restricted by the small area available to the public for access (parking).

3.2.3 Management Indicator Species

A wide variety of wildlife species occur throughout the Enoree Ranger District of the Sumter National Forest. Wildlife habitat within and adjacent to the project area consists of loblolly pine stands of varying ages, hardwood inclusions, some open habitats, and wildlife openings.

Management Indicator Species (MIS) are representative of the diversity of species and associated habitats. MIS can be used as a tool for identifying specialized habitats and creating habitat objectives and standards and guidelines. The MIS concept is to identify a few species that are representative of many other species, and to evaluate management direction by the effects of management on MIS habitats. Both population and habitat data are used to monitor MIS on National Forests. The 2004 Sumter NF Revised Land and Resource Management Plan (Forest Plan)

Management Indicator Species (MIS): A species whose presence in a certain location or situation at a given population indicates a particular environmental condition. Their population changes are believed to indicate effects of management activities on a number of other species or water quality.

lists 13 species as MIS; 12 are avian species and one is a mammal.

Trends in MIS populations are normally assessed relative to trends in their respective habitat. This section focuses on terrestrial MIS. Aquatic species are addressed in Section 3.3.2. Sumter NF MIS are listed in Table 3.2.3-1, along with general comments regarding their habitats. General discussions of these species and their relationship to monitoring can be found in the Forest Plan.

Table 3.2.3-1. Management Indicator Species for the Sumter National Forest

Species	General Comments
Hooded Warbler *Wilsonia citrina*	Uses mesic deciduous forest with a shrubby understory; frequents dense thickets; fairly common in upland and bottomland woodlands
Scarlet Tanager *Piranga olivacea*	Uses mature deciduous forest and some mixed conifer-hardwood forests; requires large areas of forest for breeding
Pine Warbler *Dendroica pinus*	Uses middle-aged to mature open pine forest; seldom in hardwoods; overwinters throughout much of its breeding range
Acadian Flycatcher *Empidonax virescens*	Uses mesic sites with a diverse canopy structure; found in heavily wooded deciduous bottomlands, swamps, riparian thickets, and in the wooded ravines of drier uplands
Brown-headed Nuthatch *Sitta pusilla*	Uses open, mid-late successional pine (age classes over 20 years); not common in dense stands of pines; would overwinter
Prairie Warbler *Dendroica discolor*	Frequents brushy old fields, open pine stands, and other early successional habitats
Field Sparrow *Spizella pusilla*	Uses woodland, grassland, and savanna habitats; fairly common in old fields, open brushy woodlands, and forest edge habitats
American Woodcock *Scolopax minor*	Often found in shrub- and seedling-dominated regeneration areas in association with riparian areas; requires moist soil conditions for feeding
Pileated Woodpecker *Dryocopus pileatus*	Uses mature and extensive forests, primarily in deciduous forests; occurs in both deep woods and swamps as well as in rather open and upland forests; excavates nesting and roosting cavities
Northern Bobwhite *Colinus virginianus*	Uses fields, grasslands, brushy habitats, and open woodlands; significantly declining over most of its range due to habitat loss and changes in farming practices
Swainson's Warbler *Limnothlypis swainsonii*	Uses canebrakes and other early-successional riparian habitats
Black Bear *Ursus americanus*	Trends in population indices and harvest levels would be used to help evaluate the results of management activities on this high profile species
Eastern Wild Turkey *Meleagris gallopavo*	This species is most common in extensive bottomland forests where the understory is moderate; also occurs in extensive upland hardwood or mixed forests, less so in pine forests

Based on habitat within the Trailhead Construction Project for the Woods Ferry Trail and the biological requirements of the species, two MIS are considered and analyzed in this EA. The remaining eleven species are not discussed in detail. Listed in Table 3.2.3-2 are the species that

are excluded from analysis and the reason why they are not addressed for this project.

Species	Reason for Exclusion from Analysis
Hooded Warbler *Wilsonia citrina*	Uses mesic deciduous forest with a shrubby understory; frequents dense thickets; fairly common in upland and bottomland woodlands. Proposed management activities would not occur in this habitat so this species was excluded from analysis.
Scarlet Tanager *Piranga olivacea*	Uses mature deciduous forest and some mixed conifer-hardwood forests; requires large areas of forest for breeding. Proposed management activities would not occur in this habitat so this species was excluded from analysis.
Acadian Flycatcher *Empidonax virescens*	Uses mesic sites with a diverse canopy structure; found in heavily wooded deciduous bottomlands, swamps, riparian thickets, and in the wooded ravines of drier uplands. Proposed management activities would not occur in this habitat so this species was excluded from analysis.
Prairie Warbler *Dendroica discolor*	Frequents brushy old fields, open pine stands, and other early successional habitats. Proposed management activities would not occur in this habitat so this species was excluded from analysis.
Field Sparrow Spizella pusilla	Uses woodland, grassland, and savanna habitats; fairly common in old fields, open brushy woodlands, and forest edge habitats. Proposed management activities would not occur in this habitat so this species was excluded from analysis.
American Woodcock Scolopax minor	Often found in shrub- and seedling-dominated regeneration areas in association with riparian areas; requires moist soil conditions for feeding. Proposed management activities would not occur in this habitat so this species was excluded from analysis.
Pileated Woodpecker Dryocopus pileatus	Uses mature and extensive forests, primarily in deciduous forests; occurs in both deep woods and swamps as well as in rather open and upland forests; excavates nesting and roosting cavities. Proposed management activities would not occur in this habitat so this species was excluded from analysis.
Northern Bobwhite Colinus virginianus	Uses fields, grasslands, brushy habitats, and open woodlands; significantly declining over most of its range due to habitat loss and changes in farming practices. Proposed management activities would not occur in this habitat so this species was excluded from analysis.
Swainson's Warbler Limnothlypis swainsonii	Uses canebrakes and other early-successional riparian habitats. Proposed management activities would not occur in this habitat so this species was excluded from analysis.
Black Bear Ursus americanus	This species does not occur on the Enoree Ranger District so it was exluded from analysis.
Eastern Wild Turkey Meleagris gallopavo	This species is most common in extensive bottomland forests where the understory is moderate; also occurs in extensive upland hardwood or mixed forests, less so in pine forests. Proposed management activities would not occur in this habitat so this species was excluded from analysis.

Vegetation manipulation changes the diversity and abundance of wildlife species in a given area. Planning regulations define diversity as "the distribution and abundance of different plant and animal communities and species within [an] area…" (36 CFR 219.3(g)). In general, forested areas that are in various stages of development and include periodic openings support a wide diversity of species and habitats. Management activities that result in different types of habitats, including prescribed burning and thinning, tend to increase wildlife diversity. Impacts beneficial to wildlife are typically greater with a combination of management activities versus any of the treatments separately. Table 3.2.3-3 lists the MIS that occur or have habitat within the proposed project area. These are the species that are analyzed in this EA. Following the table are effects to these MIS by alternative.

Table 3.2.3-3. Habitat Associations of Management Indicator Species that occur or have habitat within the project area.

Habitat Association	Species
Middle-aged to mature open pine forest	Pine warbler
Uses open, mid-late successional pine (age classes over 20 years); not common in dense stands of pines; would overwinter.	Brown-headed Nuthatch *Sitta pusilla*

Direct and Indirect Effects of Alternative 1: No Action

Under this alternative, the Trailhead Construction Project for the Woods Ferry Horse Trail would not occur.

There would be no direct effects to any of the MIS under this alternative since no activities would take place.

There would be no indirect effects to any of the MIS under this alternative since no activities would take place.

There are no cumulative effects to MIS species or habitat from this alternative.

Direct and Indirect Effects of Alternative 2: Proposed Action

MIS species could be directly affected by the proposed action from April to early July with a peak from mid-May to mid-June. Because of the highly mobile nature of avian species, any disturbance associated with this project could result in the temporary displacement of individuals to undisturbed area. It is possible that if project activities occur during the breeding season, nests and nestlings could be lost.

Pine warbler and Brown-headed nuthatch habitat would be lost in the parking area when the trees are removed from the three and a half acre stand. These species are highly mobile and would relocate to undisturbed areas if they were displaced by proposed activities.

Herbicide application as proposed in this alternative is not expected to have a direct effect on MIS. While the use of some herbicides can have direct effects on wildlife by causing injury or morality from direct spray, drift, or ingestion of contaminated food or water, those herbicides proposed in this alternative, namely glyphosate, are practically non-toxic to birds. Glyphosate poses a very low toxicity risk to wildlife from both realistic and extreme exposures. Birds, larger mammals, reptiles, and amphibians appear to be at very low to negligible risk from glyphosate (USDA 1989). Acute oral LD50 of glyphosate for northern bobwhite is greater than 2,000 mg/kg. Avian reproduction studies yielded no reproductive effects at dietary exposure levels of up to 1,000 ppm (USDA 1989).

Cumulative Effects of Alternative 2: Proposed Action

Management activities would continue on the Enoree Ranger District. These activities include prescribed burning, timber thinning and harvesting, recreational activities including maintenance of trails and trail heads, road maintenance, wildlife opening maintenance, disking, planting, and establishment of native forbs and grasses.

The proposed action would be treating 5 acres (.00003% of the forest) which would not result in any detectable effects on pine warbler and brown-headed nuthatch populations.

3.2.4 Vegetation

Affected Environment

The site being considered is presently a five acre immature loblolly pine stand approximately 50 years of age with a 70 site index. Understory and mid-story vegetation on the site is a variety of woody vegetation.

Direct, Indirect and Cumulative Effects of Alternative 1: No Action

For this alternative there would be direct, indirect cumulative effects to existing vegetation as the proposed parking area and connector trail would not be constructed.

Direct, Indirect and Cumulative Effects of Alternative 2: Proposed Action

The project would permanently remove a small portion of existing vegetation to accommodate the parking area. Native vegetation would be planted around the parking area in all disturbed areas.

Cumulative Effects of Alternative 2: Proposed Action

The number of acres affected by this alternative in relation to the Piedmont geographic area is very small. Loblolly pine stand habitats occurs over 75% of the Sumter National Forest Enoree Ranger District and the removal of 3.5 acres of this habitat would have minimal cumulative effects.

3.2.5 Proposed, Endangered, Threatened, and Sensitive Species (PETS)

Affected Environment

The site being considered is presently a five acre immature loblolly pine stand approximately 50 years old with a 70 site index. Understory and mid-story vegetation on the site is a variety of woody vegetation.

A Biological Assessment/Evaluation (BA/BE) was prepared to determine whether the Trailhead construction Project for the Woods Ferry Horse Trail is likely to affect any PETS species. This BA/BE is included in this Environmental Assessment as an appendix item and includes the list of PETS species for the SNF. All species on this list were considered for this BA/BE. Using a step-down process, species and potential habitat in the project area were identified by:

- Evaluating the location and nature of the proposed project,
- Considering the species' range, life history, and available habitat information;
- Reviewing District records of known PETS species occurrences, including element occurrence data from the South Carolina Heritage Trust Geographic Database of Rare, Threatened, and Endangered Species; and
- Reviewing the USFW's South Carolina List of At-Risk, Candidate, Endangered, and Threatened Species- Union County (2016).

Direct, Indirect and Cumulative Effects of Alternative 1: No Action

For this alternative there would be no direct, indirect cumulative effects to proposed, threatened, endangered or sensitive species (PETS) as the proposed parking area and connector trail would not be constructed.

Direct, Indirect and Cumulative Effects of Alternative 2: Proposed Action

See the attached BA/BE for the analysis of direct, indirect and cumulative effects of the proposed action on PETS species.

A Biological Evaluation was conducted to document the potential effects of the proposed project to the PETS species listed for the Sumter National Forest. The biological evaluation determined that the proposed project would have no effects or impacts to the PETS species with mitigation measures in place.

3.2.6 Migratory Birds

Affected Environment

The Trailhead Construction Project for the Woods Ferry Horse Trail occurs within a geographic area known as the Piedmont in South Carolina. This area is associated with Bird Conservation Region (BCR) 29-Southern Piedmont. The following sources, along with an analysis of available habitats, were reviewed to identify priority migratory birds that are likely to occur in the project

area: (1) Partners in Flight list of priority species and habitats for BCR 29, (2) US Fish and Wildlife Service list of Birds of Conservation Concern for BCR 29, (3) South Carolina Breeding Bird Atlas, and (4) "Status and Distribution of South Carolina Birds" (Post and Gauthreaux 1989). The results of this review produced the following table of priority migratory birds that are associated with and potentially affected by the Trailhead Construction Project for the Woods Ferry Horse Trail.

Table 3.2.6-1 Migratory birds Associated with the Trailhead Construction Project for the Woods Ferry Trail, Sumter National Forest, Enoree Ranger District, South Carolina

Species	Habitat Association	Habitat Altered? Y/N	Habitat Created? Y/N
Acadian flycatcher	Bottomland Hardwoods	N	N
American redstart	Bottomland Hardwoods	N	N
Black-and-white warbler	Mature hardwoods	N	N
Blue-gray gnatcatcher	Bottomland Hardwoods	N	N
brown-headed nuthatch	Mature pine forest	Y	N
Canada goose	Flooded bottomlands	N	N
Hairy woodpecker	Mixed pine-hardwood Forest	Y	N
Hooded warbler	Uses mesic deciduous forest with a shrubby understory	N	N
Kentucky warbler	Mixed pine-hardwood Forest	Y	N
Louisiana waterthrush	Mixed pine-hardwood Forest near river or stream	N	N
Mallard	Flooded bottomlands	N	N
Northern parula	Mixed pine-hardwood Forest	Y	N
Red-eyed vireo	Mature hardwoods	N	N
Red-shouldered hawk	Bottomland Hardwoods	N	N
Scarlet tanager	Mature hardwoods	N	N
Swainson's warbler	Bottomland Hardwoods with cane breaks	N	N

Whip-poor-will	Mixed pine-hardwood Forest	Y	N
White-breasted nuthatch	Mature hardwoods	N	N
Wood duck	Flooded bottomlands	N	N
Wood thrush	Mixed pine-hardwood Forest	Y	N
yellow throated vireo	Mature hardwoods	N	N
Yellow-billed cuckoo	Mesic deciduous forests	N	N
Yellow-throated warbler	Mixed pine-hardwood forest	Y	N

Direct and Indirect Effects of Alternative 1: No Action

Under this alternative, the Trailhead Construction Project on the Woods Ferry Horse Trail would not occur and connected actions would not occur.

There would be no direct effects to any of the migratory birds under this alternative since no activities would take place.

There would be no indirect effects to any of the migratory birds under this alternative since no activities would take place.

There are other projects being implemented and/or planned on the Enoree Ranger District that would continue under the No Action alternative. Projects include timber harvesting, prescribed burning for hazard fuel reduction and wildlife habitat improvement, road maintenance, and trail construction and maintenance.

With the No Action alternative, no additional activities would take place, so there would be no additional cumulative effects within the project area or across the District.

Direct and Indirect Effects of Alternative 2; Proposed Action

Direct effects are not expected to occur to migratory birds. These highly mobile avian species that would relocate to undisturbed areas if they were displaced by proposed activities. However, it is possible that if any of these species are nesting during tree harvesting activities nestlings could be lost due to the activities. These effects are considered minor since only 3.5 acres would be harvested. In addition, timber would have to occur at the exact time when species are most vulnerable and also occur over successive years to have substantial impacts. This is unlikely given past management practices. In addition, avian species would re-nest multiple times throughout the nesting season. Bird monitoring is done on an annual basis to assess the presence/absence and frequency of occurrence of bird species by habitat conditions across the Sumter National Forest.

Herbicide application as proposed in this alternative is not expected to have a direct effect on migratory birds. While the use of some herbicides can have direct effects on wildlife by causing injury or mortality from direct spray, drift, or ingestion of contaminated food or water, those herbicides proposed in this alternative, namely glyphosate, are practically non-toxic to birds.

Glyphosate poses a very low toxicity risk to wildlife from both realistic and extreme exposures. Birds, larger mammals, reptiles, and amphibians appear to be at very low to negligible risk from glyphosate (USDA 1989). Acute oral LD50 of glyphosate for northern bobwhite is greater than 2,000 mg/kg. Avian reproduction studies yielded no reproductive effects at dietary exposure levels of up to 1,000 ppm (USDA 1989).

3.3 Social Environment

This section evaluates impacts to human health and safety, scenery management and recreation, heritage resources and environmental justice and civil rights.

3.3.1 Human Health and Safety

Affected Environment

The activities that have the potential to impact health and safety include increased traffic on FS RD 305 (Bucks Grave RD), a graveled forest service road. There are private lands across from the proposed parking area that would have potential effects on construction workers for the short duration of site construction.

Direct and Indirect Effects of Alternative 1: No Action

There are negative effects to safety of recreating publics as they park in a small parking area with large trailers. The parking area of FS RD 301C would be difficult to back out of on a busy day increasing safety risks to horses, people and vehicles.

Cumulative Effects of Alternative 1: No Action

This alternative does not have any known cumulative effects

Direct and Indirect Effects of Alternative 2: Proposed Action

The existence of a trailhead and connector trail have potential positive impacts of health and safety by providing a safer parking area for trail users, who currently park on FS RD 301C.

Project construction would require the use of mechanized equipment. The use of equipment presents the highest potential for safety risks. There is a risk of injury to both workers and the recreating public. In accordance with Forest Service Health and Safety Code Handbook (FSH 6709.11), vegetation management activities require all Forest Service workers to wear safety equipment, including hard hats, eye and ear protection, chaps, and fire retardant clothes. Monitoring of compliance with the Forest safety code would be accomplished through on-site inspections and reviews of accident reports (USDA, 1989b).

The installation of the trailhead and connector trail is designed to improve long term health and safety conditions to forest recreationists. The parking area provides a safe place for visitors to park, away from the cramped parking on FS RD 301C.

Cumulative Effects of Alternative 2: Proposed Action

The overall cumulative effect on human health and safety would be beneficial.

3.3.2 Scenery and Recreation

Affected Environment

Visitors come to the Sumter National Forest to participate in a wide variety of recreation opportunities in an outdoor setting. Since visitor perception of an outdoor setting is often greatly affected by changes in the visual quality of an area, these two resource areas are discussed together in this section.

Visual character in the piedmont on the Sumter National Forest is characteristic of a rural area, consisting of forested and agricultural landscapes. Forested areas are often in various stages of regeneration as a result of harvesting activities on both private and national forest system lands, while a patchwork of small rural farms often provide added visual contrast. Small, rural communities or residence groupings are periodically found throughout the area.

The landscape character under these prescriptions is generally natural appearing. The sights and sounds of human activities are evident in many areas (USFS, 2004a). Scenic Integrity Objectives (SIOs) are established for each management area (MA) in the Sumter NF (USFS, 2004a). SIO refers to the degree of acceptable alterations of the characteristic landscape (USFS, 2004b). The three MA's within the project area have SIO's that include: High, Moderate, and Low.

High: Human activities are not visually evident to the casual observer. Activities may only repeat attributes of form, line, color, and texture found in the existing landscape character.

Moderate: Landscapes appear slightly altered. Noticeable human created deviations must remain visually subordinate to the landscape character being viewed.

Low: Landscapes appear moderately altered, human created deviations begin to dominate the valued landscape character being viewed but borrow valued attributes such as size, shape, edge effect and pattern of natural openings, vegetative type changes or architectural styles outside the landscape being viewed.

The parking area and connector trail are high SIO. Management prescriptions provide for natural and rural setting recreational opportunities. Hunting, wildlife and plant viewing are common activities in these areas (USFS, 2004a).

Dispersed recreation, particularly hunting and some fishing are also very popular on most areas of the district. The area provides a wide variety of habitats for varied game, including deer, wild turkey, rabbit, quail, and woodcock.

Direct and Indirect Effects of Alternative 1: No Action

No immediate impacts on visual resources are anticipated under the No Action alternative. In the long-term as people's use of the Woods Ferry Horse Trail increases, more parking would be needed to accommodate the use of the horse trail. Vehicles could utilize the roadside for parking.

Cumulative Impacts of Alternative 1: No Action

There are no known cumulative impacts to scenery or recreation.

Direct, Indirect and Cumulative Effects of Alternatives 2: Proposed Action

There would be a short-term change in the visual quality as the parking area is cut and graded, and as vegetation dies and turns brown. There would be minor impacts to visual quality but regrowth and additional native plantings would reduce or eliminate impacts. Native plantings would improve the visual diversity over time. Impacts to visual quality in the area would be minimal. Recreational opportunities would be available in other areas of the forest therefore; there would be only minor short term isolated impacts.

3.3.3 Heritage Resources

Affected Environment

Archaeological Resources Protection Act (ARPA): Statute that provides for criminal and civil penalties for the excavation or damage of archaeological materials without a permit.

Heritage resources include historic properties as defined in the National Historic Preservation Act (NHPA), cultural items as defined in the Native American Graves Protection and Repatriation Act (NAGPRA), archaeological resources as defined in the Archaeological Resources Protection Act (ARPA), sacred sites as defined in Executive Order 13007, Protection and Accommodation of Access to "Indian Sacred Sites," to which access is provided under the American Indian Religious Freedom Act (AIRFA), and collections. As defined by the NHPA, a historic property or historic resource is any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places (NRHP), including any artifacts, records, and remains that are related to and allocated in such properties. The term also includes properties of traditional religious and cultural importance (traditional cultural properties), which are eligible for inclusion in the NRHP as a result of their association with the cultural practices or beliefs of an Indian tribe or Native Hawaiian organization. Archaeological resources include any material of human life or activities that is at least 100 years old, and that is of archaeological interest.

National Register of Historic Places (NRHP): A nation-wide listing of districts, sites, buildings, structures, and objects of national, state, or local significance in American history, architecture, or culture that is maintained by the Secretary of the Interior, National Park Service.

Section 106 of the NHPA (PL 89-655) provides the framework for Federal review and consideration of cultural resources during Federal project planning and execution. The Advisory Council on Historic Preservation (ACHP) has promulgated the implementing regulations for the Section 106 process (36 CFR Part 800). The Secretary of the Interior maintains the NRHP and sets forth significance criteria (36 CFR Part 60) for inclusion in the register. Cultural resources may be considered "historic properties" for the purpose of consideration by a Federal undertaking if they meet NRHP criteria. The implementing regulations at 36 CFR 800.16(v) define an undertaking as "a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of a Federal agency; those carried out with Federal financial assistance; those requiring a Federal permit, license or approval; and those subject to state or local regulation administered pursuant to a delegation or approval by a Federal agency." Historic properties are those that are formally placed on the NRHP by the Secretary of the Interior, and those that meet the criteria and are determined eligible for inclusion.

A Memorandum of Understanding (MOU) has been signed between the Advisory Council on Historic Preservation, The South Carolina Department of Archives and History and the Francis Marion and Sumter National Forests (November 14, 2000). It was developed to comply with the terms of the Programmatic Agreement concerning the management of historic properties on national forest lands in the Southern Region, which was executed on November 19, 1992 and to satisfy the National Forest's responsibilities under Section 106 of the National Historic Preservation Act (NHPA). The MOU establishes Categorical Exclusions for routine and recurrent activities that are unlikely to affect heritage properties, including prescribed burns and new fireline construction.

Direct, Indirect and Cumulative Effects of Alternative 1: No Action

This alternative would have no effect on heritage resources.

Direct, Indirect and Cumulative Effects of Alternative 2: Proposed Action

There would be no direct, indirect or cumulative effects to heritage resources. The district archaeologist, Mike Harmon, reviewed the project area and commented that there are no archaeological objections. The project area was previously surveyed with negative results. Archaeological clearance was recommended.

Potential construction practices that disturb the soil could uncover unidentified sites. If, during construction, any sites were discovered, the work would stop until an archeologist evaluates the site significance.

3.3.4 Environmental Justice

Affected Environment

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations, requires Federal agencies to identify and address any disproportionate adverse human health or environmental effects of its projects on minority or low income populations. Each Federal agency must conduct its programs, policies, and activities that substantially affect human health or the environment in a manner that ensures that such programs, policies, and activities do not have the effect of excluding persons or populations from participation in, denying persons or populations the benefits of, or subjecting person or populations to discrimination under, such programs, policies, and activities because of their race, color, national origin, or income level.

Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks, directs Federal agencies to "identify and assess environment health risks and safety risks that may disproportionately affect children." This Executive Order requires Federal agencies to "ensure that [their] policies, programs, activities, and standards address disproportionate risks to children."

Neither of the alternative would have an effect on the civil rights of any individual. Women, native Americans and other minority groups would not be impacted by any of the alternatives any differently than any other public groups. Potential impacts to these groups were analyzed in the Final Environmental Impact Statement for the LRMP.

Forest Service activities must be conducted in a discrimination free atmosphere. Contract work that might be generated from this document would include specific clauses offering civil rights protection. The Forest Service would make a concerted effort to enforce these policies.

3.3.5 Civil Rights

Direct and Indirect Effects of the Alternatives

Review of human health and safety and environmental justice information presented, indicates that individual civil rights and the rights of minority groups would not be affected directly or indirectly by the alternatives considered. Women, Native Americans and minority groups would not be impacted by any of the alternatives any differently than any other groups.

There are no barriers for the potential participation as contractors or subcontractors by small business, minority-owned business, small disadvantaged business, and women-owned business, concerns in contracts, grants and cooperative agreements generated by the action alternatives.

Cumulative Effects of the Alternatives

There have been no identified or documented instances of management actions adversely affecting civil rights from past, present or future activities on either federal or private lands. There are no barriers to equal access by minorities and handicapped people in the project area or

as a result of past, present or future activities management actions. There are no past or present evidence of discriminatory practices in the locale or with any of the alternatives developed.

3.3.6 Irreversible or Irretrievable Commitment of Resources

An irreversible commitment of resources refers to resources that are renewable only after a long period of time (such as soil productivity) or are non-renewable resources (such as cultural resources and minerals). There would be no irreversible commitment of resources under any of the alternatives in this analysis.

An irretrievable commitment of resources refers to losses of productivity or the use of renewable resources. This represents opportunities foregone for the period of time that the resource cannot be used. Where trees are removed, there would be an irretrievable loss of volume. The Forest Plan permits both construction of the parking area and trail construction. The amount of area affected is small and loss of vegetation and potential timber loss would be insignificant.

3.3.7 Economics

Affected Environment

Costs assume a project implementation period of ten years with a four percent discount factor (2014) applied. The proposed action has intrinsic non-monetary benefits by restoring a rare community and adding to the diversity and abundance of vegetation.

Effects of Alternative 1: No Action

No costs would occur under this alternative. There would be no direct, indirect or cumulative economic effects from this alternative.

Effects of Alternative 2: Proposed Action

The costs associated with the proposed action activities are displayed in Table 3.3.7-1. The costs would vary depending on how many volunteers would be available to help with the trail work and the amount of money awarded thru grants. The costs associated with this project do not overlap with other projects (federal or private) being implemented and would have no adverse cumulative economic impact.

Table 3.3.7-1. Costs Associated with the Alternatives

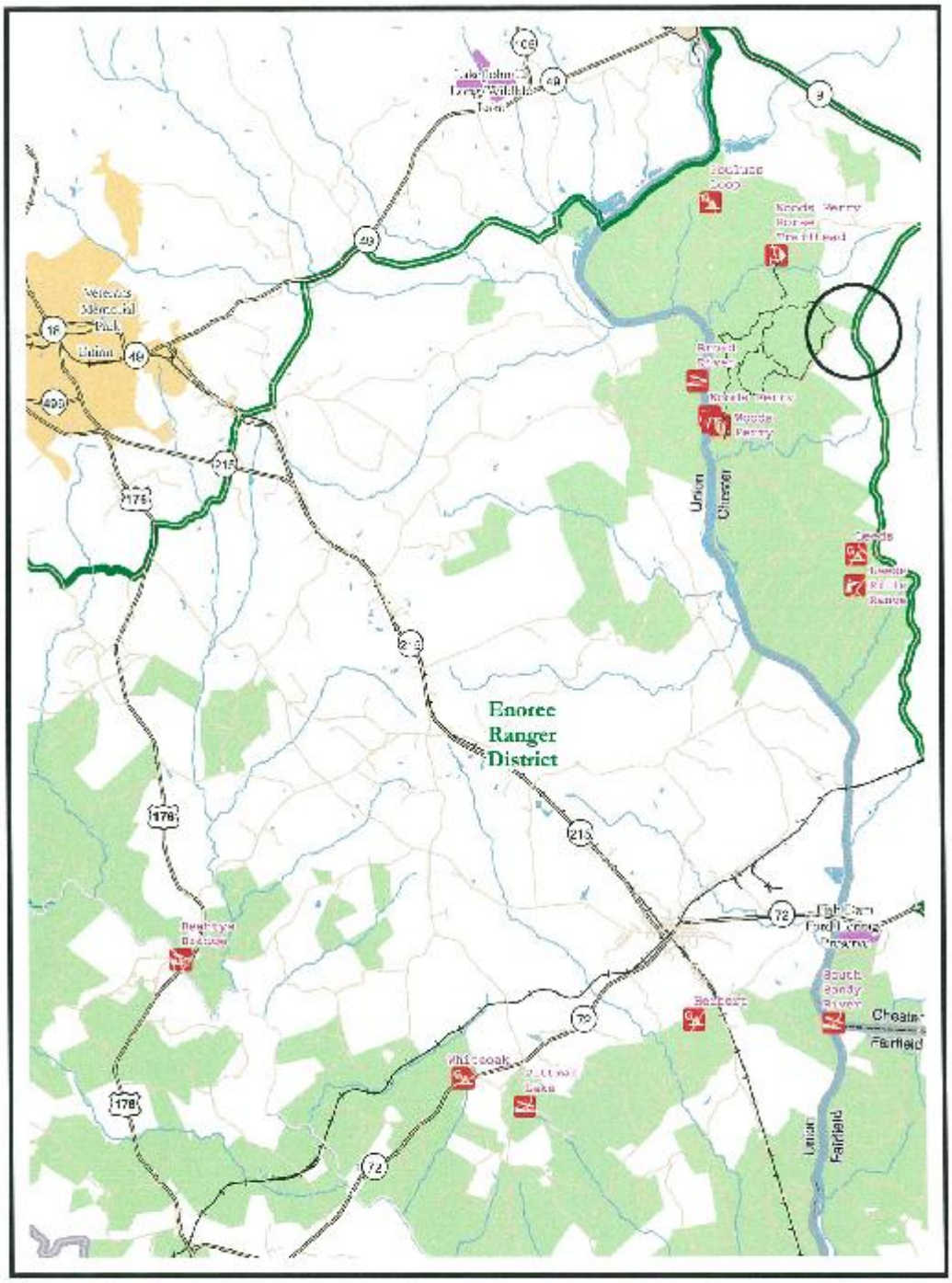
Activities	No Action Alternative 1	Proposed Action Alternative 2
Herbicide	$0	$10,000
Construction of Parking Area	$0	$10,000
Construction and Maintenance of connector trail	$0	$2,000
Total Discounted Costs over 10 years	**$0**	**$22,000**

4.0 Consultation

Federal, State, local agencies were contacted during the development of this environmental assessment. In addition, individuals were contacted based on the District-wide mailing list. This list is located in the project file.

Interdisciplinary Team

Carrie Miller	District Biological Science Technician
Jason Jennings	Soil Scientist
Mike Harmon	Archaeologist
Jeff Magniez	Zone Wildlife Biologist
Larue Bryant	Forest Engineer
Robin Mackie	Forest Ecologist/Botanist
Alice Riddle	Recreation and scenery
Mark Garner	Forest Biologist



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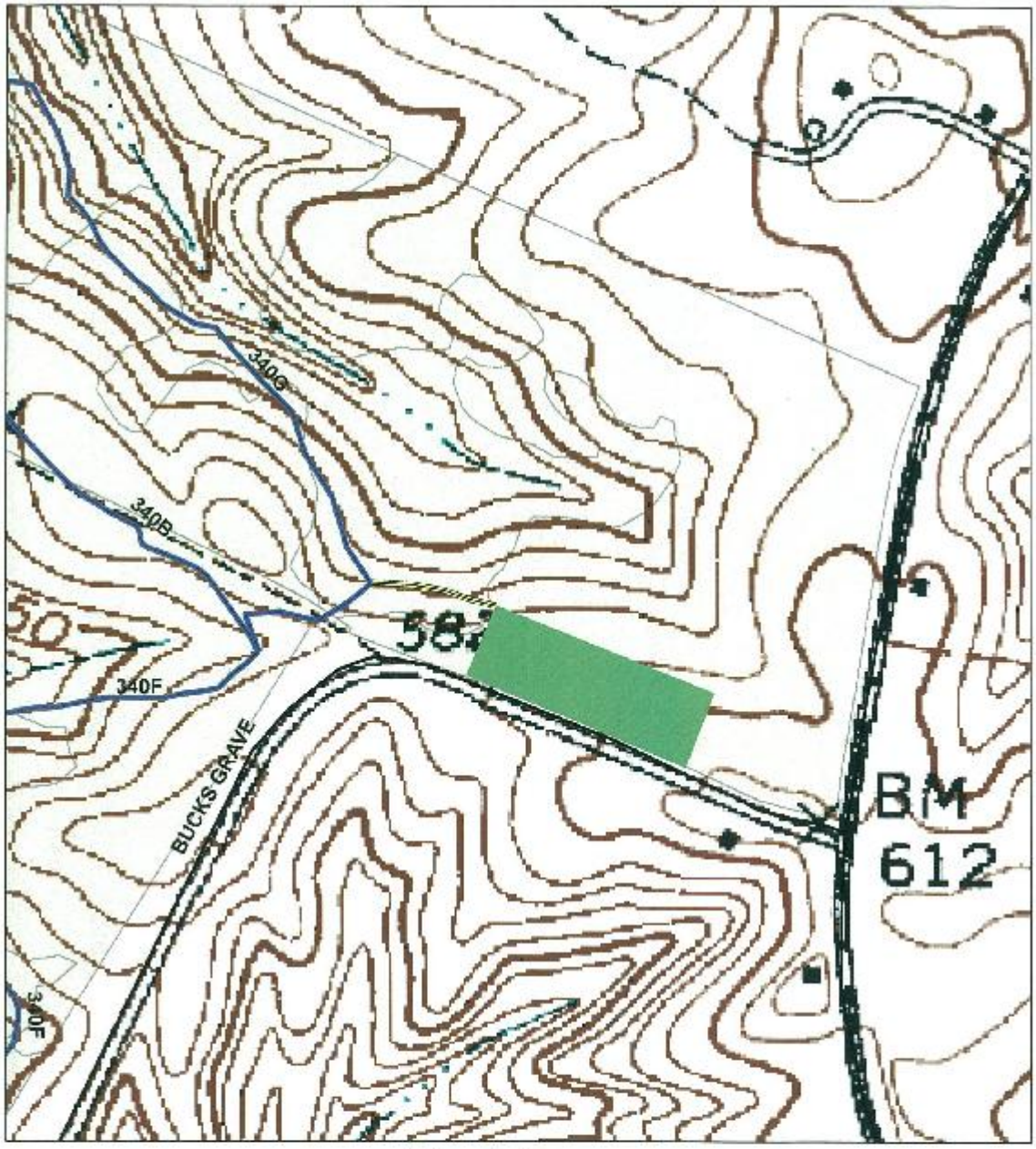
Location Map

New Trailhead Site

Woods Ferry Horse Trail


TRAILER PARKING
GRAVEL ROADWAYS AND PARKING
BULLETIN BOARD AND FEE TUBE
700'
300'
WOODSFERRY TRAILHEAD
Francis Marion & Sumter



Legend

- WF_TH_Access
- WFTrails20140723
- Conceptual New Trailhead
- FmsGisLibrary.DBO.Road_WithInfraAttributes
- FmsGisLibrary.DBO.FsVegSp_Stand

Woods Ferry
Trailhead Relocation

N

0 100 200 400 600 800
Feet

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