United States Department of Agriculture

Forest Service

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Environmental Assessment

Enoree Ranger District Administrative Site Reconstruction

Sumter National Forest
Newberry County, South Carolina

Location of Action: **Sumter National Forest, Enoree Ranger District**
Type of Document: **Environmental Assessment**
Lead Agency: **USDA Forest Service**
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1.1 Introduction

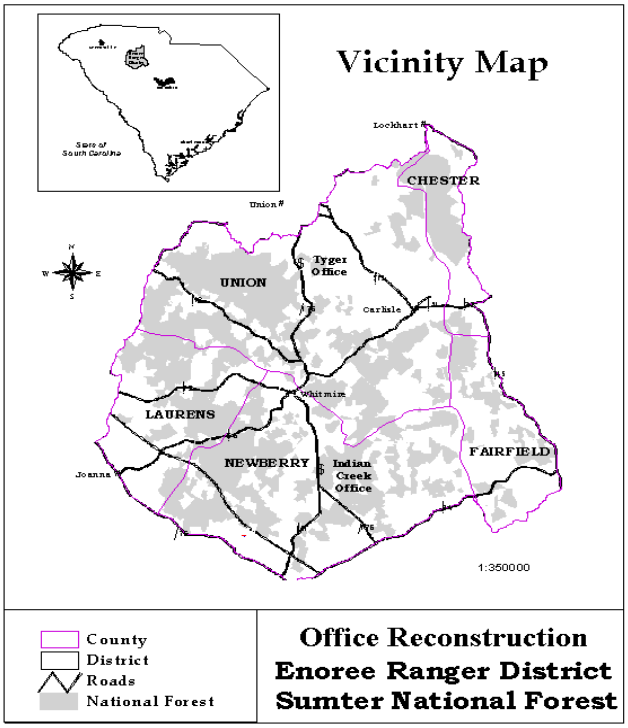
The Forest Service has prepared this Environmental Assessment in compliance with the National Environmental Policy Act (NEPA) and other relevant Federal and State laws and regulations. This Environmental Assessment discloses the direct, indirect, and cumulative environmental impacts that would result from the proposed action and alternatives.

Additional documentation, including more detailed analyses of project-area resources, may be found in the project planning record located at the Enoree Ranger District, 3557 Whitmire Highway, Union, South Carolina 29379.

1.2 Background

The project area is located at the Indian Creek Office Administrative Site on the Enoree Ranger District of the Sumter National Forest, located at 20 Work Center Road, in Whitmire, South Carolina 29178. The Indian Creek Office is approximately five miles south of the community of Whitmire, in Newberry County, South Carolina. There are approximately 20 acres in the project area and the elevation is 400 feet. The dominant vegetation is loblolly pine woodland mixed. The adjacent riparian area vegetation is predominately bamboo and other herbaceous species.

In 1995, the Enoree and Tyger Ranger Districts began the consolidation process of the two districts. During 2001, the general public and officials from local communities were contacted for their concerns. In 2003, the Washington Office approved this consolidation, but district personnel are still housed in two offices. In 2007, an environmental assessment was developed to analyze a proposal for consolidating the Enoree Ranger District Offices to one operational administrative site location. Cost was a major consideration in deciding to move to one central office location.



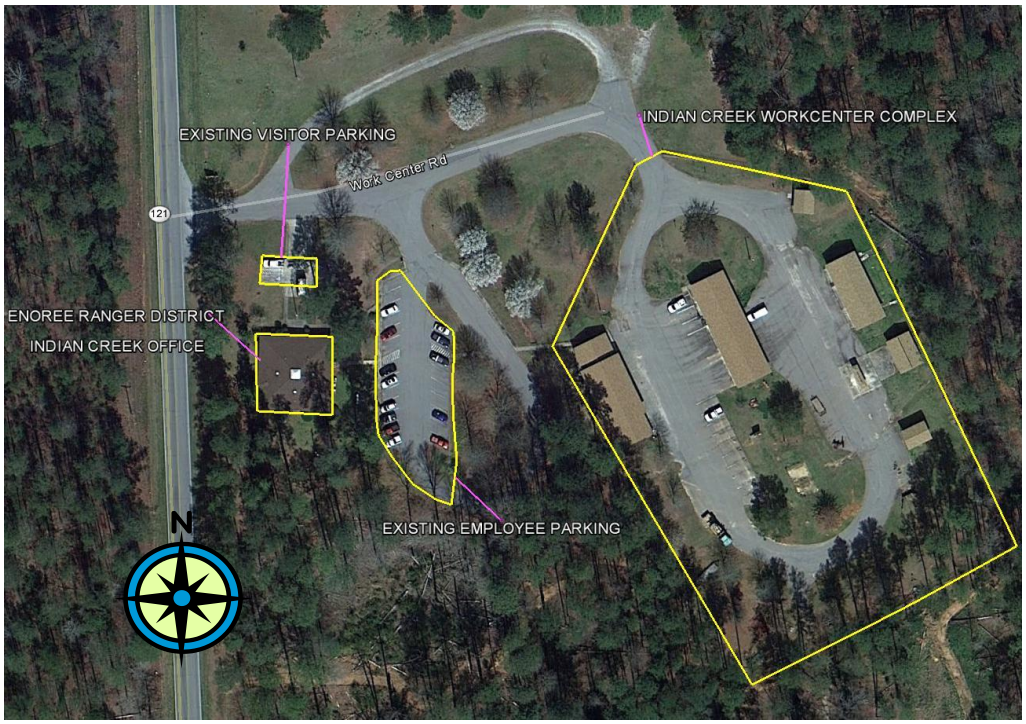
1.3 Purpose and Need

The purpose and need for the action is (i) the reconstruction and expansion of the existing, outdated administrative building into an efficient space for office staff and public interaction; (ii) the improvement of energy efficiency and reduction of the carbon footprint of the existing structure through better insulation, natural lighting and ventilation, with replaced electrical, mechanical, plumbing, and Heating, Ventilation, Air Conditioning System (HVAC) components; and (iii) the reduction of deferred maintenance costs associated with the buildings to be replaced.

The Indian Creek Office consists of the original 1980's office. The total office space is approximately 3,500 square feet. The District Office is accessible to comply with the Americans with Disabilities Act (ADA) by the main entrance from the original of the building. However, bathrooms are not ADA accessible. The building has multiple small offices providing office space for approximately 12 full time and four remotely-stationed employees where their office spaces are located at the Indian Creek work center. The building is not energy efficient and is undersized for the current workforce.

Over the course of the past several years, inspections and reviews of the Indian Creek Office and work center (in Newberry County) have identified numerous limitations that are impairing the safe, efficient, and/or cost-effective operation of these facilities. Deferred maintenance for these facilities is cost prohibitive and are estimated at approximately $126,264.00. In addition, the building standards used at the time these facilities were constructed were far less stringent than current standards, especially those related to energy conservation. Therefore, reconstructing facilities would have much lower operating costs than the existing facilities and would subsequently reduce the carbon footprint.

Figure 1.3.1 Enoree Ranger District, Indian Creek Administrative Site



1.4 Proposed Action

The Sumter National Forest proposes to improve the existing Enoree Ranger District administrative facilities located six miles south of Whitmire in Newberry County, South Carolina. The existing site would be renovated to provide an 8,000 square foot office building to accommodate full district staff; visitor area; 50-space employee parking; 10-space visitor parking; entrance road; water service; septic tank; drain field; outdoor covered pavilion; and electric service. Additionally, minor renovations would be done to the existing work center complex at a future time when funding becomes available. This will include additional outbuildings, 24-space fleet parking; updated fuel station; electric service; antenna tower; and minor site renovations as necessary within the existing fence line of the work center complex. This decision would combine the current administrative Forest Service office, combining the Tyger and Indian Creek offices, associated parking and storage structures at primarily one location.

1.5 Decision to be Made

The decision to be made by the Responsible Official (Forest Supervisor) is whether to proceed with the Proposed Action or the No Action alternative and whether or not the project may have significant impacts on the environment. If a determination is made that the impacts are not significant then a "Finding of No Significant Impact" (National Environmental Policy Act (NEPA) 1508.13) and Decision Notice will be issued.

1.6 Public Involvement

The District Interdisciplinary Team (IDT) conducted scoping with 30-Day Notice and Comment Period to identify the issues related to the Proposed Action. On August 4, 2012, a letter announcing the proposed project was sent to organizations and individual citizens on the Enoree Ranger District mailing list requesting their comments on the project. An article ran in *The Newberry Observer* on August 3, 2012 and the project also appeared in the Fall 2012 issue of the *Schedule of Proposed Actions for the Francis Marion and Sumter National Forest*, which also appears on the Francis Marion and Sumter National Forest's website. No comments were received during the 30-Day Notice and Comment Period.

1.7 Issues

The Forest Supervisor determined there were no additional key issues that would lead to development of additional alternatives to be considered in detail. Other issues such as the potential for introduction of invasive plant species are addressed in the Environmental Consequences section of this document.

1.8 Non-Key Issues

The following non-key issues raised during scoping were evaluated by the IDT.

Concern: Another concern related to impacts to local businesses. While the overall impact to the local economy is small, purchases of office supplies and parts and repair and maintenance of vehicles may affect a single business.

Response: Certain businesses have blank purchase agreements and these businesses would still be used. Less clear are economic impacts from things, such as filling up government vehicles with gasoline or purchasing supplies, such as automobile parts and office supplies. A fuel tank would not be constructed at the new office site, so most employees would fill up their government vehicles on the way to do work in the field, which would probably be in Whitmire. However, the fuel tank at the Indian Creek work center would be used until the new work center could be constructed. Impacts to the local businesses would be addressed in the Local Economy section of the effects analysis.

Concern: The level of customer service would be affected if the new office and work center were not centrally located on the District. If the office is located on the southern end of the district, then forest visitors who live in Union would have to drive further for permits and other services. Concerns were brought up about increased driving times to the job site and response time to wildland fires, particularly within the Wildland Urban Interface.

Response: These concerns are discussed in the Local Economy section of the EA. Providing a local number for people in Union County to use could mitigate some customer service impacts. Other items could not be mitigated, such driving distance from the City of Union.

2.0 Alternatives

This section discusses several possible courses of action the USFS could take to meet the purpose and need discussed in the previous section. Each alternative involves a mix of activities intended to move the employees to one location. The approach of taking no management actions, the No Action alternative (Alternative A), is also discussed.

The Forest Service amended the roads analysis completed for the Bethesda Area timber sale in accordance with *Roads Analysis: Informing Decisions about Managing the National Forest Transportation System* (USDA Forest Service 1999). The Roads Analysis document may be found in the project planning record located at the Enoree Ranger District office in Union, SC.

2.1 Alternatives Considered in Detail

2.1.1 Alternative A (No Action)

The No Action Alternative is required by NEPA serves as a benchmark for the other alternatives. This alternative would retain the existing facilities in Union and Newberry Counties. This alternative does not meet the purpose and need of moving into one centrally located office.

2.1.2 Alternative B (Proposed Action)

This alternative analyzes improving the existing facility located six miles south of Whitmire in Newberry County (See map on next page). The existing site would be renovated to provide 8,000 square foot office building to accommodate full district staff; visitor area; 50-space employee parking; 10-space visitor parking; entrance road; water service; septic tank; drain field; outdoor covered pavilion; and electric service. Additionally, minor renovations would be done to the existing work center complex at a future time when funding becomes available to provide additional outbuildings; 24-space fleet parking; updated fuel station; electric service; antenna tower; and minor site renovations as necessary within the existing fence line of the work center complex. Since this site is already designated as an administrative site, there is no need for a Forest Plan Amendment.

The site is approximately 20 acres and is located on National Forest System lands. The building within the administrative site will comply with the Forest Service architectural guidelines. During the design phase of the project, the Forest Service would use Sustainable Building Guiding Principles as per Forest Service Handbook (FSH) 7309.11 (Buildings and Related Facilities). The indicator used to implement the proposed alternative or mitigation measures is by meeting Guiding Principles Compliance (GPC) developed by The Green Building Initiative. The GPC is an assessment tool and certification program used to meet the requirements for existing federal government buildings mandated by Executive Order 13514. These Guiding Principles are to employ integrated design principles, optimize energy efficiency and use of renewable energy,

protect and conserve water, enhance indoor environmental quality, and reduce the environmental impacts of materials.

Connected actions associated with the office construction include the following:

- Trees on site would be removed and sold on one to two acres to allow expansion or construction of a new office site. The existing parking on site would be expanded and trees would be removed to accommodate the new facilities.
- Minor excavation of the site would be needed to accommodate water drainage and office building and parking lot expansion.
- Temporary sanitation facilities and portable offices would be needed for employees currently housed at the Indian Creek Office site. Cost for these temporary facilities is not included in the construction cost estimate and would be attain in future time when funding becomes available. The employees currently stationed at the Tyger office would use the existing leased facilities until the renovations are completed.
- Erosion control measures, such as silt fences, temporary seeding and mulching would be used to limit off-site soil movement.
- Utility lines (water, electric, and sewer) exist from US Highway 176, but minor disturbance and clearing maybe needed to accommodate expansion of the office and parking lot.

Figure 2.1 Enoree Ranger District Proposed Renovation Aerial View

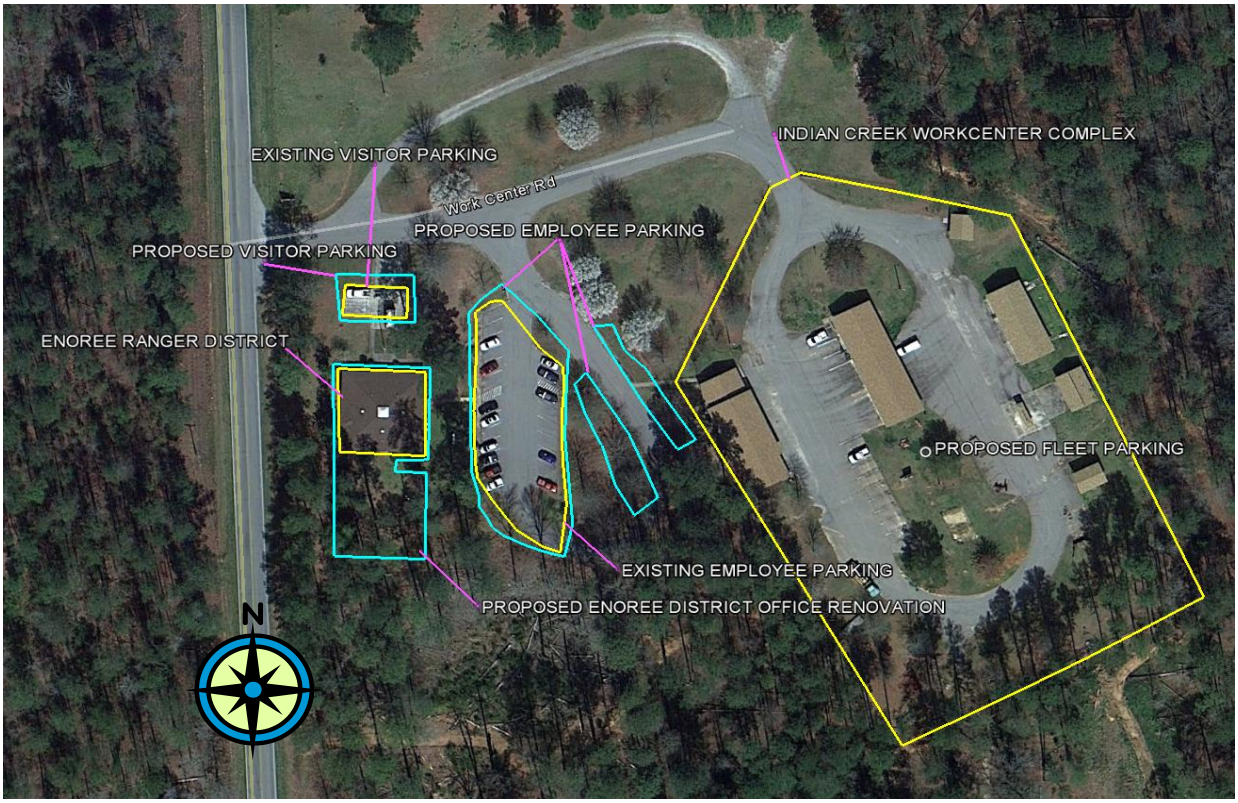
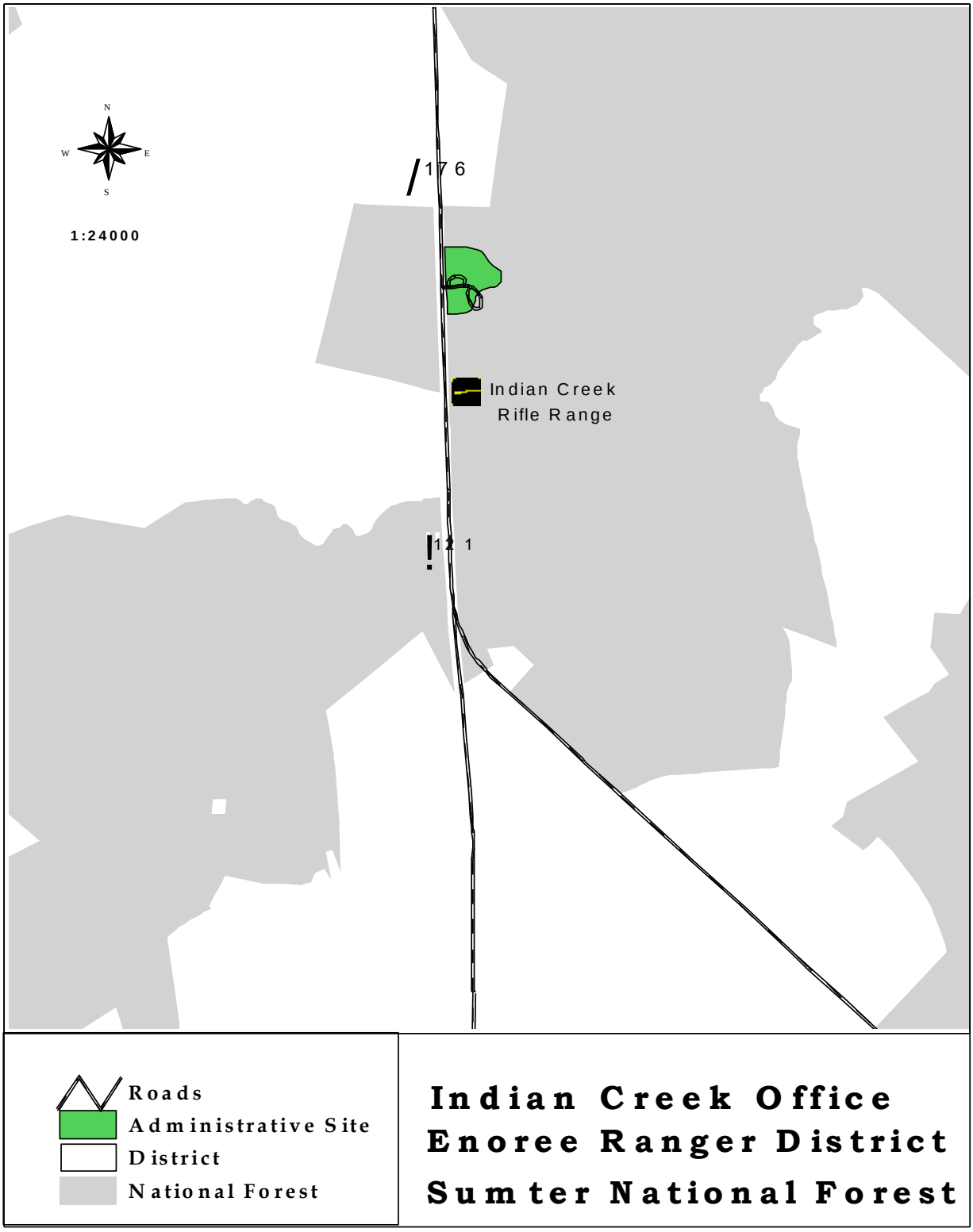


Figure 2.2 Map of Enoree Ranger District, Indian Creek Administrative Site



2.2 Alternatives Considered, but Not In Detail

Twelve potential sites in Union County were evaluated, but eliminated from further consideration. Reasons included issues, such as being able to pull out safely onto the highway and sufficient space for facilities. The engineer's report is on file in the project folder.

Two potential sites were reviewed in Newberry County. These sites were eliminated from further consideration due to the insufficient size and the need for road easements across private land. Additional sites in Newberry County were not evaluated due to the lack of National Forest system land located near Whitmire, SC.

Another alternative considered was locating all facilities at the Tyger Office and work center complex. While this facility could be renovated easily to accommodate all employees, this alternative was not considered because there would be the continued expense of a lease. The landlord was only willing to sell the work center. Also there is the need to have an office located more centrally on the district.

Another alternative was considered to purchase land for an office site. This alternative was not considered in detail because we could not purchase land in a timely manner to meet the requirements of the current legislation.

2.3 Design Criteria

Standards set forth in the *Revised Land and Resource Management Plan Sumter National Forest* (USDA FS 2004a) will be followed. Potential erosion and sedimentation will be reduced by the use of South Carolina Best Management Practices for Forestry (BMPs) during clearing operations and soil disturbing activities.

The following design criteria are included with the action alternatives:

1. Construction noise and dust: Watering of ground disturbance areas would be performed to minimize construction-related dust. To mitigate the effect of construction noise on adjacent residences, construction work hours would be limited to Monday through Friday 7:30 am to 6:00 pm, unless otherwise approved.

2. To limit the spread and establishment of invasive plant species into the project area, all off-road heavy equipment used during project implementation would be free of noxious weeds and seeds or invasive exotic weeds and seeds before entering the project area. Additionally, all hand tools, (picks, shovels, etc), must also be free of noxious weeds and seeds or invasive exotic weeds and seeds. The Forest Botanist would provide guidance for a wash down method that would be effective and practical.

3. Any reseeding or planting plans must first be approved by the Forest Botanist. Any landscaping would utilize native plants appropriate to the site conditions.
4. Any mulch, hay or rice straw brought to the site must be certified weed free.

5. Equipment refueling must be conducted in a manner that would ensure no contamination of soils or water would occur. Refueling cannot occur within 100 feet of any drainage or riparian area.

6. Project-generated garbage would be properly stored/disposed of on a daily basis. When operations are complete, any excess materials or debris would be removed from the work area.

7. All personnel involved in project implementation would receive a briefing from the project biologist to describe sensitive resources that may be encountered in the project area. Wildlife encountered during the course of project implementation should be given the opportunity to evacuate the site. Personnel would be reminded that harassment, handling or removal of wildlife from the site is not permitted.

8. Erosion control measures would include the establishment of silt fences, hay bales and/or brush barriers around construction areas to prevent sediment from moving off-site.

9. Exposed soils would be promptly disked, fertilized, seeded and mulched to prevent soil erosion.

10. Drainage structures would be used to limit concentrated water flow by dispersing water into the forested area.

11. Where possible, oaks and hickories would be retained on site for wildlife.

12. Mechanized equipment would avoid disturbing steep side slopes during construction operations wherever possible.

13. Potential impacts to scenic resources would be reduced by the implementation of ecological treatment standards for urban and naturally appearing landscape areas. Ecological treatment standards for the site would include 1) enhancement of fall color species through practices such as selective tree removal and the retention of visually attractive trees and shrubs; 2) creation of a park-like effect within the existing pine or pine-hardwood stand; 3) featuring flowering trees, character trees, and shrub species; and 4) maintenance of trees to enhance visual quality (e.g. limbing up trees, removal of leaning/bent over trees, variable density feathering, etc.). Additional ecological treatment standards would be applied to tree maintenance, road construction, and road maintenance.

2.4 Monitoring

Activities and effects will be monitored to ensure compliance with the Forest Plan. Monitoring is done through periodic site evaluations. Timber harvesting and logging operations will be supervised by a Forest Service timber sale administrator. Understory vegetation will be monitored on a periodic basis to determine management actions needed to ensure that the abundance and diversity of native herbaceous understory species is increased and improved. The project area will also be monitored for the introduction and spread of non-native invasive plant species.

2.5 Comparison of the Alternatives

This section provides a brief comparison of the two action alternatives and the no action alternative.

Table 2-1. Comparison of Alternatives for the New Office Location, Enoree Ranger District, Sumter National Forest

Actions	Alternative A (No Action)	Alternative B (Proposed Action)
Acres Cleared for Office Site and work center	**0 acres**	**1 to 2 acres**
Forest Plan Amendment	**Not Needed**	**Not Needed**
Construction Costs	**$0**	**$1,500,000** office renovation; $500,000 future work center renovation as funding becomes available
Annual Maintenance Costs	**$126,264 Indian Creek Office and work center deferred maintenance; $94,182.25 annually for lease of Tyger Office and work center**	**$10,000**
Distance to I-26	**Indian Creek Office-6.8 miles; Tyger Office-23.6 miles**	**6.8 miles**
Visibility from US 176	**Visible**	**Visible**
Location on District	**North (Union County) and South (Newberry County)**	**South (Newberry County)**
Impacts to local Economy	**No change in closest service centers**	**23.8 miles to Union; 10.8 miles to Newberry; 6 miles to Whitmire** The closest service center to the Indian Creek Office is Whitmire, SC. The next closest service center is Newberry, SC.

3.0 Environmental Consequences

This section summarizes the physical, biological, social, and economic environments of the construction of a new office and it describes the effects of each alternative. It also presents the scientific and analytical basis for comparison of alternatives presented in the previous chapter.

3.1 Soil Resources

Affected Environment

Indian Creek Office Site (Alternative B) -The existing office site is located on a gentle ridge that is about 600 to 800 feet wide in most places and over 2000 feet long. This site averages less than 3% slope, but local areas may vary up to about 5%. Winnsboro Sandy Clay Loam and Winnsboro Sandy Loam have a thinner clay layer than is normally found in Winnsboro, so infiltration is better than would normally be expected. The Winnsboro Sandy Loam soil type normally has a severe rating for small commercial buildings due to the low strength, high shrink-swell potential, and high risk of corrosion to steel. The rating should be adjusted to a more favorable rating for this site due to the better infiltration relative to constructing small commercial buildings. Due to the gentle slopes, size and other factors, this site has many favorable factors of a quality building site. The soils are suitable for the existing or expansion of a septic system with drain fields with proper location and design.

Estimates of soil loss associated with the existing facility are 65 tons. These would occur primarily over a 5-year period, but were estimated for a decade. The details are in the process records of how these estimates were made.

3.1.1 Effects of Alternative A (No Action)

Direct and Indirect –There would be no effects associated with Alternative A because the project would not be implemented.

Cumulative Effects of Alternative A (No Action) The No Action Alternative would not have any effect on soils, and therefore, would not contribute to any additional cumulative effects on soil erosion or displacement in the vicinity of the existing facilities. Activities include 117 acres planned for woodland habitat restoration and 295 acres for biomass treatments with some minor amounts of prescribed burning. Site-specific mitigation measures and implementation of Forest Plan standards and guidelines including South Carolina Best Management Practices for Forestry (BMPs) would reduce impacts to soils. Site-specific mitigation measures and implementation of Forest Plan standards and guidelines including South Carolina Best Management Practices for Forestry (BMPs) would reduce impacts to soils.

3.1.2 Effects of Alternative B (Proposed Action)

Direct and Indirect - Since much of this site is already cleared or with sparse trees, construction of the buildings, parking areas and access road would directly impact approximately 1 to 2 acres of land. Construction within these areas would include vegetation clearing, stump clearing, excavation, and grading. Soils would be disturbed and exposed for the short term during the construction process. The amount of disturbance would be less than that under the Proposed Action. Erosion and sediment from the activities would be much less than the Proposed Action due to the flatter slopes and less erodible soils. Estimates of soil loss associated with this alternative are 144 tons. The level of increase is a minor short-term increase. The details are in the process records of how these estimates were made. These would occur primarily over a 5-year period, but were estimated for a decade.

Soil erosion would be reduced by the use of South Carolina Best Management Practices for Forestry (BMPs) during vegetation removal and with site-specific mitigation measures. Mitigation measures include use of silt fences, hay bales and or brush/barrier to prevent soil from moving offsite. Exposed soils would also be disked and seeded in a timely manner to minimize soil erosion. Drainage structures would be used to divert water flow onto stable areas and to avoid impacts to gullies. This would also reduce soil erosion. Pavement or gravel placed on the parking areas and roads would provide long-term protection against erosion. Any additional exposed soils would be promptly disked, fertilized, and seeded to prevent soil erosion. Monitoring and timely maintenance procedures would also minimize erosion after completion of the project.

Some soils within the new office location would be compacted by heavy machinery during the construction process. Compaction and the addition of impervious surface (parking lot, new access roads and buildings may increase overland flow on a very small area. The effects would be minor when placed in context with the large amount of forest areas around the office site capable of offsetting any increased flows. In addition, project design would minimize long term impacts from increased flows and short term impacts would be minimized by mitigation measures during construction. There would be no additional impacts to forest soil productivity since the area is currently designated as an administrative site and is currently classified as unsuitable for timber production.

Cumulative Effects of Alternative B (Proposed Action) - Surrounding private land is in residences or managed for wildlife habitat. This area falls within the Indian Creek Wildlife Habitat Restoration Initiative. Timber harvesting and prescribed burning activities have recently occurred on National Forest in Compartment 126. Activities include 117 acres planned for woodland habitat restoration and 295 acres for biomass treatments with some minor amounts of prescribed burning. Site-specific mitigation measures and implementation of Forest Plan standards and guidelines including South Carolina Best Management Practices for Forestry (BMPs) would reduce impacts to soils. These activities are ground disturbing and have the potential to increase soil erosion. Non-native, invasive plant control is planned in Compartment 126 also, but the herbicide application is not ground disturbing and would not increase erosion in the area. The

Forest Service complies with State BMPs on these projects, which mitigate the impacts of increased soil erosion.
In addition, the area to be disturbed is small when compared to the area immediately surrounding the administrative site. It is a sparsely to moderately forested and grassed rural environment with stable soils. These conditions are unlikely to change in the near future.

There would be minimal cumulative adverse effects from past, present, and reasonably foreseeable future actions on soils. Existing facilities like roads and parking areas have compacted and armored the surface with concrete or aggregate surfaces. Other areas inside the work center are grassed but may be compacted by occasional traffic of vehicles or heavy equipment.

3.2 Water Resources

Affected Environment

The geographic bounds of analysis for potential effects associated with runoff and sedimentation include primarily first and second order tributaries to Indian Creek (Alternative B). The stream orders are based on topographic crenulations from the 1:24,000 USGS topographic maps. Some of these defined tributaries have had added hillslope gully branching on the proposed site that are not detailed on the topographic maps. Most of the headwater gullies found at the site are stable with the exception of a few that show minor head-cuts. The order 1 (headwater) channels are primarily ephemeral or scoured ephemeral channels, that may flow during episodic storm events. There is substantial variation in their entrenchment depth into the landscape. The existing offices and work centers are located on a ridgetop and no obvious existing surface water impacts were noted.

Indian Creek is a seventh order, USGS fifth level watershed located in the southern portion of the Enoree Ranger District. Forest ownership within the Indian Creek watershed is 44%. Indian Creek flows into the Enoree River. The Enoree River flows southeast through the Enoree Ranger District into the Broad River. Indian Creek has aggraded from excess sediment loading from past gully erosion and possibly other sources and continues to be affected for many sections by the heavy sediment loads that have clogged the channel, caused some sections to be braided and increased flooding. However, there were no obvious storm water or sediment contribution issues with the existing facility. The developed area is relatively flat, stormwater is released in many directions, much of the area remains in woodland or savanna character, with grass cover, and a substantial area adjacent to the work center is relatively flat forested land that offers a large capacity for infiltration of water and filtration of sediment.

3.2.1 Effects of Alternative A (No Action)

Direct and Indirect - The No Action Alternative would not involve any construction, soil disturbance, or modification of existing stream morphology, and therefore, would not have any direct effect on surface water resources in the vicinity of the existing facilities.

Cumulative Effects of Alternative A (No Action) -When the No Action Alternative is considered with past, present, and foreseeable management activities, no cumulative effects to water quality or yield were identified from choosing this alternative. Activities include 117 acres planned for woodland habitat restoration and 295 acres for biomass treatments with some minor amounts of prescribed burning. Site-specific mitigation measures and implementation of Forest Plan standards and guidelines including South Carolina Best Management Practices for Forestry (BMPs) would reduce impacts to soils. Site-specific mitigation measures and implementation of Forest Plan standards and guidelines including South Carolina Best Management Practices for Forestry (BMPs) would reduce impacts to soils. Ongoing activities at the existing site and vicinity would still occur with timber thinning, harvesting, prescribed burning, wildlife openings and other activities.

3.2.2 Effects of Alternative B (Proposed Action)

Direct and Indirect - Alternative B would not involve any stream crossings or modifications of channels. Due to the very flat nature of the site (less than 5%), excavation would be minimal to accommodate the new office site. Scoured and active gully channels would have a minimum of 25-foot buffer. There are no perennial or intermittent streams or riparian corridor areas within or adjacent to the site. The required minimum 100-foot riparian buffer would be maintained on all perennial and intermittent streams, and road crossings (there are none) would be designed and constructed to minimize effects on streams.

The potential for sedimentation is very low due to the flat slopes, wide forested buffers adjacent to the area and no existing issues with stormwater or erosion. Any new construction or surface disturbance would be mitigated as needed with stormwater and erosion control measures including the application of forestry and stormwater BMPs during ground disturbing activities and construction designs. In addition, construction standards set forth in the Forest Plan and Engineering protocols also help limit the effects of stormwater, erosion and sedimentation (USDA FS 2004a, USDA FS2004b). Upland soils would be disturbed and exposed during the construction process. Soils eroded from upland areas potentially could be transported into area streams during the construction process, but the flat nature of this site makes erosion and sediment delivery across wide forested buffers difficult. Soil erosion and sedimentation would be mitigated by the use of BMPs during construction. Pavement or gravel placed on the parking areas and roads would provide long-term protection against erosion and sedimentation. Monitoring and maintenance procedures for the roads and parking areas, as well as any stormwater and erosion control structures would minimize the potential for erosion and sedimentation after completion of the project. Estimates of sedimentation associated with the

alternative are 49 tons/decade. The details are in the process records of how these estimates were made. The level of increase is a minor short-term increase.

Pavement on the parking areas and roads, and rooftops would provide long-term protection against erosion and sedimentation to underlying soils, but these impermeable surfaces would result in a permanent increase in water yields. Existing conditions suggest that the area is able to process concentrated stormflow from roads, parking areas, building roofs and other impermeable surfaces with a negligible amount of erosion and sediment. Forested areas surrounding the proposed office site would continue to dissipate energy from the increased water yields. The surrounding forested area should dissipate the small increases in stormflow and protect stream banks.

Cumulative Effects of Alternative B (Proposed action) - Management activities on adjacent private and National Forest lands, such as timber harvesting have the potential to increase sedimentation and water yields, and this is true for all of the alternatives. Activities include 117 acres planned for woodland habitat restoration and 295 acres for biomass treatments with some minor amounts of prescribed burning. Site-specific mitigation measures and implementation of Forest Plan standards and guidelines including South Carolina Best Management Practices for Forestry (BMPs) would reduce impacts to soils.

The potential for cumulative effects on water resources are low. No activities are within the riparian corridor, perennial or intermittent streams.

In the Annual Monitoring and Evaluation Reports for 1994 through 2004, the items listed above were all found to be in compliance with the goals, objectives, management area direction and standards and guidelines of the Forest Plan. This illustrates that the water quality standards and guidelines that are being implemented are effective in protecting existing water resources. These Forest-wide water quality standards and guidelines as well as South Carolina BMPs would be followed on all future projects on National Forest System lands in the area to maintain water quality and prevent adverse impacts to water resources. Therefore, the cumulative effects from past, present, and reasonably foreseeable future actions would not impact water resources.

3.3 Floodplains and Wetlands

Affected Environment

The Indian Creek Office site is located on broad ridges out of the immediate vicinity of any floodplains or wetlands.

3.3.1 Effects of Alternative A (No Action)

Direct and Indirect Effects -The No Action Alternative would not involve any construction, soil disturbance, or modification of existing floodplains or wetlands, and consequently, would not have any direct effect on floodplains or wetlands in the vicinity of the existing facilities. The current facilities are located on ridgetops away from any

floodplains or wetlands. The existing surface water impacts would continue under the No Action Alternative.

Cumulative Effects -The No Action Alternative would not result in any additional impacts when viewed with past, present or foreseeable actions. Therefore, the No Action Alternative would not contribute to cumulative impacts on floodplains or water quality.

3.3.2 Effects of Alternative B (Proposed Action)

Direct and Indirect Effects - Alternative B would involve renovating construction of existing facilities on a broad flat ridge that is not in the immediate vicinity of the Indian Creek floodplain or any wetlands. Indirect effects include the limited potential for erosion to leave the site and reach streams, so eroded soils have limited opportunity to be deposited in the Indian Creek floodplain or adjacent wetlands during the construction process.

As indicated, Indian Creek has an oversupply of sediment that has caused most areas to aggrade, creating a braided channel with shifting flow paths and extensive floodplain. But due to the project area size relative to the size of Indian Creek watershed, it is doubtful that the dispersed and absorbed effects from the project area relative to erosion, sediment or concentrated flow could be measured or would be noticed.

Even though the potential is low, soil erosion and sedimentation would still be mitigated by the use of BMPs, construction designs based on standards set forth in the Forest Plan (USDA FS 2004a), and implementation of Management Prescription #11, Riparian Corridors (USDA FS 2004a). Gravel or pavement placed on the parking areas and roads would provide long-term protection against erosion and sedimentation. Monitoring and maintenance procedures for the roads and parking areas would minimize the potential for erosion and sedimentation after completion of the project.

Cumulative Effects -Private lands in the general area of the existing office site could be developed, but currently the private lands are in homes or managed for timber or wildlife habitat. Timber harvesting and prescribed burning are scheduled in the general vicinity of the existing office in Compartment 126 as previously stated in the Soils section. These activities are ground disturbing and could increase soil erosion and sedimentation. Mitigation measures are used during management activities to reduce off-site soil movement and reduce the potential for sedimentation.

The potential for cumulative effects on wetlands and floodplains are unlikely, but the normal practices still use BMPs (South Carolina Forestry Commission 1999 and storm water regulations), construction designs based on standards set forth in the Forest Plan (USDA FS 2004a), and implementation of Management Prescription #11, Riparian Corridors (USDA FS 2004a).

3.4 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, or thresholds, for air pollutants emitted by stationary sources (power plants and industrial operations), mobile sources (aircraft, on-road and off-road vehicles, etc.) and area sources (fugitive dust, agricultural and forestry operations such as burning). These National Ambient Air Quality Standards (NAAQS) were established for six contaminants, referred to as criteria pollutants (carbon monoxide, ozone, particulate matter, nitrogen oxides, sulfur dioxide, and lead), and apply to the ambient air (the air that the general public is exposed to every day). State air regulators (SC Department of Health and Environmental Control) maintain a network of air quality monitors across the state to measure ambient air quality. Areas where the ambient air meets the national standards are in attainment (of the standard). Areas where the ambient air quality does not meet the NAAQS are considered non-attainment areas, and the state must prepare a plan to bring air quality into attainment.
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. There are no Class I areas on the Sumter National Forest.

Area quality standards have been met on the Sumter National Forest. Ozone is the only pollutant monitored within the Enoree District (Union County, SC) and the data indicates that ozone has been decreasing since 2002.

Land clearing and construction operations affect air quality, but the impacts are usually limited to the local area. Emissions include fugitive dust from land clearing and vehicle travel on unpaved roads; and carbon monoxide, nitrogen oxides and volatile organic hydrocarbons from gasoline and diesel powered equipment and vehicles. .

3.4.1 Effects of Alternative A

Direct and Indirect Effects – Since no clearing and construction activities would occur, no direct or indirect impacts to air quality under Alternative A are anticipated.

Cumulative Effects – Emissions of pollutants into the atmosphere would not change from the current situation. According to South Carolina's Department of Health and Environmental Control (DHEC), no violations of air quality standards have occurred on the Sumter National Forest. Of all the forest management activities, prescribed burning has the greatest potential to impact air quality from particulate matter released during burning. Effects on air quality from timber harvesting activities would be temporary; no long-term effects should result. Emissions from additional operations for road, open land, and trail maintenance are not expected to change. When all of these emissions are considered with other on-going work, no change in air quality is anticipated.

3.4.2 Effects of Alternatives B (Proposed Action)

Direct and Indirect Effects - Impacts to air quality from clearing and construction operations could potentially occur as a result of the sustained use of heavy machinery, which generates emissions in a localized area. Minor and temporary increases in carbon monoxide (CO), nitrogen oxides (NO_x), and hydrocarbons would occur as a result of proposed on-site operations.

In addition to tailpipe emissions from heavy equipment, increased vehicle traffic along paved, unpaved (dirt), and gravel roads, as well as the temporary disturbance of ground surface during clearing and construction activities, could potentially cause increases in fugitive dust. These impacts would be temporary and limited to periods of high vehicle traffic and activity.

Cumulative Effects – Emissions from either Alternative, combined with emissions from existing activities on and near the Forest, are not expected to cause measurable changes in air quality. According to South Carolina's Department of Health and Environmental Control (DHEC), no violations of air quality standards have occurred on the Sumter National Forest. Of all the forest management activities, prescribed burning has the greatest potential to impact air quality from particulate matter released during burning. Effects on air quality from timber harvesting activities would be temporary; no long-term effects should result. Emissions from additional operations for road, open land, and trail maintenance are not expected to change. When all of these emissions are considered with other on-going work, no change in air quality is anticipated.

Monitoring

Air quality monitoring takes place on the Enoree Ranger District at established monitoring sites periodically. Results are published in the Monitoring and Evaluation Annual Report for the Sumter National Forest. Past monitoring indicates that air quality standards continue to be met.

3.5 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.

The Enoree RD administrative site and associated 5th level watersheds are mostly forested and thus provide a source for uptake and storage of carbon. At the watershed scale, this uptake is substantial but at the 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.

3.5.1 Direct, Indirect, and Cumulative Effects of Alternative A (No Action)

Alternative A would result in no short term change to the current trend for carbon storage or release in the project area.

Past and present projects within the administrative site including periodic prescribed burning, Nonnative Invasive Species control and woodland maintenance 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.

No cumulative impacts to climate change or carbon storage are expected to occur because there are no past, ongoing, or reasonably foreseeable activities that, in addition to this project, would further affect climate change or carbon storage in the project area.

3.5.2 Direct, Indirect and Cumulative Effects of the Proposed Alternative B

The Proposed Action would result in beneficial impacts. The newly constructed office and associated buildings would greatly enhance the Enoree Ranger District Administrative Site. It would provide efficient space for office staff and public interaction. The buildings would meet Guiding Principles Compliance (GPC) requirements as set by the Green Building Initiative. There may be short term adverse impacts to employees during the construction phase of the project.

Forested areas within the administrative site would be more open resulting in increased growth on residual trees with a proliferation of understory plant growth including pine and hardwood trees, forbs and grasses. Management actions (such as prescribed burning) that improve the resilience of forests to climate-induced disturbances such as catastrophic wildfire may help sustain the current strength of the carbon sequestration ability of the forest. 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 proposed action alternative would initially release carbon, leave fewer trees to store carbon, but would also create and maintain an herbaceous layer with a capacity for carbon storage and which may be more resistant to long-term climate change.

3.6 Vegetation

Affected Environment

The majority of the 160,000 acres of National Forest lands in the Enoree Ranger District are dominated by even-aged stands of loblolly pine (75 percent). Hardwood dominated stands comprise approximately 25 percent of lands in the Enoree Ranger District and are primarily found along perennial stream courses. Hardwoods can also be found as small inclusions within predominately pine stands and in mixed stands, which contain a relatively even mix of pine and hardwood species. Major hardwood species include sweetgum (*Liquidambar styraciflua*), red maple (*Acer rubrum*), yellow poplar (*Liriodendron tulipifera L*.) and a variety of oaks (*Quercus spp*.).

Plant communities in the Enoree Ranger District are predominantly managed loblolly pine forests. Species composition has been influenced in the past by timber harvest, prescribed fires, and altered soil conditions. Common shrub-sub canopy vegetation in these areas includes dogwood (*Cornus florida*), blackberry (*Rubus sp.),* sumac (*Rhus sp*.), hornbeam (*Carpinus caroliniana*), sourwood (*Oxydendrum arboreum)* and blackgum (*Nyssa sp*.), as well as seedlings and saplings of overstory species, including red maple (*Acer rubrum*), sweetgum (*Liquidambar styraciflua*), oak (*Quercus spp.),* and loblolly and some shortleaf pine (*P. echinata*).

Understory vegetation varies from location to location depending on soil conditions, frequency of disturbance, and the level of available moisture. In general, the level of ground cover is most affected by the amount of light reaching the forest floor, with those sites having the least canopy cover capable of supporting larger woody plant communities. These conditions are common in areas that once served as old log landings in past harvests, as well as near roadsides. Understory vegetation in these areas may include greenbriar (*Smilax sp.),* poison ivy (*Toxicodendron radicans*), honeysuckle (*Lonicera sp*.), blackberry, and beautyberry (*Callicarpa americana*), as well as a variety of grasses and legumes. The amount of hardwood seedling development in a given stand is directly correlated with the amount of crown closure and frequency of prescribed burns. Understory hardwood seedling development consists primarily of sweetgum and red maple, with a relatively smaller proportion of oak, depending on available seed sources. Sweetgum is the most common species. The majority of woody understory production in stands consists of soft mast and non-mast producing species.

The Indian Creek Office site is located in compartment 126; stand 14. Overstory vegetation in the site is dominated by scattered loblolly pines with an understory of fescue and other grasses. This area is regularly mowed and maintained as an administrative site and is designated as an administrative site under the revised Forest Plan.

3.6.1 Effects of Alternative A (No Action)

Direct and Indirect Effects -The No Action Alternative would not involve any construction or vegetation disturbance, and therefore, would not have any direct or indirect effects on vegetation in the vicinity of the existing facilities.

Cumulative Effects -The No Action Alternative would not have any effect on vegetation, and therefore, would not contribute to any cumulative effects on vegetation in the vicinity of the existing facilities.

3.6.3 Effects of Alternative B (Proposed Action)

Direct and Indirect Effects -Alternative B would result in the loss of approximately 1 to 2 acres of scattered loblolly pine in the vicinity of the Indian Creek office and work center in Compartment 126. This acreage would be permanently removed from growing trees and dedicated to office or work center space. Construction would include removal of the standing timber except for selected reserve trees; grubbing and excavation of the area for building construction and parking areas; and landscaping of the area with native and non-native plants. These impacts would affect 1 acre already committed to an administrative. Given the overwhelming predominance of forested land within the Enoree Ranger District, Alternative B would not have an adverse effect on Forest vegetation.

Cumulative Effects - Given the overwhelming predominance of forested land within the Enoree Ranger District of the Sumter National Forest (approximately 160,000 acres), and the minimal past and planned future development within the Forest, the losses of the trees on these 1 to 2 acres would not have an adverse cumulative effect on Forest vegetation.

3.7 Wildlife

Affected Environment

A wide variety of wildlife species occur throughout the Enoree Ranger District of the Sumter National Forest. Wildlife habitat in the project area consists primarily of loblolly pine (*Pinus taeda*), with some oaks (*Quercus* spp.), hickories (*Carya* spp.), maples (*Acer* spp.), sweetgum (*Liquidamber styraciflua*), and yellow poplar (*Liriodendron tulipifera*).

Management Indicator Species (MIS)[1] 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, 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 National Forest Revised*

[1] 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.

Land and Resource Management Plan (Forest Plan) 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 the Aquatic Communities section of this EA. Sumter National Forest MIS are listed in Table 3.7-1, 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 3.7-1. 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- to late-successional pine (age classes over 20 years); not common in dense stands of pines; will 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 will be used to help evaluate the results of management activities on this high profile species
Eastern Wild Turkey *Meleagris gallopavo*	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 project area and the biological requirements of the species, five terrestrial MIS are considered and discussed in this EA. The remaining eight species are not discussed in detail. Listed in Table 3.7-2 are the species that are excluded from analysis and the reasoning for why they are not addressed in the proposed project.

Table 3.7-2. Management Indicator Species excluded from analysis in the Administrative Site Reconstruction project, Enoree Ranger District, Sumter National Forest,

Species	Reason for Exclusion from Analysis
Scarlet Tanager *Piranga olivacea*	This species is an indicator for trends in frequency of occurrence in oak forests and the effectiveness of management for maintaining oak forests. Proposed management activities would not occur in this habitat so this species was excluded from analysis.
Acadian Flycatcher *Empidonax virescens*	This species is an indicator for trends in frequency of occurrence in riparian habitats. Proposed management activities would not take place within riparian areas so this species was excluded from analysis.
Prairie Warbler *Dendroica Discolor*	This species is an indicator for trends in frequency of occurrence in early successional forests. Proposed management activities would not take place within this habitat so this speices was excluded from analysis.
Field Sparrow *Spizella pusilla*	This species is an indicator for trends in frequency of occurrence in woodland/grassland/savanna habitats . Proposed management activities would not take place within these habitat types so this species was excluded from analysis.
American Woodcock *Scolopax minor*	This species is an indicator for trends in frequency of occurrence in early successional riparian habitats. Proposed management activities would not take place within riparian areas so this species was excluded from analysis.
Northern Bobwhite *Colinus virginianus*	This species uses grasslands, brushy areas, and woodlands. Proposed management activities would not take place within these types of habitat so this species was excluded from analysis.
Swainson's Warbler *Limnothlypis swainsonii*	This species is an indicator for presence and trends in frequency of occurrence in canebrakes and other early-successional riparian habitats. Proposed management activities would not take place within riparian areas so this species was excluded from analysis.
Black Bear *Ursus americanus*	This species does is not known to occur within the project area so it was exluded from analysis.

Environmental Consequences

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, thinning and herbicide use, 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 3.7-3 lists the habitat associations for the MIS analyzed for this project. Following the table are effects to these MIS by alternative.

Table 3.7-3. Habitat Associations of Management Indicator Species that occur or have habitat within the Administrative Site Reconstruction project, Enoree Ranger District, Sumter National Forest

Habitat Association	Species
Late Successional Pine	Pine Warbler, Brown-headed Nuthatch
Mixed Pine-Hardwood Forest	Hooded Warbler, Pileated Woodpecker, Eastern Wild Turkey

The following effects analysis takes into account not only the knowledge of species distribution from previous field surveys, but also the adequacy of those surveys. The best available science (including species' habitat requirements, reasons for species' decline, limiting factors, project area habitat conditions, and the biological effects of the intensity

of the proposed action) is also considered in the effects analysis. The effects of a proposed action on a species can be direct, indirect or cumulative.

3.7.1 Direct and Indirect Effects of Alternative A

Under this alternative, current management plans would continue to guide management in the project area. Administrative site expansion, including the clearing of three to five acres of trees, would not occur. The natural resources and ecological processes within the project area would continue at the existing level of human influence. The characteristic of the forest environment would be affected primarily by natural disturbances such as insects, disease and weather.

3.7.2 Direct and Indirect Effects of Alternative B

Direct Effects

Direct effects are effects to the species known or assumed to occur in the proposed project area. They occur at the same time and place as the project activity.

Project activities could disturb and displace all of the MIS. However, because of the highly mobile nature of avian species, direct effects to adults are not expected. It is possible that nests and nestlings could be lost due to project activities. These effects are considered minor since only a small amount of habitat (three to five acres) would be affected by site expansion activities. In addition, project activities and connected actions would have to occur at the exact time when species are most vulnerable. This is possible, but adverse effects to reproductive potential are mitigated by the fact that avian species may relocate and will re-nest multiple times throughout the nesting season. Significant direct effects are not expected to occur to MIS with the implementation of the proposed action.

Indirect Effects

Indirect effects include the consequences of management activities that result in the modifications of habitat and ecological conditions that affect food, water, shelter and other life requirements for a species. Indirect effects could occur during or after project implementation.

The office expansion site is currently dominated by mature loblolly pine, with some hardwood species. Three to five acres of suitable habitat would be permanently lost for those MIS associated with late successional pine (pine warbler, brown-headed nuthatch) and mixed pine-hardwood forests (hooded warbler, pileated woodpecker, eastern wild turkey). Considering the amount of available habitat located across the District, this would not result in significant indirect effects to the species.

Connected Actions

Actions are considered connected if they: (1) automatically trigger other actions that may require NEPA documentation, (2) cannot or will not proceed unless other actions are taken previously, or (3) are interdependent parts of a larger action and depend on the larger action for their justification.

In addition to three to five acres of tree removal for office expansion, other connected actions include minor excavation to accommodate water drainage, office construction, and parking lot expansion; the placement of temporary sanitation facilities and portable offices; the use of erosion control measures; and utility line work. These activities are not expected to impact MIS directly or indirectly.

Cumulative Effects of Alternative B

Cumulative effects are effects to the species and their habitats over time, and consider past, present, and future actions. Typical ongoing activities on the Enoree Ranger District include timber harvesting, prescribed burning, wildlife habitat improvements and management activities, and road maintenance.

This cumulative effects analysis tiers to *Management Indicator Species Population and Trends* (US Forest Service 2001), which provides context for species and their habitats across the Sumter National Forest.

MIS associated with Late Successional Pine (Pine Warbler, Brown-headed Nuthatch)

Pine warbler populations have declined slightly (0.2% annual decline) between 1992 to 2004. Brown-headed nuthatch populations have increased 5.4% annually on the Francis Marion and Sumter National Forests (FMS) over the same period of time (La Sorte et al. 2007). The population stability of these MIS is a reflection of the quantity and quality of available habitats on the Sumter NF. The implementation of alternative 2, along with other activities on the Sumter National Forest and surrounding private lands, is not expected to adversely affect species that use late successional pine habitats.

MIS associated with Mixed Pine-Hardwood Forest (Hooded Warbler, Pileated Woodpecker, Eastern Wild Turkey)

Hooded warbler has been declining slightly (0.6% annual decline; La Sorte et al. 2007) on the FMS between 1992-2004. This species primarily uses deciduous forests, but also occupies mixed pine-hardwood habitats. The proposed action would increase the quality and quantity of these habitat types over the long-term. The implementation of alternative B, along with other activities on the Sumter National Forest and surrounding private lands, is not expected to adversely affect hooded warbler.

Trend estimates indicate that populations of pileated woodpecker are stable across the southeastern United States. Pileated woodpecker uses extensive areas of late successional

coniferous and deciduous forest. However, young forests that retain scattered, large, dead trees also provide suitable habitat. This species is versatile in utilizing various forest habitats and adapts well to human habitation. Habitat also exists for pileated woodpecker on private property across the mountains, including in rural and suburban settings. The proposed action is not expected to result in adverse cumulative effects for this species.

Populations of wild turkey suffered dramatic declines in the early 1900s. Aggressive stocking programs successfully reintroduced this species to most of its eastern range where populations continue to increase. Wild turkey uses upland forests of oaks, hickories, and pines as well as bottomland forest. Habitat management should center on maintaining mature bottomland hardwood forest, open upland forests, and scattered openings dominated by herbaceous cover. Proposed administrative site expansion activities are not expected to result in adverse cumulative effects for eastern wild turkey.

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

Affected Environment

Several proposed, endangered, threatened and sensitive (PETS) plant and animal species occur throughout the Enoree Ranger District of the Sumter National Forest. For additional information and descriptions of affected environment for PETS species and associated habitats see the *Final Environmental Impact Statement for the Revised Land and Resource Management Plan, Sumter National Forest Land and Resource Management Plan* (US Forest Service 2004).

Proposed, endangered and threatened species are designated by the US Fish and Wildlife Service (USFWS) and are managed under the authority of the Endangered Species Act (ESA) [Public Law (PL) 93-205, as amended] and the National Forest Management Act (PL 94-588). The ESA requires federal agencies to ensure that no actions that they "authorize, fund, or carry out" are likely to jeopardize the continued existence of any proposed, endangered or threatened species or their habitat.

Sensitive species are managed under the authority of the National Forest Management Act requiring that National Forests manage for "viable populations of all native and desirable non-native species" both across the range of the species and within the planning area. Sensitive species designation occurs on a periodic basis through the recommendation of Forest Biologists who consult with local State Heritage Programs, The Nature Conservancy and local species experts. The Regional Forester administratively designates sensitive species.

The complete list of PETS species for the Sumter National Forest is attached in Appendix A of the *Biological Assessment/Biological Evaluation, Office Expansion* (August 2012). All species on this list were considered for this analysis. Using a step-down process, species and potential habitat in the project area were identified by:

1) Evaluating the location and nature of the proposed project;

2) Considering the species' range, life history and available habitat information;
3) Reviewing District records of known PETS species surveys and occurrences;
4) Reviewing the USFWS Distribution Records of Endangered, Threatened, Candidate and Species of Concern (2012); and
5) Reviewing the South Carolina Heritage Trust Geographic Database of Rare, Threatened and Endangered Species.

There are no PETS species or associated habitats that are known to occur or have the potential to occur within the proposed project area.

3.8.1 Effects of Alternative A (No Action)

Under the No Action alternative, there would be no direct, indirect, or cumulative effects on PETS species or their habitats.

3.8.2 Effects of Alternative B (Proposed Action)

See the attached BA/BE for the analysis of direct, indirect, and cumulative effects of the Proposed Action on PETS species and their habitats. Since all threatened and endangered species were eliminated from consideration due to lack of habitat in the project area, ESA Section 7 consultation with the USFWS is not necessary.

3.9 Aquatic Communities

Affected Environment

This proposed project site (Alternative B) is located in the Enoree River watershed. The watershed contains a warm water aquatic community that includes fish and macro invertebrates. The warm water aquatic community serves as a management indicator that is monitored to indicate the effects of management on riparian resources. Fish, crayfish, aquatic insects and mollusks are all components of the community. Fish species known to occur in the watershed are listed in Table 3-4.

Table 3.8.1. Fish species known to occur in the Enoree River watershed.

Scientific Name	**Common Name**
Aphredoderidae	**Pirate Perches**
Aphredoderus sayanus sayanus	Eastern pirate perch
Catostomidae	**Suckers**
Carpiodes cyprinus	Quillback
Catostomus commersoni	White sucker
Erimyzon oblongus oblongus	Creek chubsucker
Hypentelium nigricans	Northern hog sucker
Minytrema melanops	Spotted sucker
Moxostoma macrolepidotum macrolepidotum	Shorthead redhorse
Moxostoma robustum	Robust redhorse
Moxostoma rupiscartes	Striped jumprock

Table 3.8.1. Fish species known to occur in the Enoree River watershed.	
Scientific Name	**Common Name**
Centrarchidae	**Sunfish**
Lepomis auritus	Redbreast sunfish
Lepomis cyanellus	Green sunfish
Lepomis gibbosus	Pumpkinseed
Lepomis gulosus	Warmouth
Lepomis macrochirus	Bluegill
Lepomis marginatus	Dollar sunfish
Lepomis microlophus	Redear sunfish
Micropterus salmoides	Largemouth bass
Pomoxis annularis	White crappie
Pomoxis nigromaculatus	Black crappie
Clupeidae	**Herrings**
Alosa sapidissima	American shad
Dorosoma cepedianum	Gizzard shad
Dorosoma petenese	Threadfin shad
Cyprinidae	**Carps and Minnows**
Clinostomus funduloides	Rosyside dace
Ctenopharyngodon idella	Grass carp
Cyprinella chloristia	Greenfin shiner
Cyprinella labrosa	Thicklip chub
Cyprinella nivea	Whitefin shiner
Cyprinella pyrrhomelas	Fieryblack shiner
Cyprinella zanema	Santee chub
Cyprinus carpio	Common carp
Hybognathus regius	Eastern silvery minnow
Hybopsis hypsinotus	Highback chub
Nocomis leptocephalus	Bluehead chub
Notemigonus crysoleucas	Golden shiner
Notropis altipinnis	Highfin shiner
Notropis cummingsae	Dusky shiner
Notropis hudsonius	Spottail shiner
Notropis lutipinnis	Yellowfin shiner
Notropis petersoni	Coastal shiner
Notropis procne	Swallowtail shiner
Notropis scepticus	Sandbar shiner
Semotilus atromaculatus	Creek chub
Esocidae	**Pikes**
Esox americanus.	Redfin pickerel
Esox niger	Chain pickerel
Ictaluridae	**Bullhead Catfishes**
Ameiurus brunneus	Snail bullhead
Ameiurus catus	White catfish
Ameiurus natalis	Yellow bullhead
Ameiurus nebulosus	Brown bullhead
Ameiurus platycephalus	Flat bullhead
Ictalurus punctatus	Channel catfish
Noturus gyrinus	Tadpole madtom
Noturus insignis insignus	Margined madtom
Pylodictis olivaris	Flathead catfish
Lepisosteidea	**Gars**

Table 3.8.1. Fish species known to occur in the Enoree River watershed.	
Scientific Name	**Common Name**
Lepisosteus osseus	Longnose gar
Moronidae	**Temperate Basses**
Morone saxatilis	Striped bass
Percidae	**Perches**
Etheostoma collis	Carolina darter
Etheostoma olmstedi	Tessellated darter
Etheostoma thalassinum	Seagreen darter
Perca flavescens	Yellow perch
Percina crassa	Piedmont darter
Stizosteddion vitreum	Walleye
Poeciliidae	**Livebearers**
Gambusia holbrooki.	Eastern mosquitofish

The robust redhorse is ranked as G1 by NatureServe (2006). This ranking indicates that the species is at a very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors. It is also listed as endangered by the American Fisheries Society (Warren, et. al. 2000), which indicates that the species is in danger of extinction throughout all or a majority of its range. The snail bullhead, flat bullhead and Carolina darter are listed as vulnerable by the American Fisheries Society. This indicates that the species may become endangered or threatened by relatively minor disturbances to its habitat or that it deserves careful monitoring of its distribution and abundance in continental waters of the United States to determine its status. The Carolina darter is also ranked as G3 by NatureServe, indicating it is at moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.

Crayfish that are known to occur in the area include *Cambarus latimanus, Cambarus acuminatus, Cambarus howardi, Cambarus reduncus, Cambarus reflexus, Cambarus striatus, Cambarus spicatus, Procambarus troglodytes, Procambarus clarki, Procambarus acutus, Distocambarus carlsoni,* and *Distocambarus youngineri,* (Eversole and Jones 2004). The crayfish species known to occur are ranked as uncommon, but not rare (G4, S4) or common, widespread and abundant (G5, S5) by the Natural Heritage Program (NatureServe 2006), except for *Distocambarus carlsoni, Distocambarus youngineri, Cambarus spicatus* and *Cambarus howardi. Distocambarus youngineri* is ranked as G1 and S1 and as endangered by the American Fisheries Society. The remaining three species are ranked as G3.

Mussel species known to occur include *Villosa delumbis, Elliptio angustata, Elliptio complanata* and *Pyganodon cataracta* (Alderman 2006). The mussel species known to occur are ranked as uncommon, but not rare (G4) or common, widespread and abundant (G5) by the Natural Heritage Program (NatureServe 2006). These species are not rated by the SC Natural Heritage Program. *Elliptio angustata* is ranked as a special concern species by the American Fisheries Society. A non-native clam species, *Corbicula fluminea*, has widespread occurrence.

Aquatic insect surveys have not been conducted, but incidental catch reveals a variety of insect order classes present.

3.9.1 Effects of Alternative A (No Action)

Direct and Indirect Effects-There would be no direct or indirect effects to the aquatic community under the no action alternative. The aquatic community would remain in the present state or continue any current population trends.

Cumulative Effects of Alternative A -There would be no cumulative effects to aquatic communities under the no action alternative.

3.9.2 Effects of Alternative B (Proposed Action)

Direct and Indirect Effects - Under Alternative B, an existing office and work center would be renovated to include new buildings, parking lots and roads. Vegetation would be removed from one to two acres of land. Since there are no stream crossings associated with the project, there would be no direct effects from project implementation. There is the potential for indirect effects from off-site movement of soil and water from the office and work center complex construction site into area streams. An unnamed tributary to Indian Creek is located on the east boundary of the Indian Creek Office site. Indirect effects would be minimized with the application of the LRMP Management Prescription #11, Riparian Corridors and with the application of Forest Wide Standards specific to ephemeral channels. Minimum width buffer areas would be maintained around all area streams. These include a 100-foot buffer for perennial streams, 50-foot buffer for intermittent streams, and a 25-foot buffer for ephemeral streams. In addition, SC Forestry Commission Best Management Practices regarding timber harvest and road construction and SC Department of Health and Environmental Control Best Management Practices regarding storm water would be applied to project activities

Cumulative Effects of Alternatives B (Proposed Action) -Under the 2004 Plan Revision for the Sumter National Forest, a Watershed Condition Rank (WCR) was assigned to 5th level watersheds across the Forest. The Indian Creek watershed (Alternative B) received a rank of Average, which denotes that the potential to adversely affect aquatic resources as moderate on a scale of low, moderate and high. Forest objectives in moderate ranked watersheds include maintaining and improving aquatic health through the implementation of the Riparian Corridor Prescription, conducting watershed assessments at the project level, and pre-project monitoring efforts to determine biota health. Sediment was determined to be a risk factor for aquatic species viability in these watersheds.

Other land uses in the area include forest management, recreational use, agricultural use and private homes.

The Riparian Corridor Prescription addressing perennial and intermittent streams, the Forest Wide Standards specific to ephemeral channels, and the state BMP's would be implemented for all these projects. There should be no cumulative effects from the implementation of this project.

3.10 Migratory Songbirds

The Administrative Site Reconstruction project 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 songbirds 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 proposed project.

Table 3.10-1. Priority migratory songbirds associated with the Administrative Site Reconstruction Project, Sumter National Forest, Enoree Ranger District, South Carolina

Species	Habitat Association	Habitat Altered? Y/N	Habitat Created? Y/N
Brown-headed nuthatch	Mature pine forest	Y	N
Hooded Warbler	Mixed pine-hardwood forest	Y	N
Northern parula	Mixed pine-hardwood forest	Y	N
Wood thrush	Mixed pine-hardwood forest	Y	N
Kentucky warbler	Mixed pine-hardwood forest	Y	N
Whip-poor-will	Mixed pine-hardwood forest	Y	N

3.10.1 Effects of Alternative A: No Action

Under this alternative, current management plans would continue to guide management in the project area. Administrative site expansion, including the clearing of three to five acres of trees, would not occur. The natural resources and ecological processes within the project area would continue at the existing level of human influence. The characteristic of the forest environment would be affected primarily by natural disturbances such as insects, disease, and weather. There would be no direct, indirect, or cumulative effects to priority migratory birds under the no action alternative.

3.10.2 Effects of Alternative B: Proposed Action

Direct Effects

Direct effects are effects to the species known or assumed to occur in the proposed project area. They occur at the same time and place as the project activity.

Project activities could disturb and displace all of the priority migratory birds. However, because of the highly mobile nature of avian species, direct effects to adults are not expected. It is possible that nests and nestlings could be lost due to project activities. These effects are considered minor since only a small amount of habitat (three to five acres) would be affected by site expansion activities. In addition, project activities and connected actions would have to occur at the exact time when species are most

vulnerable. This is possible, but adverse effects to reproductive potential are mitigated by the fact that avian species may relocate and will re-nest multiple times throughout the nesting season. Significant direct effects are not expected to occur to priority migratory birds with the implementation of the proposed action.

Indirect Effects

Indirect effects include the consequences of management activities that result in the modifications of habitat and ecological conditions that affect food, water, shelter and other life requirements for a species. Indirect effects could occur during or after project implementation.

The forested portion of the office expansion site is currently dominated by mature loblolly pine, with some hardwood species. Three to five acres of suitable habitat would be permanently lost for those priority migratory birds associated with mature pine forest (brown-headed nuthatch) and mixed pine-hardwood forests (hooded warbler, northern Parula, wood thrush, Kentucky warbler, whip-poor-will). Considering the amount of available habitat located across the District, this would not result in significant indirect effects to the species.

Connected Actions

Actions are considered connected if they: (1) automatically trigger other actions that may require NEPA documentation, (2) cannot or will not proceed unless other actions are taken previously, or (3) are interdependent parts of a larger action and depend on the larger action for their justification.

In addition to tree removal for office expansion, other connected actions include minor excavation to accommodate water drainage, office construction, and parking lot expansion; the placement of temporary sanitation facilities and portable offices; the use of erosion control measures; and utility line work. These activities are not expected to impact priority migratory birds directly or indirectly.

Cumulative Effects

Cumulative effects are effects to the species and their habitats over time, and consider past, present, and future actions. Typical ongoing activities on the Enoree Ranger District include timber harvesting, prescribed burning, wildlife habitat improvements and management activities, and road maintenance.

This cumulative effects analysis tiers to *Management Indicator Species Population and Trends* (US Forest Service 2001), which provides context for species and their habitats across the Sumter National Forest.

Priority Migratory Birds Associated with Mature Pine Forest (Brown-headed Nuthatch)

Brown-headed nuthatch populations have increased 5.4% annually on the Francis Marion and Sumter National Forests (FMS) between 1992-2004 (La Sorte et al. 2007). The population stability of this species is a reflection of the quantity and quality of available habitats on the Sumter NF. The implementation of alternative B, along with other activities on the Sumter National Forest and surrounding private lands, is not expected to have adverse cumulative effects on migratory birds that use mature pine forests.

Priority Migratory Birds Associated with Mixed Pine-Hardwood Forest (Hooded Warbler, Northern Parula, Wood Thrush, Whip-poor-will)

Hooded warbler has been declining slightly (0.6% annual decline) while northern parula and wood thrush have experienced more significant declines (4.1% and 9.9%, respectively) on the FMS between 1992-2004 (La Sorte et al. 2007). These species primarily uses deciduous forests, but also occupy mixed pine-hardwood habitats. Whip-poor-will population trends are difficult to assess on the FMS, but range-wide it has suffered a steady decline. The implementation of alternative B, along with other activities on the Sumter National Forest and surrounding private lands, is not expected to have adverse cumulative effects on migratory birds that use mature pine forests.

3.11 Local Economy

The Enoree Ranger District provides a wide range of recreational opportunities such as camping, hiking, hunting, fishing, horseback riding, mountain bike riding, and sightseeing. Recreational users provide a minor economic benefit to the local community through the purchase of local goods and services. The number of forest visitors would increase as regional growth increases. However, hunting and fishing would remain the primary recreation use in the foreseeable future. Returns to the Counties also provide an economic benefit for schools and roads in five counties.

Most of the Enoree Ranger District falls within the Wildland Urban Interface. The Wildland-Urban Interface (WUI) is a line, area or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuel. Much of the Enoree Ranger District is in dispersed ownership. Highways, homes, farms, and other valuable structures border National Forest lands and the resulting mosaic requires fire management and control. Because of this mixed ownership, wildfires cannot be allowed to burn unimpeded. Currently two engines are maintained at each office/work center complex to allow for a rapid response depending on the location of the fire.

During the consolidation process in 2001, employees identified a centrally located office and work center as the preferred location. Two reasons employees selected a centrally located office and work center site is that employees and forest visitors would be affected equally. Efficiency of operation and customer service has become an issue when one office has had to be closed during business hours due to a lack of personnel to staff an office. It also causes confusion because some services are only offered at certain offices.

Concerns about impacts to local businesses were brought up during scoping. Currently small purchases are made in nearby towns, where blank purchases agreements are available. With the two offices, one being closer to Union and the other closer to Newberry, employees would drive to the closest town, so businesses in both towns benefit.

Visibility and distance from I-26 were concerns brought up by the Newberry County Council. Both offices and work center complexes are highly visible from US Highway 176. See Table 2-1 for mileages and a comparison of the alternatives.

3.11.1 Effects of Alternative A (No Action)

Direct and Indirect Effects– This alternative would have no changes to efficiency of operations and customer service. No changes would occur where government vehicles are filled up with gasoline or where they are serviced. No changes would occur where agricultural equipment are filled up with diesel fuel or where they are serviced. No changes in driving times to the job sites or in opportunities to car pool would occur.

Visibility and distance from I-26 were concerns brought up by the Newberry County Council. Both existing offices and work center complexes are highly visible from US Highway 176. The Indian Creek office is nearly 7 miles from I-26 and the Tyger office is nearly 24 miles from I-26. No changes would occur in visibility or distance from I-26.

Cumulative Effects - The No Action Alternative would not have any effect on existing economic conditions, and therefore, would not contribute to any cumulative effects on the local economy. The cost of operating two offices and work center would be a long-term cost to the Forest Service. Customer service would not be improved since services would be offered at different offices and offices may be closed during business hours due to a lack of staffing.

3.11.2 Effects of Alternative B (Proposed Action)

Direct and Indirect Effects - Customer service would be improved since services would be located in one office and there would be fewer problems with staffing one office. The level of customer service would be reduced in Union County. If the office is located on the southern of the district, then forest visitors who live in Union would have to drive further for permits and other services. The future renovation of the fuel station would improve efficiency and make available the use of diesel fuel for agricultural equipment such as tractors, dozers, and utility vehicles. A more southerly office would increase driving times to the job site and response time to wildland fires, particularly on the north side of the district. This office is readily visible from US Highway 176 and is approximately 6.8 miles from I-26.

Cumulative Effects – No noticeable cumulative adverse effects are anticipated to the local economy since very few changes would occur regarding federal purchasing of gas

and other services in either of the two counties in day-to-day District management operations.

Services to the public are unlikely to be affected since this is a rural community and changes in travel distances are very minor from what exist under the no action alternative.

3.12 Recreation

The Enoree Ranger District provides a wide range of recreational opportunities such as camping, hiking, hunting, fishing, horseback riding, mountain bike riding, and sightseeing. The Proposed Action and alternative project areas do not contain any designated trails or recreational facilities. However, the two proposed office areas are easily accessible from U.S. Highway 176 and may support minor amounts of dispersed recreational activities such as hiking by employees.

3.12.1 Effects of Alternative A (No Action)

Direct and Indirect Effects -The No Action Alternative would not affect any recreational sites or have any effect on the number of visitors to the Enoree Ranger District, and therefore, would have no effect on existing recreational use.

Cumulative Effects - Regional population growth would be expected to increase the number of visitors, and consequently, recreational use would be expected to increase. The No Action Alternative would not have any cumulative effects on recreational use when viewed with past, present, and foreseeable actions on National Forest land.

3.12.2 Effects of Alternative B (Proposed Action)

Direct and Indirect Effects - No designated recreational areas or facilities would be affected by Alternative B. Approximately 3-5 acres of scattered pine would be cleared for the project in an area already designated for administrative. Given the abundance of forested lands available for dispersed public recreation, recreational opportunities for the public would not be adversely affected by Alternative B.

Cumulative Effects -A more accessible presence at the existing office and work center site combined with regional population growth would be expected to increase the number of visitors, and consequently, recreation use would be expected to increase across the District.

3.13 Scenic Resources

Scenic resources on National Forest System lands are managed in accordance with the Scenery Management System (SMS) (USDA FS 1995). Landscape areas are assigned a landscape character goal that determines how they would be managed for visual quality. Landscape areas are also assigned to scenic classes based on inherent scenic attractiveness, distance zones, and viewer concern levels. The scenic classes are used to develop scenic integrity objectives for the particular area. Based on the landscape character goal and scenic integrity objective of a particular area, various scenery treatment standards are applied to forest management activities to mitigate adverse scenic impacts within that particular area. The Proposed action alternative project area is currently allocated to Management Prescription 9.G, which emphasizes management, maintenance, and restoration of Oak and the existing office site in Compartment 126 is allocated to Management Prescription 5.A Administrative sites. The two action alternative project areas have a landscape character goal of "natural appearing" and are classified as scenic class 1, with a "high" scenic integrity objective.

3.13.1 Effects of Alternative 1 (No Action)

Direct and Indirect Effects - The No Action Alternative would not alter the existing scenic character of the area.

Cumulative Effects - The No Action Alternative would not have any effect on scenic resources, and therefore, would not contribute to any cumulative effects on scenic resources.

3.13.2 Effects of Alternative B (Proposed Action)

Direct and Indirect Effects -Alternative B would not reallocate any areas from Management Prescription 9.G to Management Prescription 5.A. Since this area is already designated as an administrative site, the SIO would stay the same. Alternative B would change the existing landscape from a small office complex with scattered trees to a larger office complex. There would be a short-term visual impact caused by exposed soil. This area is not visible from any trails or recreation facilities, but is visible from US Highway 176.

The landscape character goal for the majority of the project area would remain "rural", although peripheral portions of the project area may retain a goal of natural appearing. Due to the high visibility of the site (along U.S. Highway 176), the site would remain in scenic class 1 and would retain its "high" scenic integrity objective. Based on the "high" scenic integrity objective, the site would be subject to the highest level of ecological

treatment standards for urban and naturally appearing landscape areas. Ecological treatment standards for the site would include 1) enhancement of fall color species through practices such as selective tree removal and the retention of visually attractive trees and shrubs, 2) creation of a park-like effect within the existing pine or pine-hardwood stands, 3) featuring flowering trees, character trees, and shrub species, and 4) maintenance of trees to enhance visual quality (e.g. limbing up trees, removal of leaning/bent over trees, variable density feathering, etc.). Additional ecological treatment standards would be applied to tree maintenance, road construction, and road maintenance.

Cumulative Effects -Construction of these additional facilities would have impacts on scenic resources that are similar to those that are similar to existing facilities. Cumulative effects on scenic resources would be minor.

3.14 Costs

Affected Environment

Cost was a major consideration in deciding to move to one central office location. Over the course of the past several years, inspections and reviews of the Indian Creek office and work center have identified numerous limitations that are impairing the safe, efficient, and/or cost-effective operation of these facilities. There also is an issue of cost with the present facilities.

The Tyger office is located in a leased building, costing approximately $94,182 in rent each year. The lease is renewed annually as needed. The Indian Creek office and the work center are old and need major modifications. Over the course of the past several years, inspections and reviews of the Indian Creek office and work center have identified numerous limitations that are impairing the safe, efficient, and/or cost-effective operation of these facilities The deferred maintenance costs are estimated at approximately $124,264.00.

Since either of the action alternatives would be located on National Forest System land, there would be no land acquisition costs under either alternative. The estimated cost for the facilities relocation project under the Proposed Action alternative is slightly over $2 million. This cost for construction under Alternative B is due to cost of renovating existing facilities to accommodate a larger work force which includes office and future work center renovations. Annual maintenance costs would be expected to be $10,000 under with the proposed action and an additional $126,264.00 in deferred maintenance costs would be eliminated under the proposed action alternative.

3.14.1 Effects of Alternative A (No Action) – The annual lease costs of $94,182 per year would be continued for the lease of the Tyger Office. The deferred maintenance costs for the Indian Creek Office and Work Center is $126,264.00 and would be needed to correct certain limitations.

3.14.2 Effects of Alternative B (Proposed Action) - With Alternative B, initial construction costs would be approximately $1,500,000 and long-term maintenance dollars would be $10,000.00 per year over a ten-year period. Cost associated with the work center renovation projects when funding becomes available

3.15 Heritage Resources

Affected Environment

The Indian Creek office site has been surveyed for heritage resources.

3.15.1 Effects of Alternative 1 No Action

Direct and Indirect Effects - There would be no direct effects to heritage resources and there would be no threat to surface or shallow archaeological features and sties.

Cumulative Effects - There would be no cumulative effects to heritage resources.

3.15.2 Effects of Alternative B (Proposed Action)

Direct and Indirect Effects - These sites were surveyed and no historic properties would be impacted by proposed office construction activities. A heritage resource analysis concurrence report developed by the State Historic Preservation Officer (SHPO) is on file in the project record.

Cumulative Effects - Cumulatively, no impacts are anticipated since surveys for historic sites for management activities on National Forest system land have been completed. Monitoring of excavation of the project area will limit any possibilities of cumulative effects from this project.

3.16 Civil Rights and Environmental Justice

Individual civil rights and the rights of minority groups would not be affected directly or indirectly by the alternatives considered herein. Women, Native Americans, minority groups, and/or consumer groups should not be impacted by any of the alternatives any differently than any other groups. The decision to be made poses no environmental justice implications.

3.17 Irreversible and Irretrievable Commitment of Resources

Irreversible commitments are non-renewable resources that are permanently lost or renewable resources that can only be renewed after a long period of time. Non-renewable resources include human labor, minerals, oil and gas, etc.; and renewable resources include such items as soil productivity. There would be no irreversible commitment of non-renewable resources in any of the alternatives.

An irretrievable commitment is one in which resource production or use is lost while managing an area for another purpose. Alternative B would have no impact on current plan allocations or on the productivity capacity of the Forest since it is currently managed as an administrative site.

4.0 List Of Preparers

The following is a list of the names of the persons who assisted in the preparation of the EA and were members of the ID team.

ID team members	
Marcus Beasley	Assistant Fire Management Officer
Hector Socias	Project ID Team Leader
John Richardson	Silviculturist
Jeff Magniez	Zone Biologist
Carrie Miller	Biological Science Technician
Bill Hansen	Forest Hydrologist
Jeannie Riley	Forest Aquatics Biologist
Alice Riddle	Outdoor Recreation Planner
Robbin Cooper	Forest Landscape Architect
Bill Jackson	Zone Air Specialist
Mike Harmon	Forest Archaeologist
Jim Knibbs	Forest NEPA Coordinator
Jason Jennings	Forest Soil Scientist
Robin Mackie	Forest Ecologist
Bruce Liles	Engineer

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APPENDIX A

BIOLOGICAL ASSESSMENT / EVALUATION

Office Expansion

U.S. Forest Service
Enoree Ranger District
Sumter National Forest
Newberry County
South Carolina

August 2012

I. INTRODUCTION

The purpose of this Biological Assessment/Evaluation (BA/BE) is to determine whether the proposed action is likely to affect any proposed, endangered, threatened, or sensitive (PETS) species or their habitats.

Proposed, endangered, and threatened species are designated by the U.S. Fish and Wildlife Service (USFWS) and are managed under the authority of the Endangered Species Act (ESA) (Public Law [P.L.] 93-205, as amended) and the National Forest Management Act (P.L. 94-588). The ESA requires Federal agencies to ensure that no actions that they "authorize, fund, or carry out" are likely to jeopardize the continued existence of any proposed, endangered, or threatened species or their habitat.

Sensitive species are managed under the authority of the National Forest Management Act requiring that National Forests manage for "viable populations of all native and desirable non-native species" both across the range of the species and within the planning area. Sensitive species designation occurs on a periodic basis through the recommendation of Forest Biologists who consult with local State Heritage Programs, the Nature Conservancy, and local species experts. The Regional Forester administratively designates sensitive species.

The objectives of this BA/BE are:

- To ensure that Forest Service actions do not contribute to the loss of viability of any PETS species;
- To comply with the requirements of the ESA; and
- To provide a process and standard to ensure PETS species receive full consideration in the decision-making process.

II. PROPOSED ACTION

The Francis Marion and Sumter National Forest is proposing to improve the existing Enoree Ranger District office. The site is approximately 20 acres and is located on national forest system lands. The existing office site would be renovated and expanded to provide a 8000 square foot office building to accommodate full district staff; visitor area; 50-space employee parking; 10-space visitor parking; entrance road; water service; septic tank; drain field; electric

service; and outdoor covered pavilion. Additionally, minor renovations would be done to the existing work center complex at a future time when funding becomes available to provide additional outbuildings, 24-space fleet parking; updated fuel station; electric service; antenna tower; and minor site renovations as necessary within the existing fence line of the work center complex. This project would expand the current administrative Forest Service office, combining the Tyger and Indian Creek Offices, associated parking and storage structures at primarily one location.

III. CONSULTATION HISTORY

This BA/BE tiers to the Biological Assessment for the Sumter National Forest Revised Land and Resource Management Plan (Forest Plan, 2004). The USFWS was consulted informally on the Forest Plan BA and concurred with a determination of "not likely to adversely affect."

IV. SPECIES CONSIDERED AND EVALUATED

The complete list of PETS species for the Sumter National Forest is attached in Appendix A. All species on this list were considered for this BA/BE. Using a step-down process and best available science, species and potential habitat in the project area were identified by:

1) Evaluating the location and nature of the proposed project,
2) Considering the species' range, life history, and available habitat information,
3) Reviewing District records of known PETS species occurrences,
4) Reviewing the USFWS Distribution Records of Endangered, Threatened, Candidate and Species of Concern (2012), and
5) Reviewing the South Carolina Heritage Trust Geographic Database of Rare, Threatened, and Endangered Species (2011).

The procedure used to decide when to inventory for PETS species is consistent with Forest Service Manual (FSM) 2672.43. A review of the available records indicates that there are no occurrences of any PETS species in the project area. The project area would be an established building, parking lot, and work center. There are no PETS species or associated habitats which are known to occur or have the potential to occur in the proposed project area.

V. DETERMINATION OF EFFECT AND RATIONALE

Since all threatened and endangered species were eliminated from consideration due to lack of habitat in the project area, ESA Section 7 consultation with the USFWS is not necessary.

Threatened and Endangered Species

All Threatened and Endangered Species – NO EFFECT

Sensitive Species

All Sensitive Species – NO IMPACTS

VI. SIGNATURES

This Biological Assessment/Evaluation was prepared by:

/s/ Carrie M. Miller *7/31/2012*

Carrie M. Miller — Date
Biological Science Technician
Sumter National Forest

This Biological Assessment/Evaluation was reviewed and accepted by:

Jeffrey M. Magniez 8/1/2012

Jeffrey M. Magniez — Date
Zone Wildlife Biologist
Sumter National Forest

VII. REFERENCES AND DATA SOURCES

South Carolina Heritage Trust Geographic Database of Rare and Endangered Species. 2011. Online reference https://www.dnr.sc.gov/pls/heritage/species.login.

U.S. Fish and Wildlife Service. 2012. South Carolina Distribution Records of Endangered, Threatened, Candidate and Species of Concern.

APPENDIX A

Proposed, Endangered, Threatened, and Sensitive (PETS) Species of the Sumter National Forest (2012). Obs = PETS species observed during project field surveys or known to occur based on existing records, Hab = Suitable habitat exists within the project area, "+" = meets criterion, "--" = does not meet criterion. P = piedmont (Enoree and Long Cane Ranger Districts), M = mountains (Andrew Pickens Ranger District).

SPECIES	STATUS	HABITAT	Obs	Hab	Range
CAROLINA HEELSPLITTER *Lasmigona decorata*	Federally Endangered	Known historically from Catawba, Pee Dee, and Saluda drainages in South Carolina; occurs in Mountain, Beaverdam, Cuffytown, Sleepy, and Turkey Creeks **No potential habitat within project area; aquatic areas not affected**	--	--	P
PERSISTENT TRILLIUM *Trillium persistens*	Federally Endangered	Known from one site in South Carolina; occurs in mixed mesic forest in the Tugaloo River Composite watershed **Outside of known range**	--	--	M
RELICT TRILLIUM *Trillium reliquum*	Federally Endangered	Basic mesic forests in Savannah and Chattahoochee drainages; known from the lower piedmont/fall line sandhills region **Outside of known range**	--	--	P
SMOOTH CONEFLOWER *Echinacea laevigata*	Federally Endangered	Occurs along the Brevard Geologic Belt in association with grassy understories and open canopies **Outside of known range**	--	--	M
WOOD STORK *Mycteria americana*	Federally Endangered	Known to forage in freshwater wetlands on both Enoree and Long Cane Ranger Districts **No potential habitat within project area; wetlands not present**	--	--	P
FLORIDA GOOSEBERRY *Ribes echinellum*	Federally Threatened	Known from the Stevens Creek drainage, on north facing hardwood slopes in association with basic soils **Outside of known range**	--	--	P
SMALL WHORLED POGONIA *Isotria medeoloides*	Federally Threatened	Occurs in mixed mesic forests at moderate elevations (>1,000 feet) **Outside of known range**	--	--	M
ASHLEAF GOLDENBANNER *Thermopsis mollis* var. *fraxinifolia*	Sensitive	Pine-oak heaths and roadsides **Outside of known range**	--	--	M
BACHMAN'S SPARROW *Aimophila aestivalis*	Sensitive	Occurs in forest stands with open canopies and grassy understories **No potential habitat within project area**	--	--	P
BALD EAGLE *Haliaeetus leucoocephalus*	Sensitive	Perennial rivers and lakes, nesting in dominant or co-dominant pines 3 km or less from open water **No potential habitat within project area**	--	--	P, M
BILTMORE SEDGE (*Carex biltmoreana*)	Sensitive	Thin soils on rock outcrops and adjacent woodlands; known from the Chattooga River corridor **Outside of known range**	--	--	M

Proposed, Endangered, Threatened, and Sensitive (PETS) Species of the Sumter National Forest (2012). Obs = PETS species observed during project field surveys or known to occur based on existing records, Hab = Suitable habitat exists within the project area, "+" = meets criterion, "--" = does not meet criterion. P = piedmont (Enoree and Long Cane Ranger Districts), M = mountains (Andrew Pickens Ranger District).

SPECIES	STATUS	HABITAT	Obs	Hab	Range
BROOK FLOATER *Alasmidonta varicosa*	Sensitive	Small streams with gravel bottoms; known from Chattooga, Turkey and Upper Stevens Creek watersheds on the Long Cane Ranger District **No potential habitat within project area; aquatic areas not affected**	--	--	P, M
BUTTERNUT *Juglans cinerea*	Sensitive	Basic mesic forests along the Brevard Geologic Belt; usually at old homesites **Outside of known range**	--	--	M
CAROLINA DARTER *Etheostoma collis*	Sensitive	Localized populations occur in lower and middle piedmont streams with slow to moderate current. Known from Saluda and Broad River watersheds **No potential habitat within project area; aquatic areas not affected**	--	--	P
CAROLINA PLAGIOMNIUM *Plagiomnium carolinianum*	Sensitive	Damp, shaded, vertical rock faces along streams in mountain gorges; known from Long Creek and Opossum Creek **Outside of known range**	--	--	M
CHAUGA CRAYFISH *Cambarus chaugaensis*	Sensitive	Fast-moving, rocky 3rd and 4th order streams in tributaries of the upper Savannah River; known most recently from the Chauga River; noted historically in Ramsey Creek, West Village Creek, Crane Creek, Cedar Creek, and a stream between Long Creek and the Chattooga River (1972 data) **Outside of known range**	--	--	M
DIANA FRITILLARY *Speyeria diana*	Sensitive	Violets are larval host plant; open areas for nectar sources in summer **Outside of known range**	--	--	M
EASTERN SMALL-FOOTED MYOTIS *Myotis leibii*	Sensitive	At southern terminus of range on Andrew Pickens Ranger District; known from Moody Creek near Lake Cherokee; may commonly roost in hemlock trees near streams in summer **Outside of known range**	--	--	M
EDMUND'S SNAKETAIL (*Ophiogomphus edmundo*)	Sensitive	Clear moderately flowing mountain streams and rivers with sand or gravel riffles. Known to occur in the Chattooga River **Outside of known range**	--	--	M
FORT MOUNTAIN SEDGE *Carex communis* var. *amplisquama*	Sensitive	Found in rich coves, at Tamassee Knob, East Fork of the Chattooga, and White Rock Cove on the Andrew Pickens Ranger District **Outside of known range**	--	--	M

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SPECIES	STATUS	HABITAT	Obs	Hab	Range
FRASER'S LOOSESTRIFE *Lysimachia fraseri*	Sensitive	Open stands or rights-of-way with grassy understories **Outside of known range**	--	--	M
GEORGIA ASTER *Symphyotrichum georgianus*	Sensitive; Federal Candidate	Open stands or rights-of-way with grassy understories; piedmont and lower elevations in mountains **No potential habitat within project area**	--	--	P, M
HARTWIG'S LOCUST *Robinia viscose* var. *hartwegii*	Sensitive	Pine-oak heaths and roadsides in the mountains; one location known near Village Creek on the Andrew Pickens Ranger District **Outside of known range**	--	--	M
INDIGO BUSH *Amorpha schwerini*	Sensitive	Pine-oak heaths and oak-hickory communities **No potential habitat within project area**	--	--	P
JEWELED TRILLIUM *Trillium simile*	Sensitive	Basic mesic forests of the mountains **Outside of known range**	--	--	M
LANCELEAF TRILLIUM *Trillium lancifolium*	Sensitive	Basic mesic forests of the piedmont **No potential habitat within project area**	--	--	P
LIVERWORT SP. *Cheilolejeunea evansii*	Sensitive	Bark of trees in moist escarpment gorges or gorge-like habitats **Outside of known range**	--	--	M
LIVERWORT SP. *Plagiochila caduciloba*	Sensitive	Found on damp, shaded, vertical rock faces along streams in mountain gorges; southern appalachian endemic **Outside of known range**	--	--	M
LIVERWORT SP. *Plagiochila sharpii*	Sensitive	Found on damp, shaded, vertical rock faces along streams in mountain gorges **Outside of known range**	--	--	M
LIVERWORT SP. *Radula sullivantii*	Sensitive	Wet shaded rocks and crevices **Outside of known range**	--	--	M
MIGRANT LOGGERHEAD SHRIKE *Lanius ludovicia migrans*	Sensitive	Breeds in open areas dominated by grasses interspersed with shrubs, trees, or bare ground; uses agricultural landscapes (pastures) **No potential habitat within project area**	--	--	P
MOUNTAIN WITCH ALDER *Fothergilla major*	Sensitive	Occurs in oak-hickory forests; may occur on monadnocks or north-facing slopes in piedmont **Outside of known range**	--	--	M
NODDING TRILLIUM *Trillium rugelii*	Sensitive	Rich wooded slopes over mafic or calcareous rocks **No potential habitat within project area**	--	--	P, M
OGLETHORPE OAK *Quercus oglethorpensis*	Sensitive	Upland wetland depressions and streamside forests in the Carolina Slate belt **No potential habitat within project area**	--	--	P

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SPECIES	STATUS	HABITAT	Obs	Hab	Range
PIEDMONT ASTER (*Eurybia mirabilis*)	Sensitive	Nutrient-rich bottomlands and moist slopes, endemic to the NC and SC piedmont **No potential habitat within project area**	--	--	P
PIEDMONT STRAWBERRY *Waldsteinia lobata*	Sensitive	Occurs in mixed mesic hardwood forests in the lower elevations of the mountains **Outside of known range**	--	--	M
RADFORD'S SEDGE *Carex radfordii*	Sensitive	Occurs in basic mesic and mixed mesic hardwood forests **Outside of known range**	--	--	M
RAFINESQUE'S BIG-EARED BAT *Corynorhinus rafinesquii*	Sensitive	Restricted to the mountains, sandhills, and coastal plain Physiographic regions; may be found in hollow trees or behind loose bark near streams, caves, mines, or human-made structures **Outside of known range**	--	--	M
RAYED PINK FATMUCKET *Lampsilis splendida*	Sensitive	Primarily a costal plain species; one occurrence in Middle Saluda River Composite watershed **No potential habitat within project area**	--	--	P
ROBUST REDHORSE *Moxostoma robustrum*	Sensitive	Occurs in the Lower Savannah River composite watershed and introduced to the Broad River **No potential habitat within project area**	--	--	P
SHOAL'S SPIDER LILY *Hymenocallis coronaria*	Sensitive	Rocky river shoals; sandhills and piedmont **No potential habitat within project area**	--	--	P
SOUTHERN APPALACHIAN SALAMANDER *Plethodon teyahalee*	Sensitive	Mature mesic hardwood forests **Outside of known range**	--	--	M
SOUTHERN OCONEE BELLS *Shortia galacifolia* var. *galacifolia*	Sensitive	Large colonies in mixed mesic forests near Lake Jocassee **Outside of known range**	--	--	M
SPREADING POGONIA *Cleistes bifaria*	Sensitive	Dry ridgetops under pines **Outside of known range**	--	--	M
SUN-FACING CONEFLOWER *Rudbeckia heliopsidis*	Sensitive	Open forests with herbaceous understories; known from roadsides in the vicinity of Lake Cherokee **Outside of known range**	--	--	M
SWEET PINESAP *Monotropsis odorata*	Sensitive	Shortleaf pine-oak heaths in the southern Appalachians and piedmont **No potential habitat within project area**	--	--	P, M

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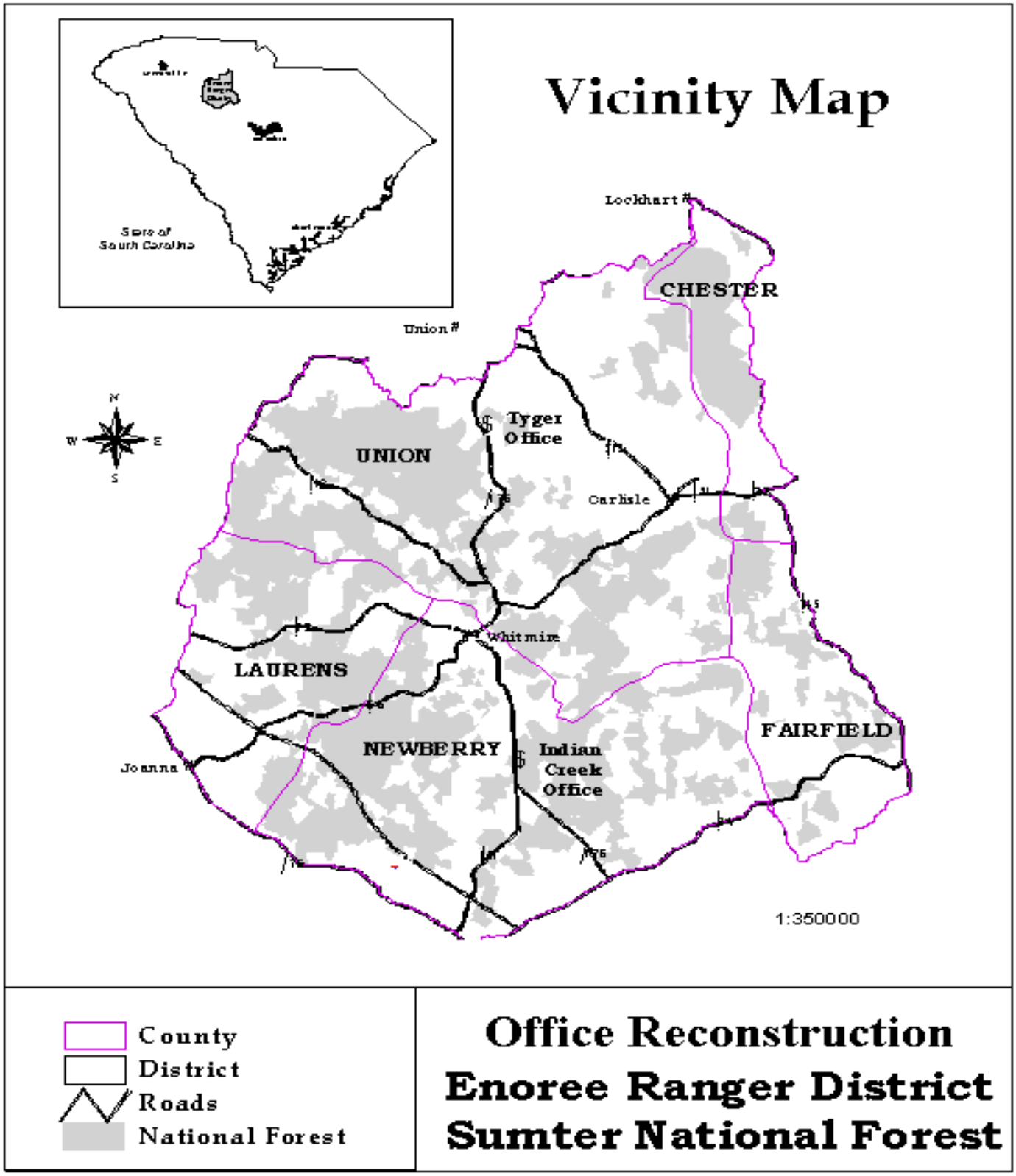
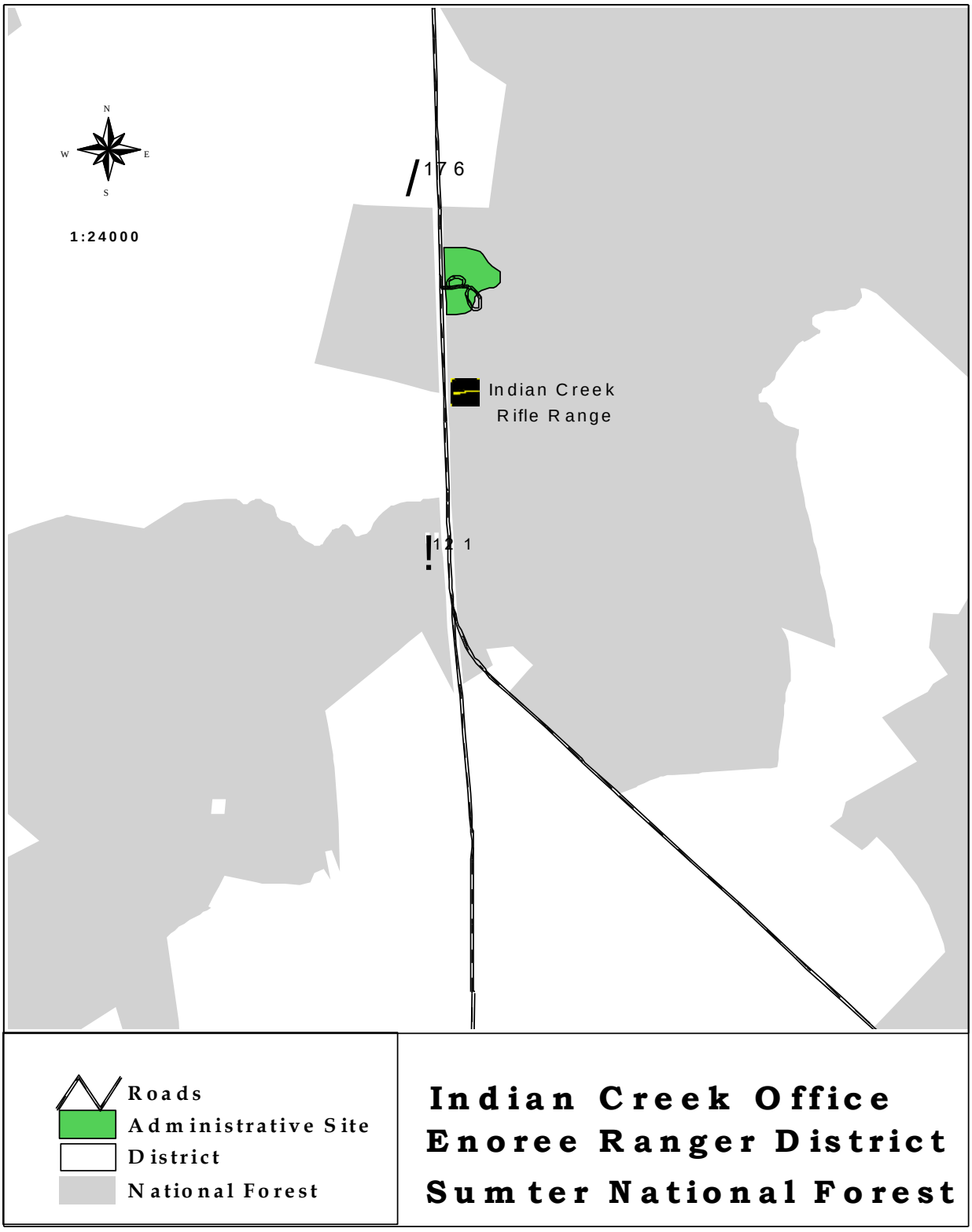
SPECIES	STATUS	HABITAT	Obs	Hab	Range
WEBSTER'S SALAMANDER *Plethodon websteri*	Sensitive	Mesic hardwood slopes with rocky outcrops; Greenwood, Edgefield, and McCormick Counties **Outside of known range**	--	--	P
WHORLED HORSEBALM *Collinsonia verticillata*	Sensitive	Found in basic mesic forests along the Brevard Geologic Belt in South Carolina **Outside of known range**	--	--	M

APPENDIX B
MAPS

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1:24000
176
Indian Creek
Rifle Range
121
Roads
Administrative Site
District
National Forest
Indian Creek Office
Enoree Ranger District
Sumter National Forest

APPENDIX C
AERIAL PHOTOGRAPHY