ENVIRONMENTAL ASSESSMENT

IMPLEMENTATION OF THE INTEGRATED

NATURAL RESOURCE MANAGMENET PLAN

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LIST OF ACRONYMS

ATSC	Army Training Support Center
BMP	Best Management Practices
C&D	Construction and Demolition
CEQ	Council on Environmental Quality
CFR	Code Federal Regulations
DA	Department of Army
DHEC	Department of Health and Environmental Control
DPW	Directorate of Public Works
DNL	Day-Night Sound Level
EA	Environmental Assessment
EAC	Early Action Compact
EIS	Environmental Impact Statement
EMB	Environmental Management Branch
ENV	Environmental Division
EPA	Environmental Protection Agency
EO	Executive Order
ESA	Endanger Species Act
ESMP	Endangered Species Management Plan
FEMA	Federal Emergency Management Agency
FNSI	Finding of No Significant Impact
FTX	Field Training Exercise
FY	Fiscal Year
GOV	Government Owned Vehicle
HMWM Plan	Hazardous Material Hazardous Waste Management Plan
HW	Hazardous Waste
INRMP	Integrated Natural Resource Management Plan
ISCP	Installation Spill Contingency Plan
LCTA	Land Condition Trend Analysis
MGD	Million Gallons per Day
MSDS	Material Safety Data Sheet
MSW	Municipal Solid Waste
NEPA	National Environmental Policy Act
NOI	Notice of Intent
NPDES	National Pollution Discharge Elimination System
POV	Privately Owned Vehicle
RAC	Risk Assessment Category
RCRA	Resource Conservation and Recovery Act
RCW	Red Cockaded Woodpecker
SMWU	Solid Waste Management Unit
SC	South Carolina
SCARNG	South Carolina Army National Guard
SCDNR	South Carolina Department of Natural Resources
SOP	Standard Operating Procedure
SIP	State Implementation Plan
STX	Situation Training Exercise
SWPPP	Stormwater Pollution Prevention Plan
TA	Training Area

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TSC	Training Support Center
TRADOC	U.S. Army Training and Doctrine Command
UTES	Unit Training and Equipment Site
USACHPPM	United States Center for Health Promotion and Preventative Medicine
USAPHC	United States Army Public Health Command
UXO	Unexploded Ordnance

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INTRODUCTION

This Environmental Assessment (EA) is prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 US Code [USC] 4321 *et seq.*), the Council on Environmental Quality (CEQ) Regulations Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] Part 1500-1508), and the Army NEPA Regulation (*Environmental Analysis of Army Actions*; 32 CFR Part 651, 1 January 2007). Under NEPA and its implementing regulations, Federal agencies are required to evaluate and consider the environmental impacts of major proposed actions. This NEPA analysis records the development process for and evaluates the potential environmental effects of implementing the revised Integrated Natural Resource Management Plan (INRMP) at Fort Jackson, South Carolina. This INRMP updates our 2004 INRMP and specifies the land management practices and adaptive management strategies that will conserve ecological integrity, Army training and promote the health of Fort Jackson's ecosystems.

NEPA Regulations collectively establish a process by which Fort Jackson considers the potential environmental impacts of its proposed actions and invites the involvement of regulators and interested members of the public prior to deciding on a final course of action. As such, this EA facilitates the decision-making process regarding the INRMP. This EA will also provide the basis for determining if a Finding of No Significant Impact (FNSI) is appropriate, or if an Environmental Impact Statement (EIS) is required in accordance with NEPA.

Fort Jackson's approach to natural resource management is embodied in the installation's vision of the relationships between its military mission and the natural resources upon which that mission depends. Together, natural resource professionals and military personnel will strive to promote the long-term ecological sustainability of Fort Jackson's lands for multiple-use opportunities.

Background

Fort Jackson is a 51,316-acre military reservation located in Richland County, South Carolina (SC), within the city limits of Columbia. Fort Jackson is divided into two distinct areas, the Cantonment Area and the Mission or Training Area.

Fort Jackson has been managing its natural resources under the guidance of an INRMP since 1991. The last revision was 2004. However, Fort Jackson has since adapted new management practices that are not covered under the 2004 INRMP. The updated INRMP references all current management practices used by Fort Jackson for its natural resources.

Purpose and Need

The purpose of updating and implementing the INRMP is to meet the requirements set forth in the Sikes Act Improvement Amendment, Public Law 105-85, Div. B. Title XXIX, Nov. 18, 1997, 111 Stat 2017-2019, 2020-2022 (i.e. Sikes Act), Our updated INRMP meets the requirements set forth in the Sikes Act. In addition, the updated INRMP replaces the 2004

edition, which has reached the end of its life cycle. As it was developed to serve the planning period of fiscal year (FY) 2004 to FY 2008. The updated INRMP will serve for the planning period of FY 2017 to FY 2021. The updated INRMP also serves to ensure that natural resource conservation measures and military activities on mission lands are integrated and are consistent with federal stewardship requirements. If Fort Jackson did not update and implement the INRMP, the installation would be out of compliance with the Sikes Act, Army Regulations and Guidelines, and risk non-compliance with the Endangered Species Act and the Bald and Golden Eagle Protection Act. Specific justifications for the need of an updated INRMP include:

- Endangered Species Management Component (ESMC) updates – the ESMCs for the federally listed endangered species were updated recently to reflect current natural resource conditions, improvements to data which the conservation actions are based on, and the reduction of property under the control of Fort Jackson (ex. land transferred for the VA National Cemetery).
- Climate Change – the revised INRMP assesses and considers the impacts of changing climate conditions.
- Regional Natural Resources Stewardship – the INRMP addresses conservation actions which contribute to regional conservation efforts and priorities established in the 2015 State Wildlife Action Plan developed by the S.C. Department of Natural Resources.
- Nuisance/Invasive Wildlife – address new problems associated with nuisance or invasive species, such as feral hogs.
- Bald Eagles – this revision addresses the actions to protect and conserve the recent discovery of nesting bald eagles.
- Encroachment Partnering – this revision describes the implementation of a DoD sustainability initiative titled Joint Compatible Use Buffers (JCUB) program, and the partnerships' initiatives through the Midlands Area Joint Installation Consortium.

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PROPOSED ACTION AND ALTERNATIVES

Proposed Action

Fort Jackson is proposing to implement its updated INRMP for the planning period of FY 2017 through 2021. The purpose of the INRMP is to integrate natural resource management actions at Fort Jackson with other land uses or affecting activities. The INRMP is designed to provide necessary guidance for the orderly, economical maintenance of the lands and natural resources contained within Fort Jackson. The plan provides documentation for enhancing and restoring ecosystem integrity and biodiversity, as well as the utilization of water resources, forest, fish and wildlife resources, while supporting multiple-use of installation lands.
Potential environmental impacts from the proposed action will be discussed in Section 4 of this document.

No-Action Alternative

The No-Action Alternative would be that Fort Jackson continue to manage its natural resources under the current INRMP that has been in place since 2004. If we continue to operate under the 2004 INRMP we would not be in compliance with the Sikes Act, Army Regulations and Guidelines, and risk non-compliance with the Endangered Species Act and the Bald and Golden Eagle Protection Act.

Preferred Alternative

The Preferred Alternative is to adopt the updated INRMP and implement it over the planning period of 2017 through 2021. This alternative meets our purpose and need and would incorporate the additional management practices, referenced above in the Purpose and Need section, being used by Fort Jackson to manage its natural resources.

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AFFECTED ENVIRONMENT AND CONSEQUENCES

Introduction

This section describes the affected environment and analyzes the potential direct, indirect and cumulative environmental consequences at Fort Jackson from the implementation of each alternative. The affected environment describes the current environmental setting and provides a baseline for each Valued Environmental Component (VEC). The 12 VECs considered for evaluation are listed below:

- Soils
- Water Resources
- Biological Resources
- Air Quality
- Noise
- Land Use
- Facilities
- Socioeconomic Conditions
- Cultural Resources
- Hazardous Substance Management
- Solid Waste
- Installation Restoration Program (IRP)/Resource Conservation and Recovery (RCRA)

In accordance with NEPA Regulation, any VEC that is not potentially affected by the Proposed Action does not need to be analyzed. Of the 12 VECs considered, three were dismissed as they had been sufficiently analyzed in the Fort Jackson Real Property Master Plan Environmental Assessment, dated September 2013. The three VECs identified were Facilities, Socioeconomic Conditions and Solid Waste. As a result, no further discussion of these VECs have been included in this EA.

Analyzing Impacts and Region of Influence

The potential impacts associated with the implementation of the Proposed Action are the focus of this section. The analysis of each VEC in this section provides the potential and level of impact from the management of Fort Jackson's natural resources.

A Region of Influence was identified for each VEC and was based on the type and extent of potential impact to that VEC. The Region of Influence (ROI) for this EA was primarily contained to the boundaries of Fort Jackson. However, VECs such as Air Quality, Noise, and Water Resources have ROIs that exceed the boundaries of Fort Jackson. These differences are identified in those corresponding sections.

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Cumulative Effects Analyses Methodology

Cumulative impacts are defined as environmental impacts that result from the incremental impacts of the Proposed Action when added to other past, present, and reasonably foreseeable actions regardless of what agency or person is responsible for the action. Therefore, the Army considered a wide range of past, present, and reasonably foreseeable future actions to identify other projects in the ROI that could contribute to cumulative environmental effects. Cumulative effects are addressed within each resource section following the discussion of environmental consequences for each alternative. Past, present, and reasonably foreseeable actions within the ROI that were reviewed in conducting the cumulative effects analysis are as follows:

Army 2020 Force Structure Realignment
The Army prepared a *Programmatic EA for Army 2020 Force Realignment* in 2013. The PEA analyzed a Proposed Action consisting of a reduction in active Army end-strength from 562,000 to 490,000. A Supplement EA was completed in 2014 that recommended the reduction of 3,100 staff at Fort Jackson.

Future Construction (2016-2020)
Fort Jackson has proposed a number of future construction projects between 2017 and 2021: New Pierce Terrace Elementary School, New Visitor Control Center at Gate 4, Basic Training Complex IV

M8551A1 Enhanced Performance Round
The new lead-free 5.56mm NATO cartridge offers improved performance with higher velocities, better ballistics, greater penetration, and is more effective on targets at all Basic Rifle Marksmanship (BRM) ranges and the Omaha Live Fire Range.

Soils

Existing Conditions

Richland County contains two physiographic provinces: the Piedmont Plateau and the Atlantic Coastal Plain. Fort Jackson is located on the northwestern edge of the Coastal Plain Province, a region of low to moderate relief and gently rolling plains, known as the Sandhills. The Fall Line, a zone which marks the boundary between the younger, softer sediments of the Coastal Plain Province and the ancient, crystalline rocks of the Piedmont Province, lies approximately four miles west of the cantonment area.

Based on a soil map compiled by the United States Department of Agriculture (USDA), the majority of soils located on Fort Jackson are Lakeland, Vaucluse, Pelion, and Johnston

Areas of known concern have been identified in the Land Rehabilitation and Maintenance component of the Integrated Training Area Management (ITAM) Program. The threshold level of significance for soils is the ground disturbance or other activities with the potential to violate Federal or State laws and regulations and the potential for Notices of Violation for the failure to

receive applicable State permits, such as a land-disturbing permit, prior to initiating a proposed action or project.

Environmental Consequences

Significant impacts to soil would result if there were substantial soil loss or erosion preventing reestablishment of vegetation. In addition, significant impacts to soil would be actions that exceed one acre in disturbance and would require a Storm Water Pollution Prevention Plan (SWPPP). In addition, a violation of applicable federal or state law would result in a significant impact to soils.

No Action Alternative

The 2004 INRMP includes natural resource management practices that result in a temporary disturbance of the top layer of ground covering or duff (i.e. timber harvesting, prescribed burning). These management practices promote the re-growth of permanent vegetation, thus providing a long term benefit. These activities provide for optimal training grounds required to support the mission at Fort Jackson. They also provide for improved habit for wildlife to include the endangered species found on Fort Jackson. Overall, continuation under the 2004 INRMP will have beneficial effects on soil resources.

Preferred Alternative

Implementation of the updated INRMP updated includes the use of the same management practices listed above. Overall, implementation of the 2017 INRMP will have beneficial effects on soil resources based on the above mentioned activities.

Cumulative Impacts

Natural resource management practices associated with both the No Action Alternative and Preferred Alternative have the potential to exceed the once acre threshold. However, these activities are considered agricultural and silvicultural in nature and are exempt from a land disturbance application per Section 503.3(b) of South Carolina Regulation 61-9. In addition, these management practices are not expected to result in a violation of federal or state law. Therefore, the impacts to soil resources are expected to be negligible.

Mitigation

Both the No Action Alternative and Preferred Alternative are expected to have negligible impacts to Soils. However, both alternatives have identified the NEPA process be followed as a required mitigation measure.

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Water Resources

Existing Conditions

The major uses of Fort Jackson's water resources are water supply, recreation, training, and aquatic habitat. The water resources of Fort Jackson can be divided into three main categories: groundwater, surface water, and wetlands. Each has its own physical and chemical components which in turn influence the aquatic flora and fauna that compose the biological communities. The following sections describe the existing water resources at Fort Jackson.

Surface Water and Groundwater

Streams at Fort Jackson are typical of those found elsewhere in the Sandhills region of the Coastal Plain Province: the surface pattern is linear branching and streams occupy relatively broad valleys with gentle regional gradients to the south and southeast. All streams leaving Fort Jackson eventually flow into either the Wateree River or the Congaree River.

There are four surface water drainage systems on the installation which discharge into Colonels Creek, Gills Creek, Cedar Creek or Mill Creek. In addition, Fort Jackson contains a total of 26 lakes, ponds, and impoundments that range in size from 0.5 to 146 acres, however most are less than 35 acres in size.

Various activities at Fort Jackson may contribute sediment and other nonpoint source pollutants to nearby water bodies through stormwater runoff. Runoff from training areas may carry sediments, vehicle fluids, and metals (e.g., lead), as well as phosphorus and toxics contained within munitions. Runoff may also contain nonpoint source pollution such as pesticides, fertilizers, animal waste, oil, and grease. Many of the streams receive sediment deposition from unimproved roads and firebreaks. In addition, silvicultural activities at Fort Jackson may disturb the soil surface and can potentially affect surface water quality.

Fort Jackson also has access to groundwater sources. The Tuscaloosa Formation, of Upper Cretaceous age, underlies all of Fort Jackson and is the primary source of groundwater in the area. Fort Jackson primarily utilizes its fresh water sources for providing water to the training areas.

Wetlands

According to the Integrated Natural Resource Management Plan (INRMP), there are approximately 5,250 acres of wetlands found on Fort Jackson. These wetlands typically are adjacent to the installation's streams and drainage ways. Based upon field observations, four aquatic and wetland vegetative communities occur on the installation. These communities include: Ponds and Lakes, Depressions, Wetland Hardwood, and Pine-Wetland Hardwood. In accordance with Section 404 of the Clean Water Act and Executive Order 11990, wetlands must be protected from development, silting, and other degradation. Through the NEPA review process, all soil-disturbing activities are reviewed to ensure that impacts to wetlands are avoided

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or minimized. Section 404 permits from the United States Army Corps of Engineers (USACE) are obtained for unavoidable impacts. Erosion sites identified affecting wetlands receive high priority in the Land Rehabilitation and Maintenance (LRAM) program. Before land disturbing activities are initiated, an environmental review is conducted to ensure that wetlands will not be affected. Timber harvesting may be conducted in wetlands provided that operations are in accordance with applicable USACE and United States Environmental Protection Agency (EPA) requirements and conditions. Any proposed cutting will be coordinated with the Fort Jackson's Wildlife Branch. Wheeled or tracked vehicle traffic is not allowed in wetlands.

Floodplains

Areas within the 100-year regulatory floodplain have been designated on all of the major waterways flowing through Fort Jackson. These include land along Gills Creek, Mill Creek, Cedar Creek, Wildcat Creek, and Colonels Creeks. These areas are designated Panels 0133 and 0134 on the 2002 Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps for Richland County. Development activities in regulatory floodplain areas are limited in accordance with Executive Orders 11988 and 11990 dealing with wetlands and floodplains.

Environmental Consequences

A significant adverse impact to Water Resources would occur if the implementation of No Action Alternative or Preferred Alternative would result in degradation of surface or groundwater quality, illicit discharge to surface water, or unpermitted fill of a wetland area.

No Action Alternative

Natural resource management practices under the current INRMP include activities such as timber harvesting, prescribed burning and mechanical midstory removal. While these activities have the potential to increase surface water runoff during rain events, Fort Jackson is required to comply with its National Pollution Discharge Elimination System (NPDES) permit and minimize soil erosion during land disturbance management activities. In addition, these practices enhance the growth of native groundcover and provide long-term protection against extensive runoff to surface water.

Additionally, these management practices have potential to result in a petroleum, oil and lubricant spill from the associated machinery. However, Fort Jackson personnel have been trained and are required to follow spill response procedures outlined in the Fort Jackson Hazardous Substance Management Plan. In addition, contractors performing these activities are also notified that they must follow the spill response procedures outlined in the Fort Jackson Hazardous Substance Management Plan. Assuming no POL spills, these natural resource management practices have an overall beneficial long-term impact to Water Resources.

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Preferred Alternative

Implementation of the Preferred Alternative includes the continuation of the management practices referenced in the No Action Alternative. These management practices will continue to have an overall beneficial effect to Water Resources.

Cumulative Impacts

Implementation of the updated INRMP is the continuation of the same natural practices identified in the No Action Alternative, i.e. timber harvesting, prescribed burning, and mechanical midstory removal. These management practices have had a beneficial impact to water resources in the past and are expected to continue that same beneficial impact through the foreseeable future.

Mitigation

Both the No Action Alternative and Preferred Alternative are expected to provide beneficial impacts to Water Resources. However, both alternatives have identified the NEPA process as a required mitigation measure.

Biological Resources

Existing Conditions

Flora

The area of Fort Jackson encompasses a wide variety of vegetative site conditions ranging from bottomland hardwood communities to xeric longleaf pine communities. Vegetation on Fort Jackson is diverse and abundant. The INRMP lists the known flora to exist on Fort Jackson. It also provided a description of the eight known forest types that exist on Fort Jackson.

To date, two Federally-listed endangered plant species have been located on Fort Jackson. These species are the Rough-leaved loosestrife *(Lysimachia asperulaefolia)* and the Smooth coneflower *(Echinacea laevigata)*. These two species were identified during a threatened and endangered plant survey of the installation conducted in 1992. There are two other Federally-listed plant species listed for Richland County, which are: the Canby's dropwort (*Oxypolis canbyi*) and Georgia's aster (*Aster georgianus*). The South Carolina Department of Natural Resources (SCDNR) botanist, Dr. Bert Pittman, has indicated that Fort Jackson likely does not have suitable habitat for these species.

Fauna

A wide variety of fauna make use of diverse ecosystems on Fort Jackson. Many forest interior breeding birds, including Neotropical migrants, are present due to the broad variety and amount of forested habitat. Diverse wetlands on the installation provide ideal habitat for a variety of amphibians, which are of concern because of declining populations worldwide. Various inventories have confirmed the occurrence of 36 mammals, 140 birds, 32 fish, 68 reptile and amphibian species, and 426 invertebrate species on the installation. Appendix C lists fauna species known to occur on Fort Jackson.

Fort Jackson provides habitat for one resident Federally-listed endangered animal species, the red-cockaded woodpecker (RCW). Although not currently listed as threatened or endangered, Fort Jackson provides habitat for a number of rare animal species that may be listed in the future if their numbers continue to decline.

Unique and Critical Habitats

No land within Fort Jackson has been identified as critical habitat for any Federally-listed threatened or endangered species. Given the presence of three Federally-listed endangered species, Fort Jackson has prepared endangered species management plans for each species. The objective of the *Endangered Species Management Plan for Smooth Coneflower (Echinacealaevigata) and Rough-leaved Loosestrife (Lysimachia asperulaefolia)* and the *Endangered Species Management Plan for the Red-Cockaded Woodpecker (Picoides borealis)* is to conserve these endangered plant and animal species as required by the Endangered Species Act (ESA), while providing for training readiness and other mission requirements of Fort Jackson. In order to accomplish this objective, the Endangered Species Management Components (ESMCs) provide information on each species, identify habitats and limiting factors, define conservation goals, outline plans for management of these plant and animal species and their habitats to enable the achievement of conservation goals, and establish monitoring plans.

Environmental Consequences

Potential impacts to biological resources would be considered significant if one of more of the following conditions would result:

- Substantial loss or degradation of habitat or ecosystem functions (natural features and processes) essential to the persistence of native plant and animal populations;
- Disruption of a federally listed species, its normal behavior patterns, or its habitat that substantially impedes the installation's ability to either avoid jeopardy or conserve and support recovery of the species; or
- Substantial loss of population or habitat for a state-protected species increasing the likelihood of federal listing action to protect the species in the future.

No Action Alternative

The no action alternative would result in continuation of beneficial effects to Fort Jackson's natural resources. Objectives such as prescribed burns, timber harvest, endangered species habitat management, and adaptive management practices would continue to promote a sustained habitat for the RCW while providing for the most realistic training grounds.

Preferred Alternative

Implementation of the updated INRMP would also result in the effects listed above in the No Action Alternative. However, implementation of the updated INRMP would include current management practices that are already being used today by Fort Jackson. Some of these practices include the protection and monitoring of nesting Bald Eagles, increased efforts in monitoring additional avian species, and monitoring and control of nuisance and invasive wildlife such as feral hogs. In addition, implementation of the updated INRMP would also include the implementation of the updated Endangered Species Management Components (ESMCs). The updated ESMCs include revisions to Fort Jackson's long-term population goal for the endangered RCW, restoration of native ground cover vegetation, and the removal of military training restrictions from certain areas historically occupied by the RCW.

Cumulative Impacts

Past activities that have caused adverse impacts to biological resources in the ROI have been associated with construction and training activities. While these activities have the potential for adverse effects to vegetation, habitat loss and habitat degradation, the updated INRMP implements management practices that have long-term beneficial effects on biological resources while maintaining the Fort Jackson mission. When considering the past, present and future actions on the ROI, the implementation of the updated INRMP will have beneficial cumulative effects.

Proposed Mitigation

Both the No Action Alternative and Preferred Alternative are expected to have only beneficial effects to Biological Resources. However, both alternatives have identified the NEPA process as a required mitigation measure.

Air Quality

Existing Conditions

Air quality is regulated at the national level through regulations promulgated under the Clean Air Act of 1970 and its subsequent amendments. The Clean Air Act requires state or local governments to monitor ambient levels of pollutants that have federal standards. Fort Jackson is in the South Carolina Air Quality Control Region 200, which includes Newberry, Fairfield,

Lexington, and Richland counties. Therefore the ROI for air quality extends beyond the boundaries of Fort Jackson to include the communities listed above.

Boundaries of air quality control regions conform to the district boundaries established by SCDHEC. Air quality is monitored by SCDHEC, Bureau of Air Quality, at eight monitoring stations in the Columbia region. Stations measure sulfur dioxide (SO_2), total suspended particulates (TSP-PM10 and PM2.5), carbon monoxide (CO), photochemical oxidants (ozone), nitrogen dioxides (NO_2), and volatile organic compounds (VOC). The U.S. Environmental Protection Agency has determined that the air quality in the Columbia region meets the national ambient air quality standards for all criteria pollutants, therefore, it is an attainment area. However, there is potential for the air quality basin that the installation is located in to be reclassified as non-attainment for ozone. If this occurs, any new air emission sources would have to pass two reviews: prevention of significant deterioration and new source review.

Prescribed Burning and Wildfire Management

Fort Jackson prescribe burns approximately 30,000 acres of its training lands every 3 years. The objective is to burn 10,000 - 20,000 acres annually with minimal impact to the training mission. This management practice is prescribed to help reduce the buildup of fuel levels that in turn reduce the potential for catastrophic wildfires, and to improve and maintain wildlife habitat. In accordance with the Integrated Wildland Fire Management Plan (IWFMP) dated 2012, prescribed burning only occurs in favorable weather conditions. These conditions also help to reduce impacts from smoke. In addition, IAW the IWFMP, prior to a prescribed burn event, coordination and notification are issued to the multiple entities such as: Fort Jackson Public Affairs Office (PAO), the State of South Carolina Forestry Commission (SCFC), SC DHEC, local Fire Departments, and the USFS. Prescribed fires are performed in a manner to comply with the South Carolina Smoke Management Guidelines which is managed by SCFC. As part of these guidelines, Fort Jackson is required to notify the SCFC and obtain a notification number. The first step of the process is to obtain the daily fire weather forecast from NOAA. Based on weather conditions, a category day is determined. As part of the notification process the number of acres and the total number of tons of available fire fuel to be burned is estimated. Based on this category day and distance to the nearest smoke sensitive area (usually either Percival Road, Leesburg Road, Screaming Eagle Road, or Highway 601), an area is selected that meets the SCFC smoke management guidelines . Adherence to the SCFC smoke management guidelines minimizes the impacts from smoke to air quality. . Once the Fort Jackson PAO is notified, they will send out a statement to the surrounding communities that a prescribed burn will be occurring and to expect to see smoke. Prescribed fires on FJ are planned and supervised by personnel that hold SC prescribed fire manager certification. The regular application of prescribed fire minimizes the effects of wildfires on air quality.

Environmental Consequences

A significant adverse impact to air quality would occur if an alternative threatened the attainment status of the region or led to a violation of any federal, state, or local air regulation or would result in nonattainment. In addition, a significant adverse impact to air quality would be from a

prescribed burn conducted on a day when weather conditions do not follow the NOAA forecast and results in adverse impacts to smoke sensitive areas, such as neighborhoods, roads, and heavily populated areas.

No Action Alternative

The no action alternative would not result in any significant or negative impact on air quality as a result of prescribed burning. Prescribed burning would continue as identified in the 2004 INRMP. While short term adverse effects may occur from prescribed burning, regular prescribe burning will reduce the buildup of fuel levels that in turn reduce the potential for catastrophic wildfires. In addition, coordination and notification procedures will continue as required by the 2012 IWFMP. Emissions resulting from 2004 INRMP would be less than the result of catastrophic wildfires and also reduce the threat to safety from wildfires. Therefore, when added to all other pollution sources in the state, the effects of implementing prescribed burning in this alternative would still meet current state and federal air quality standards.

Preferred Alternative

Implementation of the updated IMRNP would result in the continuation of Fort Jackson prescribe burning approximately 30,000 acres every three years, 10,000-20,000 acres annually. The objectives would remain to reduce the buildup of fuel levels that in turn reduce the potential for catastrophic wildfires, and to improve and maintain wildlife habitat. The updated INRMP adopts the 2012 IWFMP as Appendix and does not alter the procedures listed for prescribed burning and wildfire management therein. Emissions resulting from the updated INRMP would be less than catastrophic wildfires and would also reduce the safety threat from wildfires. Therefore, when added to all other pollution sources in the state, the effects of implementing prescribed burning in this alternative would still meet current state and federal air quality standards. The direct, indirect and cumulative effects to air quality from proposed prescribed burning in this alternative would be short in duration (less than 24 hours) for a few days each year. However, at times, smoke from the proposed prescribed fires may cause short-term respiratory discomfort, be a nuisance or reduce visibility for those near the burn units. Although burns are planned to minimize these impacts, the potential for the smoke plume to change direction and temporarily affect those in its path would exist. These impacts usually would be short lived and last less than 24 hours. Not implementing this alternative could impact air quality later due to the resulting forest fuels buildup, which could cause more smoke over long durations if wildfires occurred in untreated areas. The cumulative effects of this alternative not being implemented would result from indirect effects over time from forest vegetation and litter (fuel loadings) and the resulting effect on wildfires. In the absence of prescribed burns, brushy species replace grasses causing fuel loading to increase. Wildfires occurring in areas with increased fuel loadings produce more smoke and are more difficult to contain; therefore they often burn for a longer duration. Wildfires may occur at times when wind carries smoke into sensitive areas and when smoke dispersal is poor. On a short-term basis, air quality could degrade under by not implementing this alternative.

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Cumulative Impacts

The preferred alternative, implementation of the updated INRMP, would still meet current state and federal air quality standards, so there would be no new impacts to air quality when considering other projects in the ROI. Natural resource management activities listed in both the No Action Alternative and Preferred Alternative would not result in the creation of a new permanent emission source and will not risk the attainment status of the ROI. These activities are only expected to result in short term impacts when burning large areas and/or areas near the installation boundary. In addition, all prescribed burns are conducted IAW the SCFC guidelines specified above and follow the coordination and notification procedures as required by the IWFMP. Therefore, both the No Action Alternative and Preferred Alternative would have no cumulative impacts to air quality.

Mitigation

Both the No Action Alternative and the Preferred Alternative would still meet current state and federal air quality standards, so there would be no new impacts to Air Quality. However, both alternatives have identified the NEPA process as a required mitigation measure.

Noise

Existing Conditions

The U.S. Army Public Health Command (USAPHC), developed the Fort Jackson Operational Noise Management Plan in May 2009 to identify noise generators and noise impacts. The plan noted that the primary noise generators were small arms, demolition, and artillery. Fort Jackson's Operational Noise Plan identified areas which experience high levels of noise. The plan resulted in the mapping of areas on the installation that are within the contour lines of Noise Zones II and III. Zone II is the area where the noise level is between 65 and 75 decibels, a weighted (dBA) day-night sound level (DNL). This area is considered to have a significant noise exposure and, therefore, is "normally unacceptable" for noise-sensitive land uses. Zone III is the area where the DNL is greater than 75 dBA. This zone is considered an area of severe noise exposure and is unacceptable for noise-sensitive activities. Zone II boundaries generated by range operations extend over training areas adjacent to the firing ranges and impact areas. Fort Jackson has established sound buffer areas adjacent to portions of the installation perimeter to mitigate any potential for disturbance of noise-sensitive uses located off-post. These zones, which are approximately 3,000 feet wide, are located adjacent to Leesburg Road and Highway 601, along the southern and eastern borders of the installation, respectively. All Noise Zone III areas generated by the small arms range, demolition, and artillery fire are contained within the installation. The areas primarily affected by this level of noise include the following sites: the small arms ranges adjacent to Dixie Road and Hartsville Guard Road, Training Area 7A, the South Impact Area, 1LT Joe V. Abernathy and LTC Terry D. Allen Jr. ranges, and the SCARNG artillery firing points. Consequently, there will be no impact on the noise zones off-post.

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Environmental Consequences

Significant impacts to noise will result if Zone II or III were to extend into areas with sensitive noise receptors such as medical facilities, schools and/or daycares and family housing areas.

No Action Alternative

The No Action Alternative includes activities where noise will be generated through the use of heavy machinery (i.e. logging equipment, road grading equipment). However, noise emissions from these activities will be localized, minor, temporary, and unlikely to be heard off-post. Therefore, impacts to noise are expected to be negligible.

Preferred Alternative

The updated INRMP includes the same activities at the same frequency and duration. The updated INRMP does not introduce any new sources of noise. Therefore, the impacts to noise are expected to be negligible.

Cumulative Impacts

Neither the No Action Alternative nor the Preferred Alternative would result in a change to Zone II or Zone III areas as described above. In addition, noise emissions generated from natural resource management activities as described above would be localized and minor. Therefore both the No Action Alternative and Preferred Alternative would have no cumulative impacts to noise.

Mitigation

Both the No Action Alternative and the Preferred Alternative are expected to have negligible impacts to Noise. However, both alternatives have identified the NEPA process as a required mitigation measure.

Land Use

Existing Conditions

Training activities and exercises, such as general use training, initial entry (basic) training, and small arms, mortar and artillery training, are the predominant land uses on Fort Jackson. Of the 51,316 acres at Fort Jackson, slightly more than 6,000 acres are classified as improved grounds or developed areas, with the remaining 45,300 acres comprised of training areas. The developed area is comprised mostly of what is known as the Cantonment Area.

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Environmental Consequences

Impacts on land use would be considered significant if the action is incompatible with surrounding land use or results in incompatible land use changes that degrade mission-essential training.

No Action Alternative

The continuation of the 2004 INRMP would continue to provide long term benefits to land use on Fort Jackson. The 2004 INRMP includes such operation activities as timber harvesting, prescribed burning, and provides restrictions on training activities within the vicinity of RCW cavity trees. While these activities may temporarily disrupt training, they are designed to provide for optimal sustained land use for natural resources while providing lands for the execution of realistic training.

Preferred Alternative

Implementation of the updated INRMP will include those activities listed in the No Action Alternative. In addition, the updated INRMP does not create any new land restrictions and does not reduce the amount of training lands available to the Fort Jackson mission.

Cumulative Impacts

Neither the No Action Alternative nor the Preferred Alternative change land use or land use patterns on Fort Jackson. Therefore, no cumulative impacts are expected to land use.

Mitigation

Both the No Action Alternative and the Preferred Alternative are not expected to change land use or land use patterns. However, both alternatives have identified the NEPA process as a required mitigation measure.

Cultural Resources

Existing Conditions

Coordination with the National Historic Preservation Act (NHPA)

Regulations implementing Section 106 of the NHPA, 36 CFR Part 800.8, encourage the coordination of the review process with NEPA. This document supports both NHPA and NEPA review requirements. For purposes of the NHPA, the proposed action will have no effect on historic properties as the proposed project area was previously surveyed. No Historic Properties were identified within the ROI. Historic properties are defined as any prehistoric or historic

district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior.

Environmental Consequences

Natural resource management practices listed in both the No Action Alternative and the Preferred Alternative would continue the preservation, protection, avoidance, and sometimes excavation of discovered or known sites. Fort Jackson continues to consult with the State Historic Preservation Office and tribal representatives to identify, protect, or mitigate negative effects to cultural resources.

No Action Alternative

Natural resource management practices, (prescribed burning, timber harvesting, mechanical midstory removal) listed in the 2004 INRMP have the potential to affect cultural resources. However, procedures listed in both the 2004 IRMP and the updated INCRMP require the NEPA process to be followed to ensure the protection of cultural resources. Selecting the No Action Alternative would not alter this process. Therefore, the No Action Alternative would have negligible impacts to cultural resources.

Preferred Alternative

The updated INRMP does not introduce any new soil disturbing management practices. In addition, the updated INRMP also requires the NEPA process to be followed to ensure the protection of cultural resources prior to the start of a management practice activity. Therefore, implementation of the updated INRMP will have negligible impacts to cultural resources.

Cumulative Impacts

Management of Cultural Resources will continue under the updated INRMP. Implementation of the updated INRMP would not be expected to result in any cumulative impacts on cultural resources.

Proposed Mitigation

Both the No Action Alternative and the Preferred Alternative are expected to have negligible impacts to Cultural Resources. However, both alternatives have identified the NEPA process as a required mitigation measure.

Hazardous Substance Management

Existing Conditions

All organizations, including tenant activities that manage hazardous substances on Fort Jackson and do not have their own EPA identification number, must comply with the most current

version of the Fort Jackson Hazardous Substance Management Plan. Hazardous substances are defined as any substance (material or waste) that poses a threat to human health or the environment when improperly treated, stored, transported, or otherwise managed.

Environmental Consequences

A significant adverse impact to hazardous substance management would occur if the implementation of No Action Alternative or Preferred Alternative would result in a violation of federal or state regulations. In addition, a significant adverse impact would occur if the implementation of either alternative resulted in the creation of a new hazardous waste stream on Fort Jackson or added to an existing hazardous waste stream.

No Action Alternative

Natural resource management practices under the 2004 INRMP include such activities as timber harvesting, prescribed burning, mechanical midstory removal and herbicide application. These activities involve the use of machinery and /or equipment that have the potential to release petroleum, oils, and/or lubricants (POLs) and/or other hazardous substances in the event of a spill or accident. However, Fort Jackson staff have been trained to manage hazardous substances IAW with the Fort Jackson Hazardous Substance Management Plan. The continuation of management practices under the current INRMP would not alter how Fort Jackson staff manage hazardous substances. Therefore, the No Action Alternative will have negligible impacts to hazardous substance management.

Preferred Alternative

The Preferred Alternative would include the same management practices listed in the No Action Alternative. The Preferred Alternative does not introduce new management practices that require the use of never before used hazardous substances by Fort Jackson staff. In addition, the Preferred Alternative does not alter how Fort Jackson staff manages its hazardous substances. Therefore, the Preferred Alternative will have negligible impacts to hazardous substance management.

Cumulative Impacts

Continuation under the No Action Alternative is expected to have negligible cumulative impacts to hazardous substance management.

Implementation of the Preferred Alternative does alter how Fort Jackson staff manage its hazardous substances associated with its management practices. In addition, the Preferred Alternative does not introduce a new management practice that involves the use of a new hazardous substance never previously used by Fort Jackson staff. Therefore, the Preferred Alternative will have negligible impacts to hazardous substance management.

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Both the No Action Alternative and Preferred Alternative are expected to have negligible impacts to hazardous substance management. However, both alternatives have identified the NEPA process as a required mitigation measure.

Installation Restoration Program (IRP)/Resource Conservation and Recovery Act (RCRA)

Existing Conditions

Fort Jackson has approximately 13 active Solid Waste Management Unit (SWMU) locations and approximately 15 other Areas of Concern located throughout the installation. These sites are managed by the Fort Jackson RP Program IAW the Fort Jackson RCRA permit. This permit is regulated by the South Carolina Department of Health and Environmental Control (DHEC). Any proposed action and/or activity in or around one of these regulated sites must be submitted to DHEC for their review and approval prior to the start of that action and/or activity.

Environmental Consequences

This section discusses the potential impacts that may result from the alternatives. A significant adverse impact to the restoration sites managed under the RCRA permit would be an unauthorized activity and/or action that results in the degradation to the condition of that site or a change in regulatory status. In addition, a significant impact to a RCRA site would be an unauthorized activity that result in a violation of state and federal regulations. The creation of a new site regulated under the IRP/RCRA program would also result in a significant adverse impact.

No Action Alternative

The No Action Alternative includes management practices such as timber harvesting and prescribed burning. These practices may occur in or around known RCRA sites. However, these management practices are not expected to degrade the condition and/or change the regulatory status of known IRP/RCRA sites. The No Action Alternative requires the NEPA process be followed prior to the start of these management practices. The NEPA process will identify those affected RCRA sites and will initiate the coordination with and approval from DHEC prior to the start of that activity.

In addition, the No Action Alternative is not expected to lead to the creation of a new IRP/RCRA site. The No Action Alternative does not include the use of large amounts of hazardous substances that if released onto the ground would lead to the creation of a new contaminated site regulated under the IRP/RCRA program. Therefore, the No Action Alternative is expected to have negligible impacts to the IRP.

Preferred Alternative

The Preferred Alternative includes the same management practices as listed above. It also does not introduce a new management practice that would alter the condition and/or regulatory status of a known IRP/RCRA site or lead to the creation of a new site. In addition the Preferred Alternative does not alter the NEPA process as identified in the No Action Alternative. Therefore, the Preferred Alternative is expected to have negligible impacts to RCRA sites.

Cumulative Impacts

Both the No Action Alternative and Preferred Alternative are not expected to alter the condition and/or regulatory status of a known IRP/RCRA site or lead to the creation of a new site. Both the No Action Alternative and the Preferred Alternative require the NEPA process be followed prior to the start of an activity. The NEPA process will identify any affected IRP/RCRA sites and initiate the approval process from DHEC. Therefore, both the No Action Alternative and Preferred Alternative are expected to have no cumulative impacts to the IRP.

Mitigation

Both the No Action Alternative and Preferred Alternative require the NEPA process be followed as a mitigation measure, therefore, no additional mitigation measures are necessary.

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CONCLUSION

The results of this Environmental Assessment indicate that adopting the updated INRMP and implementing it would have no significant environmental impacts provided that the mitigation measures discussed in Section 4.4 are implemented. Table 1 is a summary of the environmental effects on each resource. Based on this study, the preparation of an Environmental Impact Study is not warranted. It is recommended that a Finding of No Significant Impact (FNSI) be issued.

Table 1
Summary of Potential Effects

Resource	Environmental Effects	
	No Action	**Proposed Action**
Soils	Beneficial	Beneficial
Water Resources	Beneficial	Beneficial
Biological Resources	Beneficial	Beneficial
Air Quality	Negligible	Negligible
Noise	Negligible	Negligible
Land Use	Beneficial	Beneficial
Cultural Resources	Negligible	Negligible
Hazardous Material and Hazardous Waste Management	Negligible	Negligible
IRP/RCRA	Negligible	Negligible

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REFERENCES

'Fort Jackson Programmatic Environmental Assessment, Real Property Master Plan' dated September 2013

Fort Jackson Integrated Natural Resource Management Plan, dated April 2004

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