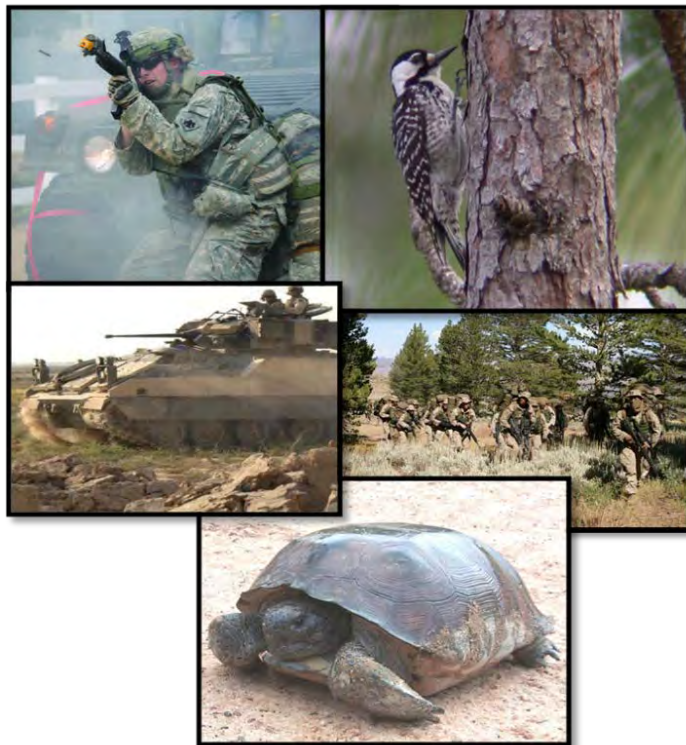




Integrated Natural Resources Management Plan



Environmental Assessment

24 June 2014

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FINAL ENVIRONMENTAL ASSESSMENT

INTEGRATED NATURAL RESOURCES MANAGEMENT PLAN

FORT BENNING, GEORGIA

Prepared by:
Directorate of Public Works
Environmental Management Division
Fort Benning, Georgia

A handwritten signature in black ink, appearing to read "Michail S. Huarter", is written over a horizontal line.

MICHAEL S. HUERTER
Colonel, Infantry
Garrison Commander

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SUMMARY

Introduction

Fort Benning has prepared an Environmental Assessment (EA) to identify and evaluate potential environmental effects from implementing the revised Integrated Natural Resource Management Plan (INRMP) at Fort Benning, Georgia. The INRMP has specified the land management practices and adaptive management strategies that will conserve ecological integrity, Army training and promote the health of Fort Benning's ecosystems. Fort Benning'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 Benning's lands for multiple-use opportunities.

This EA was prepared in accordance with the National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ) Regulations at 40 Code of Federal Regulations (CFR) Parts 1500-1508, and the Army NEPA Regulation at 32 CFR Part 651 (*Environmental Analysis of Army Actions*).

NEPA and Federal implementing regulations collectively establish a process by which Fort Benning considers the potential environmental impacts of its proposed actions and invites the involvement of interested members of the public prior to deciding on a final course of action. As such, this EA will facilitate the decision-making process regarding the Proposed Action and its reasonable Alternatives. 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.

Proposed Action

Fort Benning proposes to enhance natural resources management by implementing an updated 2014 INRMP that provides for the conservation and rehabilitation of the natural resources and support of military mission. The INRMP is one component of Real Property Management, and would be coordinated with the Installation's Long Range component of the Real Property Master Plan and The Range and Training Land Program. Furthermore, it would enhance Fort Benning's ongoing compliance with applicable state and federal environmental laws/regulations, Army regulations (AR), and Department of Defense (DoD) Instructions.

The Sikes Act specifically directs that INRMPs be reviewed at least every five years to determine whether existing INRMPs are being implemented in accordance with the Sikes Act to contribute to the conservation and rehabilitation of natural resources on military installations.

The purpose of updating and implementing the INRMP is to meet the requirements of the Sikes Act (Title 16, United States Code 670a et seq.), which provides the primary legal basis for the Secretary of Defense to carry out a program for the conservation and rehabilitation of natural resources on military installations. INRMPs shall be prepared in cooperation with, and reflect the mutual agreement of, the Secretary of the Interior

(acting through the Director of the U.S. Fish and Wildlife Service) and the head of each appropriate state fish and wildlife agency for the state(s) where the military installation concerned is located. Fort Benning occupies land in Georgia and Alabama.

According to the Sikes Act, the INRMPs must address the following:

- The management of land, forests, fish and wildlife, and fish and wildlife-oriented recreation;
- Wetland protection and enhancement;
- Fish and wildlife protection and enhancement or modification;
- Sustainable public use of natural resources and public access for such use (subject to requirements necessary to ensure safety and military security);
- Integration of and consistency among the various activities conducted under the INRMP;
- Natural resource management goals, objectives, and time frames for this Proposed Action;
- Enforcement of applicable natural resource laws (including regulations);
- No net loss of the capability of the installation to support the military mission;
- Other activities as the Secretary of the Army determines appropriate.

Fort Benning has ensured that the 2014 INRMP has met the Sikes Act requirement as listed above. The focus of the INRMP is to be ecosystem based, rather than management for single-species. To ensure that Fort Benning can meet its mission needs now and into the future, the natural resources that provide the training environment must be managed such that they are ecologically sustainable. Updating and implementing the INRMP would ensure that desired future conditions (DFC), which envision all aspects of a future ecosystem and include conservation and military mission related needs, are integrated and consistent with applicable Federal and state stewardship requirements. Fundamentally, an INRMP would represent a proactive approach in assuring training over the long-term continues through the sustainability of the natural resources.

Fort Benning, through the findings of this EA, will select the alternative that ensures an approach to updating and integrating natural resource management actions and other activities on Fort Benning.

Proposed Action Alternatives

Army and NEPA regulations require the development and consideration of the Proposed Action and appropriate alternatives. Fort Benning developed screening criteria to be measured against the Alternatives in an effort to narrow down alternatives for further analysis. Any alternatives that failed to meet the following criteria were eliminated from further analysis.

- Meets the Purpose and Need as described in section 1.4 of this EA.
- Consistent with applicable Federal and state stewardship requirements such as the Endangered Species Act, Clean Air Act, Clean Water Act (CWA), National

Historic Preservation Act (NHPA), Native American Grave Protection and Repatriation Act, Executive Orders, etc.

- Results in no net loss to military training capabilities that are currently available to accomplish the mission of Fort Benning and the MCoE.

The Alternatives carried forward for further study include:

- **2014 Ecosystem Management Alternative (Preferred Alternative)**: The 2014 Ecosystem Management Alternative is the preferred alternative and would result in the implementation of the revised 2014 INRMP. This Alternative would meet the purpose and need for the Proposed Action and is considered reasonable as it meets the screening criteria. Specific activities to support the attainment of DFCs for ecosystem management are described in more detail in section 4.1.3 of the INRMP. Such activities are long-term goals and continuing from previous INRMPs. Updates to 2014 INRMP include:
 - The additions of the Georgia Rockcress and Shiny-rayed Pocketbook Endangered Species Management Components (ESMC);
 - Reflected changes in command structure, which incorporates training and the establishment of the MCoE at Fort Benning;
 - Improved Fort Benning notification policy and Environmental Management Division (EMD) access to threatened and endangered species (TES) training areas for management in coordination with U.S. Fish and Wildlife Service (USFWS);
 - Revised INRMP format to reduce redundancy and focus on important resources and management actions;
 - A revised Red-cockaded Woodpecker (RCW) ESMC that implements the 2007 Management Guidelines for the RCW on Army installations.
- **No Action Alternative**: Fort Benning would continue natural resource management under the 2001 INRMP. For more information see the 2001 at <http://www.benning.army.mil/garrison/DPW/EMD/legal.htm>.

While the No Action Alternative would not satisfy the purpose or need for the Proposed Action, this alternative was retained to provide a comparative baseline against which to analyze the effects of the Proposed Action, as required by NEPA regulations. The No Action Alternative reflects the *status quo* and serves as a benchmark against which the effects of the Action Alternative can be evaluated.

Environmental Consequences

The existing condition of the environmental resources at Fort Benning potentially affected by both of the analyzed Alternatives and consequences of their implementation is presented in Chapter 3 of the EA. Analysis consists of a comparison of each Alternative and the potential environmental effects to each environmental resources area, or Valued Environmental Component (VEC). A total of eight VECs were considered for analysis in the EA. A summation of VECs fully analyzed, environmental

effects, and mitigation measures for potential adverse effects to VECs are identified where applicable and are summarized Table ES-1. Concisely, no adverse impacts (only beneficial or no impacts) would occur as a result of the Proposed Action. Cumulative impacts of the Action Alternative were either negligible or beneficial; see Chapter 3 for more details.

Table ES-1: Comparison of Potential Effects to VECs Fully Analyzed for Proposed Action Alternatives

VEC	No Action Alternative	2014 Ecosystem Management Alternative (Preferred Alternative)
Air Quality	Beneficial Impact: Minor, short-term adverse effects may result during prescribed burning events. However, overall beneficial impacts to air quality would result from maintaining lower fuel levels.	Same as described under the No Action Alternative.
Biological Resources	Beneficial Impact: The continuation of ecosystem management activities will have beneficial effects on biological resources.	Beneficial Impact: Same as described under the No Action Alternative. Additionally, the incorporation of new and revised ESMCs will have additional beneficial effects on biological resources.
Cultural Resources	Negligible	Same as described under the No Action Alternative.
Land Use	Beneficial Impact: Implementation of current management practices will continue to have long-term beneficial effects on land use.	Beneficial Impact: Same as described under the No Action Alternative. Additionally, continued implementation of the ACUB plan to areas around Fort Benning would increasingly minimize long-term land use conflicts.

Noise	Negligible	Same as described under the No Action Alternative.
Safety	Beneficial Impact: Implementation of current management practices will continue to have long-term beneficial effects on safety.	Same as described under the No Action Alternative.
Soils	Beneficial Impact: While silviculture and prescribed burns can in the short-term increase runoff and sedimentation, the use of Best Management Practices (BMPs) and continuation of current natural resource management practices will have long-term beneficial effects.	Same as described under the No Action Alternative.
Water Resources	Beneficial Impact: While project activities and prescribed burns can in the short-term increase runoff and sedimentation, the use of BMPs and continuation of current natural resource management practices will provide long-term protection against runoff and surface water impairment providing beneficial effects.	Same as described under the No Action Alternative.

The analysis contained in this EA indicates that for the Ecosystem Management Alternative, beneficial impacts would result to Air Quality, Biological Resources, Land Use, Soils, and Water Resources. Additionally, for the Ecosystem Management Alternative, no impacts to Cultural Resources, Noise, or Safety are expected to result. Thus, no significant adverse impacts to these resources are anticipated either in a long- or short-term basis.

In accordance with Army NEPA Regulations, the Army must indicate if any mitigation measures are needed to minimize potential adverse effects. No mitigation measures have been identified in this EA to due to the lack of potential adverse impacts from the Ecosystem Management Alternative.

Of the 14 VECs considered, 5 were dismissed from full analysis based on the potential for impacts. Potential impacts to Airspace, Facilities (Utilities), and Traffic and Transportation would be considered negligible as management and existing conditions of those resources would remain unaffected and unchanged by the Proposed Action.

Potential adverse impacts to Hazardous and Toxic Substances and Waste would be short-term and localized in nature, to the extent of being considered negligible. Socioeconomics and Environmental Justice impacts from dollars spent within the community would be negligible, and no effects to the health and safety of children would occur. As a result, additional discussion of these VECs has not been carried further within this EA.

Conclusion

Based on this EA, it is concluded that only the Preferred Alternative (2014 Ecosystem Management Alternative), with its associated implementation of the revised 2014 INRMP would meet the purpose and need for the Proposed Action. Although the impacts (beneficial or negligible) to VECs are similar between the Alternatives, the Preferred Alternative would have additional beneficial effects upon Biological Resources as a result of updated plans and components.

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1.0 PURPOSE AND NEED

1.1 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 consider the environmental impacts of major proposed actions in the form of an EA or Environmental Impact Statement (EIS). 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 Benning, Georgia. The INRMP will update the 2001 INRMP and specify the land management practices and adaptive management strategies that will conserve ecological integrity, Army training and promote the health of Fort Benning's ecosystems.

NEPA Regulations collectively establishes a process by which Fort Benning 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 will facilitate 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 the above regulations.

Fort Benning'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 Benning's lands for multiple-use opportunities.

1.2 Background

Fort Benning consists of approximately 182,000 contiguous acres of federally owned land south and east of Columbus, Georgia, and south of Phenix City, Alabama (Figure 1). Approximately 170,000 acres are in Muscogee and Chattahoochee County, Georgia and the remaining 12,000 acres are in Russell County, Alabama (U.S. Army, 2011). There are four cantonment areas on Fort Benning: Main Post, Kelley Hill, Sand Hill, and Harmony Church. Within these cantonment areas, Fort Benning has its own offices, training facilities, schools, shopping malls, medical facilities, housing, and churches. Fort Benning also has multiple training areas including facilities and ranges located throughout the Installation.

Fort Benning plays a pivotal role in supporting the Army's overarching mission by providing the institutional training of Infantry and Armor Soldiers and leaders, basic and advanced individual training of new enlistees, and functional training in special skills needed to support the operating forces. Additionally, Fort Benning serves as the home

to numerous deployable units.

The 2005 Department of Defense (DoD) Base Realignment and Closure (BRAC) Commission decisions resulted in the relocation of the Armor Center and School from Fort Knox, Kentucky to Fort Benning. This consolidated the Armor and Infantry Centers and Schools at Fort Benning and created the MCoE for ground forces training and doctrine development. This movement was completed by 2011 and included both an increase in population and facilities. More recently personnel and trainee numbers at Fort Benning have been reduced due to overall Army budget reductions and force restructuring.



1.3 Proposed Action

Fort Benning proposes to enhance natural resources management by implementing a revised 2014 INRMP that provides for the conservation and rehabilitation of the natural resources on Fort Benning. The INRMP not only focuses on the management of the natural resources on training lands, but also addresses natural resource management activities that occur within the cantonment areas. Additionally, the INRMP is one component of Real Property Management, and would be coordinated with the Installation's Long Range component of the Real Property Master Plan and The Range

and Training Land Program. Furthermore, it would enhance Fort Benning's ongoing compliance with environmental laws, Army regulations, and DoD Instructions.

The Sikes Act specifically directs that INRMPs be reviewed "as to operation and effect," highlighting that the review is intended to determine whether existing INRMPs are being implemented to meet the requirements of the Sikes Act and contribute to the conservation and rehabilitation of natural resources on military installations.

The DoD and U.S. Army policy requires all INRMPs to be reviewed annually by the installation in cooperation with involved parties and revised, as necessary, but no less often than every five years. In the event that an Installation's mission requirements or its natural resources undergo substantial changes, more frequent or immediate revisions may be warranted (U.S. Army, 2007).

The last Fort Benning INRMP was completed in 2001 and is outdated. Several revisions have occurred since including:

- The additions of the Georgia Rockcress and Shiny-rayed Pocketbook Endangered Species Management Components (ESMC);
- Reflected changes in command structure, which incorporates training and the establishment of the MCoE at Fort Benning;
- Improved Fort Benning notification policy and Environmental Management Division (EMD) access to threatened and endangered species (TES) training areas for management in coordination with U.S. Fish and Wildlife Service (USFWS);
- Revised INRMP format to reduce redundancy and focus on important resources and management actions;
- A revised Red-cockaded Woodpecker (RCW) ESMC that implements the 2007 Management Guidelines for the RCW on Army installations.

1.4 Purpose and Need

The purpose of updating and implementing the INRMP is to meet the requirements of the Sikes Act (Title 16, United States Code 670a et seq.) as amended, which provides the primary legal basis for the Secretary of Defense to carry out a program for the conservation and rehabilitation of natural resources on military installations. To facilitate such a program, the Act requires the Secretary of each military department to prepare and implement an INRMP at appropriate military installations throughout the United States under their respective jurisdictions. Moreover, such plans shall be prepared in cooperation with, and reflect the mutual agreement of, the Secretary of the Interior (acting through the Director of the U.S. Fish and Wildlife Service) and the head of each appropriate state fish and wildlife agency for the state(s) where the military installation is located.

According to the Sikes Act, the INRMPs must address the following:

- The management of land, forests, fish and wildlife, and fish and wildlife-oriented recreation;
- Wetland protection and enhancement;
- Fish and wildlife protection and enhancement or modification;
- Sustainable public use of natural resources and public access for such use (subject to requirements necessary to ensure safety and military security);
- Integration of and consistency among the various activities conducted under the INRMP;
- Natural resource management goals, objectives, and time frames for this Proposed Action;
- Enforcement of applicable natural resource laws (including regulations);
- No net loss of the capability of the installation to support the military mission;
- Other activities as the Secretary of the Army determines appropriate.

Fort Benning has ensured that the 2014 INRMP has met the Sikes Act requirement as listed above. The focus of the INRMP is to be ecosystem based, rather than management for single-species. To ensure that Fort Benning can meet its mission needs now and into the future, the natural resources that provide the training environment must be managed such that they are ecologically sustainable. Updating and implementing the INRMP would ensure that desired future conditions (DFC), which envision all aspects of a future ecosystem and include conservation and military mission related needs, are integrated and consistent with applicable Federal and state stewardship requirements. Fundamentally, an INRMP would represent a proactive approach in assuring training over the long-term continues through the sustainability of the natural resources.

1.5 Decision to Be Made

Fort Benning, through the findings of this EA, must select the alternative that ensures an approach to integrating natural resource management actions and activities on Fort Benning. Although the Sikes Act and Army Regulation (AR) 200-1 specify required components of an INRMP and specific criteria that must be met, the focus of the INRMP is left up to each installation.

2.0 ALTERNATIVES

2.1 Screening Criteria

Army and NEPA regulations require the development and consideration of the Proposed Action and appropriate alternatives. The Alternative Analysis Process evaluates alternative means of meeting the purpose and need for the Proposed Action. Fort Benning developed the screening criteria to be measured against the alternatives in an effort to narrow down alternatives for further analysis (Table 2.2-1). Any alternatives that failed to meet the following criteria were eliminated from further analysis.

- Meets the Purpose and Need as described in section 1.4 of this EA.
- Consistent with applicable Federal and state stewardship requirements such as the Endangered Species Act, Clean Air Act, Clean Water Act (CWA), National Historic Preservation Act (NHPA), Native American Grave Protection and Repatriation Act, Executive Orders, etc.
- Results in no net loss to military training capabilities that are currently available to accomplish the mission of Fort Benning and the MCoE.

2.2 No Action Alternative

The No Action Alternative would not immediately change management direction or the level of management intensity. Under the No Action alternative, Fort Benning would continue to operate using existing programs and management practices in accordance with the 2001 INRMP. The No Action Alternative includes the 2001 INRMP that has not been updated and would fail to meet the described purpose and need for the Proposed Action. In addition, the No Action Alternative does not address changes in environmental regulation or training land use since 2001. Natural resource management actions that would occur under the No Action Alternative are detailed in the 2001 INRMP. The 2001 INRMP is available from Fort Benning's Environmental Management Division and is posted on the Fort Benning website at <http://www.benning.army.mil/garrison/DPW/EMD/legal.htm>.

2.3 2014 Ecosystem Management Alternative (Preferred Alternative)

The 2014 Ecosystem Management Alternative is the preferred alternative and would result in the implementation of the revised 2014 INRMP. This Alternative would meet the purpose and need for the Proposed Action and is considered reasonable according to the screening criteria. Specific activities to support the attainment of DFCs for ecosystem management are described in more detail in section 4.1.3 of the INRMP. Such activities are long-term goals and continuing from the 2001 INRMP. Some include:

- Timber management in upland longleaf stands will use Stoddard-Neel techniques to create and maintain uneven-aged stand structures. The Stoddard-Neel techniques will be modified when necessary to comply with management requirements for the RCW, i.e. RCW as detailed in the 2003 RCW Recovery Plan, 2nd Edition. Least destructive harvesting methods will be used whenever possible.
- Prescribed fire will be used to improve upland longleaf pine habitat condition, reduce the establishment of invasive species, and reduce insect pests. Wildfire risk will be reduced, and visibility for military ground maneuvers will be improved. Growing season burns will be conducted where needed for specific habitat restoration purposes. Timing of these burns will be based on weather, air quality considerations, and fuel conditions.
- Soil erosion associated with unimproved roads will be managed through physical road restructuring, contouring, and vegetation management. Erosion associated with improved roads will be reduced through the establishment of proper erosion control structures and direct seeding of exposed soil along road cuts and drainage ditches. Heavily disturbed areas will be periodically seeded to maintain vegetation cover. Where possible, a native species mix will be used with the goal of establishing a complex root profile to increase resistance to soil movement. Silt fencing and other National Pollutant Discharge Elimination System (NPDES) Best Management Practices (BMPs) will be employed at construction sites.
- Invasive species will be discouraged and/or eliminated through direct removal and reduced opportunities for establishment and expansion. In upland areas, spot treatment with approved herbicides will be used to control invasives. Mechanical treatments and wetland-approved herbicides will be used to control aquatic invasive species. Mechanical removal is preferred in areas with excessive amounts of biomass to avoid excessive biological oxygen demands that can starve aquatic organisms of oxygen.
- Wildlife management areas—food plots, dove fields, etc.—will continue to be managed to provide food and cover for desired game and non-game species. A network of mature hardwood and mixed hardwood-pine forests will be maintained to provide corridors for wildlife movement and diverse sources of soft and hard mast. Some early successional habitat types will also be maintained to promote habitat diversity for wildlife and as insurance against mature forest catastrophe, such as broad-scale natural disturbance or disease. Interconnectivity among wildlife habitat will be maintained to improve plant seed dispersion and gene flow.
- Fish and game population size and health will be evaluated annually using accepted techniques associated with game harvest and population monitoring. Healthy game species populations are necessary for ecosystem and recreational needs. Monitoring information will be used for harvest planning, maximizing

recreational use, and reducing safety risk associated with animal-vehicle collisions.

- Areas exhibiting unique compositional patterns (i.e., unique ecological areas [UEA]) will have management plans that are tailored to enhancing unique qualities.
- An integrated monitoring program will directly assess progress toward DFCs. Such a monitoring program will be cost-effective, efficient, robust, flexible, compliant with regulatory concerns, and relevant to training and land management actions. These monitoring activities will be based on accepted ecological monitoring standards and relevant research (on and off post).
- Off-post conservation efforts will be guided to support attainment of DFCs on-post and also to advance regional conservation efforts. Off-post conservation strategies will identify opportunities to expand habitat outside of Fort Benning and create conservation corridors to link Fort Benning protected species populations (such as RCWs) with other regional populations.

2.4 Alternatives Considered but Eliminated from Further Study

2.4.1 Maximum RCW Management Alternative

Maximizing RCW Recovery would involve more aggressive timber thinning to reduce basal areas to RCW standards, more growing season burns to eliminate hardwood species and maintain an open mid- and under-story, increased soil conservation efforts in specific areas supporting RCW clusters currently or in the future.

This alternative was considered but eliminated from further analysis due to its inconsistencies with the Purpose and Need. Maximizing management for the RCW would involve focusing natural resource management towards on single species to the neglect of others. Therefore, this alternative is contrary to DoD guidelines essentially directing installations to carry out an integrated ecosystem approach that would balance the natural state of forest diversity (Department of Defense, 2013).

2.4.2 Maximizing Military Mission Alternative

Maximizing the military mission would involve supporting military training with little regard for sustainability and natural resource stewardship requirements. Actions to support training would be prioritized over long-term environmental consequences, ecosystem management, or other potential uses of the land. This would result in a short-term increase in military training capabilities, but the long-term degradation of the land, and eventual inability to support any kind of use, including training.

This alternative was considered but eliminated from further analysis because it is inconsistent with the vision and mission of Fort Benning (as described in section 1.0). Maximizing the military mission in the short-term would eventually prohibit Fort Benning's mission accomplishment. This alternative is in direct conflict with both the Sikes Act and DoD guidelines, which essentially directs military installations to carry out an integrated ecosystem approach that provides for the conservation and rehabilitation of natural resources while supporting the overall military mission.

2.4.3 Recreation & Wildlife Emphasis Management Alternative

Emphasizing recreation and wildlife management would involve several changes to natural resource management on Fort Benning. Timber and fire management would be used to create the forest conditions considered optimal for supporting wildlife, hunting, and other outdoor recreation.

Dedicating additional land, funding, and personnel to recreation and wildlife management would create conflicts involving resources and land needed to sustain military training. Again, this alternative was eliminated from further analysis because of its inconsistency with the vision and mission of Fort Benning (as described in section 1.0). Also, solely emphasizing recreation and wildlife management conflicts with both the Sikes Act and DoD guidelines, which directs military installations to establish an integrated ecosystem approach.

Table 2.4-1: Alternatives Measured Against the Screening Criteria

Screening Criteria	Alternatives				
	No Action	2014 Ecosystem Management Alternative	Recreation & Wildlife Emphasis Management	Maximum RCW Management	Maximizing Military Mission
Meets the Purpose and Need	-	✓	-	-	-
Consistent with Applicable Federal & State Stewardship Requirements	✓	✓	✓	✓	-
Causes No Net Loss to Military Training Lands	✓	✓	-	-	✓
Supports an Increase in the Trend of RCW Recovery	✓	✓	-	✓	-

✓ Denotes that the alternative meets the screening criteria.

3.0 AFFECTED ENVIRONMENT AND CONSEQUENCES

3.1 Introduction

This section describes the affected environment and potential direct, indirect, and cumulative environmental consequences at Fort Benning from the implementation of each reasonable alternative. The affected environment describes the current environmental setting and provides a baseline reference for understanding the intensity of any potential impacts or environmental consequences resulting from the Proposed Action. Both the affected environment and environmental consequences are described for comparison within broad resource areas known as Valued Environmental Components (VECs). The 14 VECs recommended for consideration by the 2007 Army NEPA Analysis Guidance Manual are listed below (U.S. Army Environmental Command, 2007).

- Air Quality
- Airspace
- Biological Resources
- Cultural Resources
- Energy
- Facilities (Utilities)
- Hazardous and Toxic Substances and Waste
- Land Use
- Noise
- Safety
- Soils
- Socioeconomics and Environmental Justice
- Traffic and Transportation
- Water Resources

In accordance with Army NEPA Regulation, any resource or VEC that is not potentially affected by the Proposed Action does not need to be evaluated. Of the 14 VECs considered, five were dismissed from full analysis due to impacts that are negligible or non-existent, as summarized below. These include Airspace, Facilities (Utilities), Hazardous and Toxic Substances and Waste, Socioeconomics and Environmental Justice, or Traffic and Transportation.

VECs Not Fully Analyzed

Potential impacts to Airspace, Facilities (Utilities), and Traffic and Transportation would be considered negligible as management and existing conditions of those resources would remain unaffected and unchanged by the Proposed Action. Potential adverse impacts to Hazardous and Toxic Substances and Waste would be short-term and localized in nature, to the extent of being considered negligible. Socioeconomics and Environmental Justice impacts from dollars spent within the community would be

negligible and no effects to the health and safety of children would occur. As a result, additional discussion of these VECs has not been carried further within this EA.

3.1.1 Analyzing Impacts and Region of Influence

The potential impacts resulting from the implementation of the Proposed Action are discussed in each of the following sections. The impacts discussion contains a level of analysis that provides the potential intensity and type of impacts that could occur from Army management of Fort Benning's natural resources as outlined in the INRMP.

A Region of Influence (ROI) was also determined for each resource area and was based on the type and extent of potential impacts to the affected VEC. The ROI may be limited to the specific location of an alternative, such as the surrounding area, or may include larger areas, such as an entire region. For this EA, the ROI of the proposed alternatives are primarily limited within the boundaries of Fort Benning. VECs with ROIs that exceed beyond the boundaries of Fort Benning include Air Quality, Biological Resources, Noise, and Water Resources. Such differences in the ROI are identified within those sections.

3.1.2 Cumulative Effects Analysis 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:

Fort Benning Training Enhancements (2015-2016)

Fort Benning is preparing an installation-specific Environmental Assessment and Biological Assessment to study three training proposals: installation level impacts of realignment to an Infantry Brigade Combat Team (IBCT) in 2015, relocation of the heavy maneuver portion of the Army Reconnaissance Course in 2016 to the Good Hope Maneuver Training Area (GHMTA), and enhancement of off-road maneuver areas in the GHMTA as funding becomes available.

This proposal would result in reduced training impacts to RCWs in and around the Southern Maneuver Training Area (SMTA) and the potential for increased soil erosion in the GHMTA. The proposals are expected to have overall beneficial impacts to Biological Resources. Minor adverse impacts would remain to Soils as potential ground disturbances from training would continue in other areas containing RCWs.

Fort Benning Training Land Expansion Program (Time Frame Unknown)

The Army proposed to acquire 82,800 acres to both meet Fort Benning's training land shortfall and the requirements of a 2009 Jeopardy Biological Opinion (JBO), which required the relocation of the Army Reconnaissance Course (ARC) heavy maneuver field training off of the current Fort Benning footprint by 2016. A Draft EIS for public review was completed in May 2011, and public meetings were held in June 2011. In October 2011 and March 2012, Fort Benning announced that the TLEP proposal process was paused to allow resolution of pending Army force structure and budgetary decisions that may affect the need for additional heavy maneuver lands for Fort Benning.

Fort Benning would coordinate with the USFWS to determine how the changed impacts to threatened and endangered species may result in changes in training and management actions. Significant adverse impacts are expected to Land Use, Noise, Socioeconomics and Traffic and Transportation.

Benning Technology Park Interchange (2015-2016)

Columbus, GA, community planners propose to upgrade the road access to the Technology Park area located to the north of Fort Benning near highway 185 to be started in 2015. The access road may cross Fort Benning, and siting is being planned to avoid as many environmental resources on Fort Benning as possible. This proposal is intended to enhance the economic development of the area as a Technology Park. The proposal may infuse a minor amount of economic development. Any adverse impacts would be localized, temporary, and/or negligible.

Energy Initiative Task Force (2014-2015)

Georgia Power is partnering with Fort Benning to establish a solar energy collection system on approximately 200-500 acres on Post by 2014. This proposal involves re-designation of a relatively small land area to that use, and is expected to have energy efficiencies and independence benefits for Fort Benning. Adverse impacts would be localized, temporary, and/or negligible.

Joint Land Use Study and Encroachment (Ongoing)

Land management by Fort Benning's neighbors surrounding the installation also may result in environmental impacts, such as land management practices for agriculture, game management, natural resource preservation, etc. Non-federal land owners routinely deal with land management issues similar to Fort Benning's, including pest management, smoke management, encroachment, and water quality. The Joint Land Use Study is an initiative for the community and military installation to work together to proactively minimize encroachment.

There are additional proposed actions in the ROI that may result in environmental impacts that cannot be included in the cumulative environmental impact analysis. Additional reasonably foreseeable actions which currently lack the necessary details required for inclusion in the cumulative analysis include:

Army 2020 Force Structure Realignment

The Army prepared a *Programmatic EA for Army 2020 Force Structure Realignment* in 2013. The 2013 PEA analyzed a Proposed Action consisting of a reduction in active Army end-strength from 562,000 to 490,000. Since the 2013 Programmatic EA was completed, DoD mission and fiscal considerations have continued to change, and the future end-strength of the Army must be reduced even further to 440,000–420,000 Soldiers.

These further potential reductions from the authorized 2012 baseline end-strength of 562,000, therefore, necessitates a Supplemental Programmatic EA; currently in development.

Future Construction (2014-2020)

There are a number of projects between now and 2020 proposed for Fort Benning: School replacements, new commissary facility, and Residential Communities Initiative Town Center project.

M855A1 Enhanced Performance Round (Time Frame Unknown)

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 ranges.

DoD Education Opportunities Study (2014)

The Department of Defense Education Activity contracted a study of Department of Defense Elementary and Secondary Schools (DDESS) schools on installations in the United States. The study will look at options for providing a quality, cost-effective education for military children attending DDESS schools and consider five possible alternatives: 1) continuing to operate DDESS schools; 2) closing the schools and transferring the students to local public schools; 3) transferring schools to local public school districts; 4) establishing a new local education agency covering the installation; and 5) transitioning to charter schools. The study is expected to be completed by the summer of 2014. (National Military Family Association, 2013)

3.2 Air Quality

3.2.1 Affected Environment

Air quality in a given location is generally described by the concentrations of various pollutants in the atmosphere. A pollutant concentration is compared with National Ambient Air Quality Standards (NAAQS) that establish limits on the maximum allowable concentrations of pollutants to protect public health and welfare. According to the Environmental Protection Agency (EPA) regulations, an area with air quality better than the NAAQS is designated as being in attainment; areas with worse air quality are

classified as nonattainment areas. A nonattainment designation is given to a region if the primary NAAQS for any criteria pollutant are exceeded at any point in the region for more than three days during a three year period. The ROI for air quality encompasses the surrounding airshed containing Fort Benning and known as the Columbus (Georgia)-Phenix City (Alabama) Interstate Air Quality Control Region (40 CFR § 81.58).

EPA Region 4, the Alabama Department of Environmental Management, and the Georgia Department of Natural Resources regulate air quality on Fort Benning and the surrounding region. The Clean Air Act (CAA) (42 USC 7401–7671q), as amended, gives EPA the responsibility to establish NAAQS (40 CFR Part 50) that set acceptable concentration levels for six criteria pollutants: particulate matter, sulfur dioxide, carbon monoxide, nitrogen oxides, ozone, and lead. The EPA has designated this region as an attainment area for all criteria pollutants; and therefore, general conformity air quality regulations do not apply to federal actions within this region.

Fort Benning is designated as a major stationary source of air pollutants and operates under a Title V Operating Permit (No. 9711-215-0021-V-03-0). The Title V permit was issued in March 2014 and is in effect for five years. The permit includes a list of emission sources, applicable regulations, emissions limits, and monitoring and record-keeping requirements. The permit is modified on a routine basis to account for the addition or removal of stationary and area pollutant sources.

Prescribed Burning, Wildfire and Smoke Management

Prescribed burning is an area source of criteria pollutant emissions on the Installation (U.S. Army, 2011). Whereas wildfires are unplanned events and the smoke generated cannot be managed for reduced impacts to smoke sensitive areas, prescribed fires reduce the potential for destructive wildfires and contribute to the maintenance of long-term air quality as acknowledged in the EPA's Interim Air Quality Policy on Wildlands and Prescribed Fires. This policy also recognizes that prescribed fires are an irreplaceable management tool in the process of maintaining biological diversity and balance within fire-dependent natural communities. Furthermore, the EPA policy is that land managers should coordinate with state air quality managers to "allow fire to function in its natural role in wildlands" while "protecting public health and welfare by minimizing smoke impacts" (U.S. Environmental Protection Agency, 1998). Moreover, timing of prescribed burns will be based on environmental factors which include air quality considerations.

Fort Benning is required to burn 90,000 acres of pine habitat every three years for RCW management (U.S. Fish and Wildlife Service, 2002). The objective is to burn 30,000 acres per year while minimizing any impacts to the training mission. The Fort Benning Integrated Wildland Fire Management Plan's primary purpose is to ensure that fire management program areas and military activities on Fort Benning are integrated and consistent with federal stewardship requirements. The Georgia and Alabama Forestry Commissions administer each state's Smoke Management Plans (SMPs). With cooperation from federal land managers these plans address procedures to manage

smoke and achieve national clean air objectives while improving the quality of wildland ecosystems through the use of prescribed fire (Georgia Department of Natural Resources, 2008).

Greenhouse Gases

In 2010, the CEQ issued guidance on incorporating greenhouse gas (GHG) considerations into NEPA review of federal actions. Annual carbon dioxide equivalent emissions of more than 25,000 metric tons are the minimum level in assessing impacts on the environment and for reporting emissions under the Clean Air Act. Examples of proposals for federal agency actions that may warrant a detailed analysis and discussion of the greenhouse gas impacts and mitigation include: 1) approval of a large solid waste landfill; 2) approval of energy facilities; or 3) authorization of a methane venting coal mine (Council on Environmental Quality, 2010).

3.2.2 Environmental Consequences

This section provides a discussion of the potential environmental impacts to air quality that would result from the alternatives. 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.

No Action Alternative

The No Action Alternative will not alter existing air quality conditions as a result of forestry management activities or prescribed burning. Prescribed burning will continue on a three-year rotation, with approximately 30,000 acres of the Installation burned annually. Fort Benning will continue to minimize smoke impacts through compliance with guidelines in the SMPs and adherence to air quality impact minimization procedures. Prescribed burning will be conducted under favorable weather conditions that allow for the minimization of smoke impacts on sensitive receptors. While minor, short-term adverse effects may result, regular burning will maintain low fuel levels, thus minimizing the amount of smoke that is produced. Fuel reduction will also reduce the potential for wildfires. Greenhouse gas emissions resulting from the implementation of the INRMP would be de minimis based on the current CEQ guidance concerning GHGs. Overall, beneficial effects on air quality are expected to continue.

2014 Ecosystem Management Alternative

Implementation of the revised INRMP will allow for the succession of annual burn plans. While the regularity and overall rotation (one to three years) of burning for specific areas may be modified based on location and ecological needs, the total area burned each year (approximately 30,000 acres), will remain the same. Therefore, implementation of the revised INRMP will not alter existing air quality conditions. As described above, while the potential exists for minor, short-term adverse effects to air quality, regular burning will have long-term beneficial effects on air quality by reducing fuel loads and the potential for wildfires. Greenhouse gas emissions resulting from the implementation of the INRMP would be de minimis based on the current CEQ guidance.

Cumulative Impacts

This Proposed Action would have negligible cumulative impacts when considering other projects in the ROI. Short-term cumulative impacts on air quality could occur when multiple prescribed burns are conducted simultaneously on Fort Benning and adjacent state and/or privately-owned lands. However, all prescribed burns are coordinated with the Georgia and Alabama regulators to minimize the potential for adverse cumulative effects.

Proposed Mitigation

No additional mitigation measures for air quality would be required. The potential effects associated with air quality for all alternatives would be beneficial. No mitigation other than compliance with existing regulations, permits, and plans would be required to reduce the level of potential effects.

3.3 Biological Resources

3.3.1 Affected Environment

Biological resources consist of vegetation types, sensitive species, and habitat, which typify or are important to the function of the ecosystem, or are protected under federal or state law or statute. For purposes of this evaluation, sensitive biological resources are defined as those plants and animal species listed by the USFWS, or listed under different levels of concern by the states of Georgia or Alabama. The ROI for biological resources includes the area within and immediately adjacent to Fort Benning that could potentially be affected by the Proposed Action.

Vegetation

There are more than 1,275 species of plants on Fort Benning located within approximately 29,000 acres of unforested areas and 150,000 acres of woodland. Loblolly and longleaf pine are the predominant conifers within the Installation, comprising approximately 80,000 acres of the woodland; the remaining 70,000 acres of woodland consist of approximately 15,000 acres of forested restricted access areas and 54,000 acres of hardwood forest (INRMP, 2014).

Fort Benning is located within the Longleaf Pine Ecosystem with vegetative cover distributed along two broadly defined ecological units or subsections. The northern portion of the Installation is part of the Sand Hills subsection characterized primarily by well-drained sandy surface soils and loamy subsoils. The Longleaf pine (*Pinus palustris*) is the dominant plant species whose dominance is sustained by frequent fires.

The Upper Loam Hills cover most of the southwestern area of Fort Benning. Characteristic vegetation includes Oak-hickory forest, with Post Oak (*Quercus stellata*), Blackjack Oak (*Quercus arilandica*), Southern Red Oak (*Quercus falcata*), White Oak

(*Quercus alba*), Pignut Hickory (*Carya glabra*), Mockernut Hickory (*Carya tomentosa*), and Sand Hickory (*Carya pallida*). In comparison with the Sand Hills, soils are typically heavier in texture with higher organic matter content and water holding capacity. As a result, hardwoods and less fire-tolerant species have become more dominant (Fort Benning 2001, 2003a).

Fort Benning has various terrestrial and aquatic communities of plants existing within similar environments. Such communities have been divided into ecological groups and are characterized in general terms as described in the INRMP (Appendix A3). Six of the ecological groups are upland plant communities and the remaining eight are associated with aquatic habitats.

Fish and Wildlife

As described in Appendix D of the 2014 INRMP, Fort Benning is inhabited by more than 350 species of fish and wildlife, including 154 species of birds, 47 species of mammals, 48 species of reptiles, 25 species of amphibians, 67 species of fish, and 9 species of mussels, as well as numerous insect and other invertebrate species. Commonly encountered animals include American alligators, turtles, water snakes, wading birds, migratory waterfowl, American beaver, white-tailed deer (*Odocoileus virginiana*), feral swine (*Sus scrofa*), eastern wild turkey (*Meleagris gallopavo*), eastern gray squirrel (*Sciurus carolinensis*), raccoon (*Procyon lotor*), rabbits (*Sylvilagus* spp.), other small mammals, and a wide variety of songbirds. The Seminole bat (*Lasiurus seminolu*), southeastern myotis (*Myotis austroriparius*), and Brazilian free-tailed bat (*Tadarida brasiliensis*) are known to occur at Fort Benning. Reptiles and amphibians found on the Installation includes eastern coachwhip (*Masticophis flagellum flagellum*), eastern diamondback rattlesnake (*Crotalus adamanteus*) Florida pinesnake (*Pituophis melanoleucus mugitus*), southern hognose snake (*Heterodon simus*), eastern tiger salamander (*Ambystoma tigrinum*), and other species of the Longleaf Pine Ecosystem (Fort Benning, 2014).

Fort Benning supports a high diversity of native freshwater fishes, including both game and non-game species. Native non-game fishes include many species of shiners, darters, shad, and minnows, as well as the southern brook lamprey (*Ichthyomyzon gagei*). Popular game fish species most often sought by fishermen include: largemouth bass (*Micropterus salmoides*), bluegill (*Lepomis macrochirus*), redear or shellcracker (*Lepomis microlophus*), black crappie (*Pomoxis nigromaculatus*), channel catfish (*Ictalurus punctatus*), white bass (*Morone chrysops*), and hybrid white bass (*Morone chrysops saxatilis*) (Fort Benning, 2014).

The Fort Benning region is typically rich in invertebrate biodiversity. Common insects in stream systems include larval and adult stages of stoneflies, mayflies, midges, and caddis flies. As well, a wide variety of crustaceans such as crayfish, mussels, isopods, snails, and amphipods occur within the regional habitat. Mussels in particular are sensitive indicators of water quality and ecological integrity. At least four mussel species of conservation concern occur within Uchee Creek in Alabama (Fort Benning, 2014). Water bodies on Fort Benning commonly containing mussels include the

Chattahoochee River, Victory Pond and Uchee, Cox, Shell, and Oswichee Creeks. (Fort Benning, 2003)

Migratory Birds

There are approximately 150 species of birds protected under the Migratory Bird Treaty Act on Fort Benning either seasonally or year round. Most of these species are breeding residents or neotropical migrants for which the typical breeding season is spring through summer.

Military readiness activity includes all training and operations of the Armed Forces that relate to combat. Section 315 of the 2003 National Defense Authorization Act provided that the Secretary of the Interior prescribe regulations to exempt the Armed Forces from the incidental taking of migratory birds during military readiness activities. In accordance with 50 CFR 21.15 (Authorization Of Take Incidental To Military Readiness Activities), the regulation does not allow an installation to take migratory birds indiscriminately during readiness activities but requires that installations consider the protection of migratory birds when planning and executing military readiness activities. In addition, Fort Benning manages and conserves migratory bird species through its INRMP and considers effects to migratory birds in any proposed action via the NEPA process.

The Migratory Bird Treaty Act grants the Secretary of the Interior the authority to establish hunting seasons for species the USFWS has determined that hunting is appropriate; species for which there is a long tradition of hunting; and species for which hunting is consistent with their population status and long-term conservation. Two species of resident game birds at Fort Benning include the northern bobwhite quail (*Colinus virginianus*) and eastern wild turkey. Nineteen species of migratory game birds (at least 16 of which are waterfowl) include the mourning dove, common snipe (*Gallinago gallinago*), American woodcock (*Scolopax minor*), Canada goose, mallard duck (*Anas platyrhynchos*), wood duck (*Aix sponsa*), ring-necked duck (*Aythya collaris*), gadwall (*Anas strepera*), American wigeon (*Anas americana*), northern pintail (*Anas acuta*), American black duck (*Anas rubripes*), green-winged teal (*Anas crecca*), blue-winged teal (*Anas discors*), canvasback (*Aythya valisineria*), redhead (*Aythya americana*), bufflehead (*Bucephala albeola*), hooded merganser (*Lophodytes cucullatus*), northern shoveler (*Anas clypeata*), and lesser scaup (*Aythya affinis*). In addition, Fort Benning allows hunting of crow (*Corvus spp.*) (U.S. Army Corps of Engineers, 2009).

Invasive Species

Executive Order 13112 requires federal agencies, to the extent practicable and permitted by law, to prevent the introduction of invasive species; to provide for their control; and to minimize the economic, ecological, and human health impacts that invasive species cause.

Common invasive plant species identified on Fort Benning include the tree species of Chinese Tallowtree (*Triadica sebifera*) and Mimosa (*Albizia julibrissin*), and shrubs such as Chinese Privet (*Ligustrum sinense*) and Multiflora Rose (*Rosa multiflora*). Invasive

vine species include Kudzu (*Pueraria montana* var. *lobata*) and English Ivy (*Hedera helix*). Invasive grasses include Cogongrass (*Imperata cylindrica*) and Japanese Knotweed (*Fallopia japonica*). All are extremely aggressive invaders with the capability of forming dense assemblages and/or extensive root systems that displaces native vegetation. Fort Benning utilizes an integrated pest management approach to control invasive plant species. Integrated pest management involves using targeted, sustainable control methods that can include a variety of measures, such as habitat modification, biological control, mechanical control, physical control and the judicious use of pesticides. Specific procedures related to the control of invasive plant species are outlined in Fort Benning's Integrated Pest Management Plan (Fort Benning, 2013).

Feral swine are widespread across the Installation and considered a pest species for many reasons. The primary concern is the extensive damage to vegetation and soil surfaces that occurs due to their characteristic "rooting" habits, which jeopardizes the establishment of ground cover and native vegetation. Other impacts of feral swine include direct mortality of pine and hardwood trees, competition with native wildlife species, habitat disturbance, and direct mortality of threatened and endangered species. Additionally, feral swine can also uproot and damage cables, wiring, targetry, bivouac sites, and other military assets. Fort Benning's management of this species focuses on controlling the population by establishing liberal hunting regulations such as no bag limits and expanded season lengths. In addition, trapping is conducted at specific locations to minimize damage to military assets and sensitive plants (U.S. Army Corps of Engineers, 2009). Specific procedures related to the control of feral swine are outlined in Fort Benning's Integrated Pest Management Plan (Fort Benning, 2013).

Endangered, Threatened, and Rare Species

There are 96 species (four amphibians, eight birds, seven fishes, four mammals, four mussels, nine reptiles, and 60 plants) of conservation concern found on Fort Benning as described in the INRMP's Table A.2.1. Plant and animal species listed as threatened, endangered, or proposed as such by the USFWS, the state of Georgia or the state of Alabama are recognized as special-status species. The Endangered Species Act (ESA) only protects federally listed species. State listed species are protected in the state of Georgia by the Georgia Wildflower Preservation Act or Georgia's Endangered Wildlife Act. The state of Alabama likewise protects a number of species through the Nongame Species Regulation (Alabama Administrative Code 220-2-.92). Although state listed species are not protected by the ESA, they may be considered for federal listing in the future and may be afforded special management attention in Fort Benning's INRMP.

AR 200-1 (Environmental Protection and Enhancement) guides Army compliance with the ESA. The regulation requires ESMCs for listed and proposed species and critical habitat, a 100 percent inventory of suitable habitat for listed and proposed species that may occur on the Installation, and an initial thorough inventory of plants, fish, wildlife, and habitats on the Installation lands. Five federally listed or candidate species occur on Fort Benning. These are the Red-cockaded Woodpecker (*Picoides borealis*) (Endangered), American Alligator (*Alligator mississippiensis*) (Threatened for similarity in appearance), Wood Stork (*Mycteria Americana*) (Endangered), Relict Trillium

(*Trillium reliquum*) (Endangered), Georgia Rockcress (*Arabis Georgiana*) (Candidate), and Gopher Tortoise (*Gopherus polyphemus*) (Threatened). Accordingly, the Bald Eagle (*Haliaeetus leucocephalus*) has been delisted but is protected under the Bald and Golden Eagle Protection Act.

Red-cockaded Woodpecker (Federal Endangered)

The RCW was listed as endangered in 1970 due to its rarity, documented declines in local populations, and reductions in available nesting habitat. RCWs have social structures that involve a breeding pair and helpers that assist with cavity excavation and maintenance, egg incubation, feeding young, and defending the group's territory. Fort Benning has one of the largest RCW populations in the southeastern United States. The RCWs are well dispersed over the Installation, except that no active clusters are located on the Alabama portion of the Installation.

Intensive efforts have been made to enhance management activities since the mid 1990s. However, in 2009 Fort Benning received a JBO from the USFWS related to the MCoE Biological Assessment and EIS that analyzed the Armor School move to Fort Benning, the related construction of new facilities, and training intensity. This JBO further outlined specific criteria that must be met in order for the Installation to proceed with the proposed MCoE actions, including RCW impact minimization measures. Along with specific criteria outlined from the USFWS, management for the RCW currently follows the 1996 Management Guidelines for the RCW on Army installations.

The INRMP's Appendix E1 contains an ESMC for the RCW that would allow Fort Benning to implement the 2007 Management Guidelines for the RCW on Army installations. Specific management actions for the RCW include the restoration of longleaf pine; frequent prescribed fires in habitat; cavity tree and cluster boundary marking; controlling hardwoods in the midstory within clusters; monitoring to determine population trends; artificial cavity installation; and the translocation of birds.

American Alligator (Federal Threatened for Similarity in Appearance)

The American Alligator was first listed in 1967. In 1987, the USFWS pronounced the American Alligator fully recovered and it was removed from the endangered species list. However, the alligator is still listed as Threatened due to "similarity in appearance" to the crocodile and caiman species.

Fort Benning is located on the extreme northern limit of the American Alligator's range. Habitat available to the alligator is limited and consists of fishponds and beaver ponds and the backwaters, sloughs, and creeks of the Chattahoochee River (Fort Benning 2001, 2003a). Known occurrences include the southwestern portions of the Installation on the Alabama side of the river and Averett's Kings, Twilight, and Clear Creek ponds on the Georgia portion of the Installation (U.S. Army, 2007).

Fort Benning has an ESMC for the American Alligator (INRMP's Appendix E2). Basic management for this species consists of maintaining a stable population and maintaining the habitat in which it lives and feeds. According to the INRMP, current

management activities consist of surveys, monitoring efforts, and protection and maintenance of alligator habitat. The 2014 INRMP has no management changes for this species.

Wood Stork (Federal Endangered)

The Wood Stork is a large wading bird in the stork family that was listed as endangered in 2013. Wood Storks use a variety of freshwater and estuarine wetlands for nesting, feeding, and roosting.

Sightings of Wood Storks have been very limited on Fort Benning due to their transient nature and dependence on available food supplies and proper water levels. In 1996, a roost was discovered on Fort Benning during a USFWS Survey. In 2000, a single Wood Stork was observed for the first time on the Georgia side of the Installation. The biggest influence on wood storks being present on Fort Benning is the water level manipulations conducted by the U.S. Army Corps of Engineers (USACE) on the Chattahoochee River (Fort Benning, 2014).

Management efforts would be focused towards summer surveys, roost surveys, and protection of habitats that were used by the Wood Stork. The INRMP's Appendix E4 contains an ESMC for the Wood Stork. The 2014 INRMP has no management changes for this species.

Relict Trillium (Federal Endangered)

Relict Trillium was listed as an endangered species in 1988. It is a perennial herb belonging to the lily family. Relict Trillium grows in moist hardwood forests with little to no recent disturbance. This species is endangered as a result of habitat loss due to residential and industrial development, roads and utility corridors, logging, agricultural conversion, and fires. The species exist primarily in shaded conditions; thus, timber harvests or forest clearing can be detrimental to this species. Japanese honeysuckle and kudzu are examples of introduced vegetation that threaten Relict Trillium due to the aggressive vine growth with a habit of encroaching into hardwood habitat and replacing native plant species. Additionally, feral swine can damage Relict Trillium by trampling, uprooting, and destabilizing soil.

There are seven known Relict Trillium locations in the northern portion of the Installation. Conservation efforts are focused on preserving habitat to maintain existing populations at stable levels. Current management activities for this species consist of surveys, monitoring efforts, and protection of sensitive areas as further detailed in the ESMC for Relict Trillium found in the INRMP's Appendix E5. The 2014 INRMP has no management changes for this species.

Georgia Rockcress (Federal Candidate, Georgia Threatened)

Georgia Rockcress is listed as a threatened species in the state of Georgia and is currently proposed for federal listing. The plant was identified as needing federal protection in 1975 and has been a candidate for listing as a threatened species under the Endangered Species Act since 2004. Georgia Rockcress is a tall herbaceous plant

with an erect stem and several basal leaves. This species is found in dry areas, on rocky bluffs and slopes along watercourses, as well as along sandy, eroding stream banks. On Fort Benning, it can be found along both banks of the Chattahoochee River.

The Georgia Rockcress is a light-loving species and will not tolerate prolonged shaded conditions. Threats to this species include various forms of habitat degradation and disturbance. Timber harvest and road building can directly modify potential habitat. Ground disturbance also encourages encroachment by exotic plant species. Invasive plants, particularly Japanese honeysuckle, overtake populations of Georgia Rockcress. An increased threat from invasive plants was cited by USFWS in support of the candidate priority upgrade. (U.S. Fish and Wildlife Service. 2006)

The INRMP's Appendix E6 contains a new ESMC for the Georgia Rockcress species and critical habitat management. Monitoring the encroachment of invasive species and prohibiting ground disturbances within the boundaries of the population will be the principal management activities in the future.

Shiny-rayed Pocketbook (Federal Endangered)

The Shiny-rayed Pocketbook is a medium-sized freshwater mussel that was federally listed as endangered in 1998. Like other freshwater mussels, adults are filter-feeders that consume detritus, diatoms, phytoplankton, zooplankton, and other microorganisms through the siphoning of the water column.

Historically, the Shiny-rayed Pocketbook was known to inhabit the Flint and Chipola rivers; however, it has not been collected from the main channel of the Apalachicola River. As well, it has been found at various sites along the Flint and Chattahoochee River and associated tributaries in Georgia and Alabama. Although, there are currently no known populations on Fort Benning, the USFWS has determined that all of Uchee Creek is considered to be critical habitat for the species.

The INRMP's Appendix E8 contains a new ESMC for the Shiny-rayed Pocketbook species and critical habitat management. Due to the designation of Uchee Creek as critical habitat for Shiny-rayed Pocketbook, management activities will focus on maintaining and improving the habitat quality within the portion of Uchee Creek that resides on the Installation. Fort Benning will evaluate the potential impacts of any actions that might affect the quality and integrity of the creek prior to activities occurring within the watershed and implement BMPs when and where necessary.

Gopher Tortoise (Federal Candidate, Georgia Threatened)

The Gopher Tortoise relies on dry sandy sites for foraging habitat and to dig burrows, which provide shelter for a variety of other animal species. The Gopher Tortoise is found primarily within the sandhill communities located in the northeastern portion of the Installation.

The INRMP's Appendix E7 contains the Gopher Tortoise Species Management Component (SMC). There are many factors, which are limiting the gopher tortoise, but the most significant threat is the loss of habitat due to intensive land use. Management

activities will focus on the protection and enhancement of gopher tortoise habitat with the goal of maintaining the existing populations on Fort Benning. The 2014 INRMP has no management changes for this species.

Bald Eagle (Delisted-Federal Protected)

Historically, the Bald Eagle was a common nesting species throughout the coastal plain of the Southeast as well as along major lakes and rivers. In 1963 there were only 400 nesting pairs of bald eagles in the lower 48 states. As a result, primarily from federal regulation and awareness, their numbers had increased to 10,000 nesting pairs by 2007. By June of 2007, Bald Eagles were removed from the endangered species list but remain federally protected under other eagle specific laws.

Fort Benning conducts a mid-winter survey of eagles in cooperation with the Georgia Department of Natural Resources Nongame Department. Two nesting pairs are known to occur on Fort Benning. Current known nest locations are near the Chattahoochee River and King's Pond. The 2014 INRMP has no management changes for this species.

The INRMP's Appendix E3 contains a SMC for the bald eagle. Nest protection, annual surveys, and investigations into eagle sightings will continue to be the principal management activities in the future. The goals will continue to be maintaining the current level of nesting and foraging habitat through forest management and habitat protection.

Unique Ecological Areas

Fort Benning has identified several areas that have unique or rare ecological characteristics or that represent the best example of a particular habitat or plant community type. As described in the INRMP's Appendix A2, unique ecological areas (UEA) were chosen based on characteristics of their soil type, topography, slope, aspect, elevation, hydrology, flora, fauna, and other biotic and abiotic features. Many areas apparently contain remnant native plant communities that have experienced minimal disturbance relative to other similar communities. To conserve the ecological integrity of these areas, Fort Benning will use their designation as UEAs to ensure that current and future land-use planning and training activities take into consideration their presence and their preservation.

Habitat Conservation and Enhancement Outside of Fort Benning

Fort Benning has made substantial efforts towards habitat conservation outside its boundaries, primarily through efforts to buffer potential encroachment. The Sikes Act authorizes the Department of Defense to partner with non-federal governments or private organizations to establish buffers around military installations. The Army implements this authority through the Army Compatible Use Buffer (ACUB) program, which provides funding for the Army to work with state and local governments, non-governmental organizations, and willing land owners to help prevent encroachment of training areas and promote regional conservation efforts.

Through Fort Benning's partnership with The Nature Conservancy, off-Post conservation measures both buffer the Installation boundary from land uses incompatible with military training and promotes land management to protect and restore habitat for listed, imperiled, or at-risk species that impact Fort Benning's mission. Restoration includes removal of invasive species, herbicide application, ecological tree harvesting, and planting of long leaf pine. Properties enlisted under the ACUB program are either placed into conservation easements or purchased fee simple by The Nature Conservancy or other Army partners and are then later sold to conservation buyers encumbered with permanent conservation easements. ACUB lands are not federally owned; the Army holds only a contingency right to ensure that training buffer and conservation purposes are met.

Fort Benning's ACUB Plan, RCW Off-Post Conservation Plan and stakeholder partnerships continue to leverage resources to protect and ecologically connect habitat beyond the boundary of Fort Benning. As described in Appendix F of the INRMP, as of 2014, the ACUB program at Fort Benning encompasses over 20,000 acres around Fort Benning via fee purchase acquisitions and permanent conservation easements with a goal of protecting up to 40,000 acres by 2020.

3.3.2 Environmental Consequences

Potential impacts on 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;
- Substantial loss or degradation of a sensitive habitat, including surface waters and UEAs that support high concentrations of special status species or migratory birds;
- 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 recover 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 continuation of ecosystem management activities such as timber thinning, hardwood control, and prescribed burning will have beneficial effects on fish and wildlife resources. Ecosystem restoration will provide important habitat for native species dependent on natural longleaf pine-bluestem communities. Water quality monitoring and watershed management will enhance habitat for fish and other aquatic organisms. Game species monitoring and habitat management will ensure game species population sustainment.

2014 Ecosystem Management Alternative

Potential impacts and beneficial effects will include those described above for the No Action Alternative. Additionally, the revised INRMP will have further beneficial effects associated with the incorporation of the new ESMCs for the Georgia Rockcress and Shiny-rayed Pocketbook and revised ESMCs for the RCW, American Alligator, Relict Trillium and Wood stork. The Gopher Tortoise and Bald Eagle SMCs were revised as well.

Cumulative Impacts

In general, past activities that have caused adverse impacts to biological resources in the ROI have been associated with construction and training activities. Although such activities have the potential to cause vegetation loss, habitat loss, and habitat degradation on Post, Fort Benning continues to successfully maintain diverse ecological communities. The INRMP implements management practices that will have long-term beneficial effects on fish and wildlife resources. When considering with the past, present, and future actions in the ROI, the INRMP would have beneficial cumulative effects.

Proposed Mitigation

Since only beneficial impacts are expected as a result of the Proposed Alternatives, no mitigation has been proposed.

3.4 Cultural Resources

3.4.1 Affected Environment

Cultural resources consist of prehistoric and historic districts, sites, structures, artifacts, objects, or any other physical evidence of human activity considered important to a culture, subculture, or community for scientific, traditional, religious, or other reasons.

Fort Benning follows the Army Alternate Procedures (AAP) for implementing Section 106 compliance. To further improve efficiency in the Installation's Cultural Resource Management Program and expedite the review of actions that might affect historic properties and leverage the NEPA process for coordination and consultation, Fort Benning has adopted the AAP for implementing the NHPA. Replacing NHPA Section 106 procedures (36 CFR 800), the Historic Properties Component (HPC) of the Integrated Cultural Resources Management Plan (ICRMP) provides the Standard Operating Procedures followed by Fort Benning when assessing proposed actions and their potential effects on Fort Benning's historic properties. Appendix C4 of the INRMP provides a description and the coordination steps of NEPA and NHPA under the Army Alternate Procedures for Section 106 compliance.

In this section of the EA, the geographical area or area of analysis for cultural resources is referred to as the "Area of Potential Effect" (APE). The APE includes areas

throughout the Installation where management activities would occur to support the Proposed Action. Such activities include, but are not limited to: forest management (harvesting, plowing and planting for regeneration), habitat management (physical soil preparation for food plots, cover plantings, pond and wetland construction), cantonment area management (historically appropriate landscaping may be an issue here where the cantonment area is in Fort Benning's historic district), soil surveys, land rehabilitation and maintenance (terrain modification for erosion control and restoration). Detailed discussion of the cultural and land use history of the area can be found in Fort Benning's 2008 ICRMP.

3.4.2 Environmental Consequences

Natural Resource management activities proposed in these alternatives would continue the preservation, protection, avoidance and sometimes excavation of discovered or known sites. Fort Benning consults with state and Tribal representatives to identify, protect when feasible, or mitigate negative impacts to cultural resources. All regulatory requirements associated with soil disturbing or other land use activities would be followed, along with the guidelines for soil conservation as outlined in Appendix B.2.3 of the INRMP.

No Action Alternative

A number of natural resource management activities have the potential to affect cultural resources (e.g., prescribed burning, timber harvesting, hardwood removal, site preparation and planting, erosion control projects, wildlife food plot establishment and maintenance); however, procedures are outlined within the INRMP and ICRMP to ensure that NRHP-eligible or potentially eligible cultural resources are avoided or minimally impacted by these activities. Coordination procedures outlined in the INRMP require project proponents to submit all project plans to the Cultural Resource Management Program prior to contract award and project implementation. All proposed projects will be reviewed by the Cultural Resource Management Program for potential adverse effects to cultural resources. The Natural Resources project proponent will coordinate with the Cultural Resource Management Program to ensure that activities resulting in ground disturbance are minimized within the boundaries of archaeological sites that are eligible or potentially eligible for listing in the NRHP. In regard to protected historic buildings, structures, and cemeteries, coordination and resource protection measures will be implemented as outlined in the ICRMP. The No Action Alternative will not alter current procedures for reviewing natural resource projects and protecting cultural resources. Therefore, the No Action Alternative will have negligible impacts on cultural resources.

2014 Ecosystem Management Alternative

The 2014 Ecosystem Management Alternative will not introduce any new soil disturbing activities, nor will it alter current procedures for reviewing natural resources projects and protecting NRHP eligible or potentially eligible cultural resources. Therefore, implementation of the revised INRMP will have negligible impacts on cultural resources.

Cumulative Impacts

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

Proposed Mitigation

None of the proposed actions or alternatives would result in adverse effects to any cultural resources; therefore, no mitigation would be necessary.

3.5 Land Use

3.5.1 Affected Environment

Land use involves the utilization or modification of land for agricultural, industrial, training, residential, recreational, or other purposes. Land uses are frequently regulated by management plans, policies, ordinances, and regulations that determine the types of uses that are allowable or to protect specially designated or environmentally sensitive uses. The ROI for land use includes the land within Fort Benning, lands within 0.5 miles of the boundary, and ACUB lands that could potentially be affected by the Proposed Action. Individual land use activities recognized within the boundary of Fort Benning include: Airfield, Professional/Institutional, Community, Residential, Troop, Industrial, and Training and Ranges. Land use within the immediate areas surrounding Fort Benning predominantly consists of commercial, industrial, and residential areas with open space, agricultural, and recreational areas interspersed throughout.

Physical Setting

Fort Benning is approximately 182,000 acres in portions of Muscogee, Chattahoochee, and Russell counties. Approximately 80 percent of Chattahoochee County, Georgia is within the boundary of Fort Benning. The largest population center is the City of Columbus. The central business district of Columbus, GA lies approximately 6 miles north of the Installation. Phenix City, Alabama, the next largest incorporated city in the region, is located approximately 10 miles northwest and across the Chattahoochee River from Fort Benning. The remainder of the region is characterized by a few small, unincorporated communities and rural residences and predominantly agricultural and undeveloped vacant land used for farming and forestry.

Land use areas within the boundary of Fort Benning consist of operational training areas, open space, and four cantonment areas: Main Post, Sand Hill, Kelley Hill, and Harmony Church.

Recreation

Many recreation and leisure programs on Fort Benning are managed and administered by the Directorate of Communities (DCA) under the Morale, Welfare and Recreation

Program. The DCA facilitates the use of the recreational areas for residents and visitors of Fort Benning, Columbus and Phenix City areas. Lands or open space used for recreation areas at Fort Benning include golf courses, ball fields, or general use areas. Common recreational activities at the Installation include use of the pistol club range, bird watching, and hiking. Recreation areas at Fort Benning include Uchee Creek Recreation Area, Kings Pond recreation area, and Twilight Pond. The Community Recreation Division of DCA manages the recreation areas under USACE Regulation 210-4 (U.S. Army Corps of Engineers, 2007). The Morale, Welfare and Recreation also sponsor fitness programs, child care programs, libraries, club activities and similar activities within the cantonment areas.

Historically, the emphasis of outdoor recreational opportunities at Fort Benning has been hunting and fishing, which is managed by EMD and the States. Only active duty and retired military, DoD employees working on or retired from Fort Benning, National Guardsman and Reservists residing around Fort Benning, and family members, and guests of the proceeding, are authorized to engage in hunting and fishing activities on-Post. Hunting is permitted throughout the Installation except in restricted areas and designated training areas. Those who wish to hunt or fish at the Installation must obtain the appropriate state license and a permit from Fort Benning. Prior to visiting, users must check in to determine if access has been restricted to the hunting or fishing areas as a result of training. Fishing and recreational boating is allowed in the Chattahoochee River near undeveloped Installation lands. Fishing ponds are available to authorized personnel, as long as they obtain a permit from Fort Benning and a fishing license from the natural resources department of the state the pond is located in (U.S. Army Corps of Engineers, 2007).

ACUB

The Nature Conservancy (TNC) acquires property rights to certain lands near Fort Benning under the ACUB Program. The ACUB Program at Fort Benning was approved and funded by the Army in 2006 to buffer the Installation boundary from land uses incompatible with adjacent military training and land management, but also to protect and restore habitat for listed, imperiled, or at-risk species that impact Fort Benning's mission. The properties under ACUB are either placed into conservation easements or are purchased by TNC or others and are then sold to conservation buyers encumbered with permanent conservation easements. ACUB lands are not federally-owned; the Army holds only a contingency right to ensure that training buffer and conservation purposes are met. This program is described in more detail in the INRMP's section 5.8 and Appendix F1.

3.5.2 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 degraded mission-essential training.

No Action Alternative

Implementation of current management practices will continue to have long-term beneficial effects on land use. Ecosystem management will maintain lands beneficial for military training and other missions. Additionally, the ACUB Program at Fort Benning not only serves to prevent encroachment related to the Installation, but also serves to protect and restore habitat for species in the Fort Benning region.

2014 Ecosystem Management Alternative

Potential impacts and beneficial effects will include those described above for the No Action Alternative. The revised INRMP will have additional beneficial effects on land use as a result in habitat creation for wildlife and increased wildlife species diversity and abundance. The new ESMCs for the GA Rockcress and Shiny-rayed Pocketbook focus land use in critical habitat areas. Additionally, continued implementation of the ACUB plan to areas around Fort Benning would increasingly minimize long-term land use conflicts.

Cumulative Impacts

Fort Benning land use planning has avoided or minimized adjacent (non-Army) land use conflicts through siting projects according to the Real Property Master Plan and NEPA analysis. Additionally, Fort Benning participates in cooperative land use efforts between the Army and the communities of the region. In 2008, this partnership produced the Joint Land Use Study to examine both the way that Fort Benning operates and the way that nearby areas are growing. The study's purpose was to ensure military missions continue without degrading the public health, safety, and welfare of surrounding communities, while ensuring that local economic development continues to prosper (The Valley Partnership, 2008). Such planning and partnerships would continue to reduce the potential for adverse and significant cumulative effects to adjacent land uses. The other future projects in the ROI, such as the transition to an IBCT and GHMTA enhancements, will improve military land use. The Action Alternative will provide beneficial cumulative impacts when considering other actions within the ROI.

Proposed Mitigation

The Proposed Action or alternatives would not result in adverse effects to Land Use; therefore, no mitigation would be necessary.

3.6 Noise

3.6.1 Affected Environment

Noise is described as any sound that is undesirable because it interferes with human activities, damages hearing, or is otherwise intrusive. However, noise is often generated by activities which are essential to a community's quality of life such as vehicular traffic, construction, and even recreational activities. The ROI for noise encompasses the land

within Fort Benning and any communities or neighbors close enough to be reasonably affected by operational noise resulting from activities prescribed within the INRMP.

Fort Benning's Installation Operational Noise Management Plan (IONMP) outlines policies and procedures for managing noise impacts to the surrounding communities (U.S. Army Corps of Engineers, 2009). The IONMP presents recommendations to the surrounding counties/municipalities for adopting both a noise disclosure and noise easement ordinance for areas within a given noise zone level as well as within a community planning area adjacent to the Fort Benning boundary. These planning efforts encourage nearby communities to adopt ordinances that promote land use that is compatible with the noise produced at Fort Benning.

Fort Benning implements noise complaint procedures to address individual concerns. Civilian noise complaints are relayed to the Environmental Division, as well as to the units who generated the noise and to the Installation Command. If necessary, investigation and further corrective action follows (Fort Benning, 2007).

3.6.2 Environmental Consequences

A significant impact to noise would occur if Zone II or III extend further into areas with sensitive noise receptors.

No Action Alternative

Under the No Action Alternative, noise will be generated by heavy machinery used for timber harvest, road and fire break maintenance, preparation of wildlife food plots for planting, and erosion control projects. However, noise emissions at any given site will be localized, minor, and temporary. Therefore, impacts are expected to be negligible as a result of the No Action Alternative.

2014 Ecosystem Management Alternative

The Preferred Alternative will not alter the frequency or duration of existing sources of noise. Accordingly, no increases in noise levels or the number of noise producing events are expected. Based on the minimal noise emissions associated with management activities the Proposed Action will not have any noticeable effects on current noise levels and impacts to Noise are expected to be negligible.

Cumulative Impacts

Since the Proposed Action would create no impacts to the noise environment, no cumulative impacts to noise are expected.

Proposed Mitigation

The Proposed Action would not result in adverse impacts to Noise; therefore, no mitigation would be necessary.

3.7 Safety

3.7.1 Affected Environment

This section addresses the safety aspects associated with implementing the INRMP at Fort Benning. These operations include activities within both the cantonment areas as well the training areas. The ROI for safety encompasses the Fort Benning Installation boundary.

Army Safety

The Army Safety Program, AR 385-10 (U.S. Army, 2010), governs Army policies, responsibilities, and procedures to protect and preserve Army personnel and property against accidental loss. The regulation provides for operational safety, safe and healthy work places, and assures compliance with applicable safety laws and regulations. A key principal of the safety program is risk management. It is not possible to eliminate all safety risks associated with an activity, but it is possible to minimize the risk through a risk management program. This program allows decision-makers to assess the risk involved for each safety hazard, determine impacts to the mission or personnel should the event occur, and estimate the probability of it occurring.

Workplace Safety

Workplace Safety applies to on-the-job safety and implements Occupational Safety and Health Administration (OSHA) requirements. These requirements include protective clothing and equipment, hazard materials communication, health and safety standards for the workplace, on-the-job reporting requirements, and myriad other requirements designed to protect the health and safety of workers.

Transportation Safety

Transportation Safety entails a large part of Army functions because most troop movements and management activities are performed using ground-based vehicles. Fort Benning provides transportation safety briefings for on- and off-duty personnel and Families. On- the-job requirements describe safe handling, loading, and operation of government-owned vehicles including automobiles, trucks, troop carriers, and tanks. Off-the-job safety stresses training for vehicle operation for four-wheeled vehicles and motorcycles, seatbelt use, counseling, enforcement, and accident prevention programs.

Explosive Safety

Military training involves the use of munitions that involve the use of munitions that may result in unexploded ordnance (UXO). The main “dudged” ordnance impact areas on Post are compartments A20 and K15 with approximately 9,300 and 5,500 acres, respectively. Smaller isolated “dudged” ordnance impact areas are found within the Malone Range Complex and other locations on-Post.

The INRMP involves management activities in training areas including ranges. Surface danger zones or SDZs are an “invisible” line that surrounds the firing range and

ordnance impact area portions of a range and provides a safety buffer area to protect personnel from munitions during operation of the range. For each training scenario on a range, the SDZ is computed to take into account the firing and target positions and ordnance used, so the SDZ exclusion zone will vary. For the purposes of this analysis, the cumulative/maximum SDZ possible for Fort Benning training ranges will be utilized.

3.7.2 Environmental Consequences

A significant impact to safety would occur if the INRMP requires activity not compatible with a SDZ, an area with known UXOs, or involves a violation of applicable OSHA standards.

No Action Alternative

Under the No Action Alternative, there would be no new adverse impacts regarding safety. Army policies, procedures, and applicable safety laws to protect, preserve, and provide a safe and healthy work environment would continue to provide beneficial impacts to Safety.

2014 Ecosystem Management Alternative

Beneficial effects as described above for the No Action Alternative would continue since no changes to safety procedures are expected. In addition, to previously implemented policies, procedures and applicable safety laws, the 2014 INRMP includes the Fort Benning Environmental Access Plan; outlining the protocols and procedures for safely accessing training areas, ranges, and facilities to meet environmental management and training mission requirements.

Cumulative Impacts

Since the Proposed Action would have no direct or indirect impacts to safety, no cumulative impacts to Safety are expected to occur.

Proposed Mitigation

None of the proposed alternatives would result in adverse impacts to Safety; therefore, no mitigation would be necessary.

3.8 Soils

3.8.1 Affected Environment

Soils typically are described in terms of their type, slope, physical characteristics, and relative compatibility or limitations with regard to particular activities. The ROI for Soils analyses includes Fort Benning and lands adjacent to the Installation that could be directly and/or indirectly impacted by soil erosion and sedimentation.

Most of the southwestern third of Fort Benning is covered by the Upper Loam Hills soil province which contains soils that are heavier textured and more mesic than the drier Sand Hills soils to the northeast. These soils also generally have higher organic matter content and higher water holding capacity. Soils textures in the Main Post area of Fort Benning are predominantly urban (previously disturbed, covered by buildings and/or hardscapes) and loam-sand mix. Soils along the Chattahoochee are occasionally flooded sandy loams (Fort Benning, 2014).

The topography is generally smooth to gently rolling with low relief. The southwestern portion of the Installation has the lowest terrain at about 190 feet above sea level, with low terraces parallel to the Chattahoochee. Most of Fort Benning's soils are identified as highly erodible, the degree of which is determined by factors including texture, structure, percent slope, drainage, and permeability (Fort Benning, 2014).

Generally, soils on Fort Benning are highly susceptible to erosion if vegetation is removed by clearing or other disturbances. The potential for erosion also increases with the degree of slope. Continuous or sustained military training within an area may result in damage to the vegetation and soil. If disturbed continuously or frequently, soils lose the capability to support voluntary reseeding and groundcover reestablishment. Eventually, this can lead to extensive damage, thus making an area unusable for military training. The establishment and maintenance of appropriate vegetation and proper drainage systems is the primary means of addressing such potential issues.

To prevent soil erosion, consequent damage to endangered species habitat, or sedimentation of streams and wetland areas, the Army employs NPDES BMPs as defined by the Georgia Department Natural Resources (GA DNR), Georgia Soil & Water Conservation Commission, Alabama Department of Environmental Management (ADEM), and Alabama Soil & Water Conservation Committee for all construction projects. In Georgia, projects one acre or greater require a state approved Erosion Sedimentation Pollution Control Plan (ESPCP) for land disturbing activities, fee submittal for disturbed acreage, and Notice of Intent (NOI) to meet the requirements of the federal NPDES construction permit program and Georgia Erosion and Sedimentation Control Act. Likewise, in Alabama, such projects require an approved Construction Best Management Practices Plan (CBMPP), fees, and Notice of Registration to meet the federal NPDES and Alabama Water Pollution Control Act requirements. The ESPCP/CBMPP prescribes activities to limit erosion and sedimentation from the site and includes a site description, list of BMPs to be used, BMP inspection procedures to be performed by qualified personnel, procedures for timely BMP maintenance, requirements for sampling of discharges or receiving streams for turbidity, and reporting requirements to the GA DNR Environmental Protection Division (EPD)/ADEM Field Operations Division.

3.8.2 Environmental Consequences

A significant adverse impact would occur to Soils if a substantial soil loss or compaction precluding the reestablishment of vegetation within two growing season or a violation of applicable federal or state law, regulation, or permit occurs.

No Action Alternative

Under the No Action Alternative, current natural resource management activities that have the potential for minor temporary disturbance of soils and groundcover vegetation include timber harvest, hardwood removal, site preparation and planting, pine straw harvesting, prescribed burning, erosion control projects, and wildlife food plot establishment and maintenance. Soil and vegetation disturbance have the potential to increase surface water runoff and soil erosion during rainfall events. The use of NPDES BMPs to minimize soil erosion is required during all erosion control projects. Silvicultural activities are designed to restore the longleaf pine ecosystem and follow Georgia and Alabama BMPs for forestry. Silvicultural activities are exempt from NPDES requirements. Activities such as pine thinning and midstory hardwood removal, and invasive plant species eradication enhance the growth of native groundcover, thus providing long-term protection against soil erosion.

Erosion control projects provide long-term protection against soil erosion by stabilizing eroded soils and re-establishing native groundcover. Prescribed burns can increase runoff and sedimentation in the short-term due to the temporary die-back of vegetation; however, plant species on Fort Benning are adapted to a fire-maintained ecosystem and recover rapidly following prescribed burns. Prescribed burning enhances the growth of native groundcover, providing long-term protection against soil erosion. Overall, the continuation of current natural resource management practices will have long-term beneficial effects on soil resources.

2014 Ecosystem Management Alternative

Beneficial effects as described above for the No Action Alternative would continue under the 2014 Ecosystem Management Alternative. Overall, implementation of the revised INRMP will have long-term beneficial effects on soil resources.

Cumulative Impacts

Regional and local land soil resources would not be adversely affected by contributing activities and potentially foreseeable projects. All activities would be implemented on Fort Benning lands in which impacts to soil resources are managed through the existing Fort Benning Soil Conservation Program outlined in section 5.1 of the INRMP. Other future projects in the ROI, such as the transition to an IBCT and GHMTA enhancements, will change military land use. Additional beneficial cumulative effects include the decrease of soil disturbance intensity and erosion on Fort Benning lands that are currently highly utilized for maneuver training. This Action Alternative will provide beneficial cumulative impacts when considering other actions within the ROI.

Proposed Mitigation

The effects would be beneficial. Therefore, no proposed mitigation is anticipated.

3.9 Water Resources

3.9.1 Affected Environment

This section describes the existing characteristics of water resources found at Fort Benning. The ROI for water resources encompasses surface waters, floodplains, wetlands, hydrology and groundwater within the boundary of Fort Benning.

Surface Waters

Surface water systems are typically defined in terms of watersheds. Watersheds are delineated into hydrologic units by the U.S. Geological Survey using a nationwide system based on surface hydrologic features. Each hydrologic unit is identified by a unique hydrologic unit code or HUC.

The Chattahoochee River dominates the surface water regime at Fort Benning and within the ROI. The Chattahoochee River arises as a cold-water mountain stream in the Blue Ridge Province. Most other surface waters in the ROI drain toward the Chattahoochee River.

Surface waters also include wetlands, which occur throughout the Fort Benning and often are related with rivers, streams, lakes, swamps, and similar areas. Fort Benning's wetlands are all non-tidal and generally dominated by trees or shrubs. Wetlands serve many essential ecological functions, including the storage and slow release of surface water, rain, and seasonal floodwaters to surface waters. Accordingly, wetlands are protected under Section 404 of the CWA, which requires permitting of certain activities such as construction and the placement of structures and/or fill material and confers regulatory authority to the USACE. Delineation of wetlands and coordination with the USACE Regulatory Office is normally required prior to ground disturbance activities per the Erosion and Sediment Pollution Control Plan. Any impacts to wetlands require coordination with USACE through the wetland permitting process.

Adherence to regulatory requirements by implementation of the Proposed Action would avoid or minimize adverse impacts to water resources. Implementation of the proposed alternatives could involve NPDES Permits. NPDES permitting regulates state waters and water quality as required by the CWA. An ESPCP would be required prior to construction activities of one acre or greater. Additionally, Fort Benning requires ESPCPs for soil disturbances of 0.1 acre or greater. Land disturbances disturbing less than 0.1 require on installed BMPs to prevent sedimentation from leaving the site (Fort Benning, 2012).

Surface water resources within Fort Benning could be adversely impacted from contamination from oil spills, pesticide residue, fired munitions residue, and untreated sewage bypass. These potential contamination sources are controlled and minimized by the implementation of Fort Benning Spill, Prevention, Control, and Countermeasure Plan, Fort Benning Installation Spill Contingency Plan, Storage Tank Management Plan, Stormwater Pollution Prevention Plan, and the NPDES permit requirements to prevent sewage bypasses. Nonpoint sources, more specifically sedimentation, however, are the primary pollutant sources of concern for surface water resources at Fort Benning. Consequently, much of the Installation's water resources management is closely related to minimizing and repairing erosion caused primarily by construction projects and to a lesser degree by military activities.

Impaired Waters

Under Section 303(d) of the CWA, states are required to develop lists of impaired waters. These waters are considered to be degraded below water quality standards for its designated use. The law requires that states establish a Total Maximum Daily Load (TMDL), calculating the maximum amount of pollutants of concern that a waterbody can receive and maintain water quality standards.

GA DNR EPD has designated several stream segments as "impaired" (i.e. State of Georgia 305(b)/303(d) listed) on or in the immediate vicinity of Fort Benning. As stated in the INRMP, those which flow onto Fort Benning include: the Chattahoochee River, Little Juniper Creek, Pine Knot Creek, Little Pine Knot Creek, Hitchitee Creek, Little Hitchitee Creek, and Tiger Creek. Sedimentation is the TMDL pollutant of concern and the state designated use is fishing for all of the stream segments designated "impaired" on Fort Benning.

3.9.2 Environmental Consequences

A significant adverse impact would occur to Water Resources if implementation of the INRMP resulted in a change in surface water impairment status, or resulted in unpermitted impacts to surface waters.

No Action Alternative

Under the No Action Alternative, current natural resource management activities that have the potential for minor temporary disturbance of soils and groundcover vegetation include timber harvest, hardwood removal, site preparation and planting, pine straw harvesting, prescribed burning, erosion control projects, and wildlife food plot establishment and maintenance. Soil and vegetation disturbance have the potential to increase surface water runoff during rainfall events. Fort Benning is required to comply with all NPDES requirements to minimize soil erosion during any land management activities. Activities such as pine thinning and midstory hardwood removal, and invasive plant species eradication enhance the growth of native groundcover, thus providing long-term protection against extensive runoff and in surface water impairment.

Erosion control projects provide long-term protection against soil erosion by stabilizing eroded soils and re-establishing native groundcover. Prescribed burns can increase runoff and sedimentation due to the temporary die-back of vegetation. However, plant species on Fort Benning are adapted to a fire-maintained ecosystem and recover rapidly following prescribed burns. Prescribed burning also enhances the growth of native groundcover, providing long-term protection against soil erosion.

Other potential impacts to water resources could occur as a result of petroleum, oil and lubricant spills from vehicle and equipment failures and refueling. Compliance with applicable regulations minimizes the risks of such minor spills occurring. In the unlikely event of an accidental fuel spill, Fort Benning personnel will follow spill response procedures and an accident response team would be available immediately to minimize any adverse effects. The continuation of current natural resource management practices will have long-term beneficial effects on Water Resources.

2014 Ecosystem Management Alternative

Beneficial effects as described above for the No Action Alternative would continue under 2014 Ecosystem Management Alternative. Overall, implementation of the revised INRMP will have long-term beneficial effects on Water Resources.

Cumulative Impacts

The INRMP will have only beneficial cumulative effects. There will be long-term beneficial cumulative impacts to water resources from implementation of the 2014 INRMP, when considering the anticipated beneficial impacts of reduced soil erosion and surface water impacts from the IBC T realignment. Other past, present, or future activities in the ROI may have short-term, localized adverse impacts due to construction or silviculture activities, the Proposed Action would not have incremental impacts. Overall, beneficial cumulative impacts would continue.

Proposed Mitigation

Water resource impacts would primarily be beneficial, and potential adverse impacts would be mitigated by adherence to applicable laws and regulations. Therefore, no additional mitigation has been identified.

4.0 CONCLUSION

Based on this EA and pursuant to NEPA, CEQ, and Army NEPA regulations, neither the No Action nor the Action Alternative (Preferred Alternative) would generate significant controversy or have a significant impact on the quality of the human or natural environment. As such, a “Finding of No Significant Impact” is warranted for this Proposed Action and does not require the preparation on an Environmental Impact Statement. Furthermore, although the impacts to Valued Environmental Components are similar to the No Action Alternative, the Preferred Alternative would have additional beneficial effects upon Biological Resources and Land Use as a result of revised plans and components.

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6.0 ACRONYMS AND ABBREVIATIONS

AAP	Army Alternate Procedures
ACUB	Army Compatible Use Buffer
ADEM	Alabama Department of Environmental Management
APE	Area of Potential Effect
AR	Army Regulation
ARC	Army Reconnaissance Course
BMPs	Best Management Practices
BRAC	Base Realignment and Closure
CAA	Clean Air Act
CBMPP	Construction Best Management Practices Plan
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CWA	Clean Water Act
DCA	Directorate of Communities
DDESS	Department of Defense Elementary and Secondary Schools
DFC	Desired Future Conditions
DoD	Department of Defense
EA	Environmental Assessment
EIS	Environmental Impact Statement
EMD	Environmental Management Division
EPA	Environmental Protection Agency
EPD	Environmental Protection Division
ESA	Endangered Species Act
ESMC	Endangered Species Management Component
ESPCP	Erosion Sedimentation Pollution Control Plan
FNSI	Finding of No Significant Impact
GA DNR	Georgia Department Natural Resources
GHG	Greenhouse Gases
GHMTA	Good Hope Maneuver Training Area
HPC	Historic Properties Component
IBCT	Infantry Brigade Combat Team
ICRMP	Integrated Cultural Resources Management Plan
INRMP	Integrated Natural Resource Management Plan
IONMP	Installation Operational Noise Management Plan
JBO	Jeopardy Biological Opinion
MCoE	Maneuver Center of Excellence
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
OSHA	Occupational Safety and Health Administration
RCW	Red-cockaded Woodpecker

ROI	Region of Influence
SDZ	Surface Danger Zone
SMC	Species management Component
SMP	Smoke Management Plans
SMTA	Southern Maneuver Training Area
TES	Threatened and Endangered Species
TNC	The Nature Conservancy
UEA	Unique Ecological Area
USACE	U.S. Army Corps of Engineers
UXO	Unexploded Ordnance
USFWS	U.S. Fish and Wildlife Service
VEC	Valued Environmental Component

7.0 PREPARERS

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8.0 DISTRIBUTION LIST

Municipal and County Elected and Appointed Officials

Mayor's Office 100 10 th St 6 th Floor Government Center Tower Columbus, GA 31901	Chattahoochee County County Manager P.O. Box 299 Cusseta, GA 31805	Mayor's Office City Hall 601 12 th St Phenix City, AL 36867
Harris County County Manager P.O. Box 365 Hamilton, GA 31811	Talbot County County Commissioner 125 Monroe St Talbotton, GA 31827	Webster County County Commissioner 6622 Cass St Preston, GA 31824
Stewart County County Commissioner 552 Martin Luther King Jr. Dr Lumpkin, GA 31815	Marion County County Commissioner P.O. Box 481 Buena Vista, GA 31803	Russell County Commission 1000 Broad St Phenix City, AL 36868

Congressional Representatives

Rep. Sanford Bishop Jr. 2429 RHOB Washington, DC 20515	Rep. Mike Rogers 324 Cannon HOB Washington, DC 20515	
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Local and Regional Administrators, Federal Agencies, or Commissions with Regulatory Interest in Fort Benning

U.S. Fish & Wildlife Service P.O. Box 52560 Fort Benning, GA 31905	U.S. Fish & Wildlife Service, Regional RCW Recovery & Longleaf Pine Coordinator Mississippi Field Office 6578 Dogwood View Pkwy Jackson, MS 39213	GSWCC, Region 5 4344 Albany Hwy Dawson, GA 39842
GA DNR, EPD 2 Martin Luther King Jr. Dr, SE Suite 1152 East Atlanta, GA 30334	U.S. EPA Region IV 61 Forsyth St SW Atlanta, GA 30303	GA DNR, Historic Preservation 254 Washington St SW Ground Level Atlanta, GA 30334
GA DNR Wildlife Resources 2070 U.S. Hwy 278 SE Social Circle, GA 30025	ADEM P.O. Box 301463 Montgomery, AL 36130	Savannah District USACE P.O. Box 889 Savannah, GA 31402
USACE, Albany Field District 1104 North Westover Rd Albany, GA 31707	Department of Conservation & Natural Resources 64 North Union St Montgomery, AL 36130	Alabama Historic Commission 468 South Perry St Montgomery, AL 36130

Citizen Advisory Groups and Local Interest Groups or Persons

Sierra Club, Georgia Chapter 743 E. College Ave, Suite B Decatur, GA 30030	The Nature Conservancy Chattahoochee Fall Line Office P.O. Box 52452 Columbus, GA 31905	The Valley Partnership P.O. Box 1200 Columbus, GA 31902
Defenders of Wildlife National HQ 1130 17 th St NW Washington, DC 20036	Southern Environmental Law Center 127 Peachtree St Suite 605 Atlanta, GA 30303	The Georgia Conservancy 817 West Peachtree St Suite 200 Atlanta, GA 31906

Tribal

Mr. Ace Butler Representative Kialegee Tribal Town P.O. Box 332 Wetumka, OK 74883	Dr. Paul N. Backhouse Tribal Historic Preservation Officer Seminole Tribe of Florida 30290 Josie Billie Hwy, PMB 1004 Clewiston, FL 33440	Ms. LaDonna Brown Historic Preservation Officer Chickasaw Nation P.O. Box 1548 Ada, OK 74820
Mr. Ken Carleton Tribal Historic Preservation Officer Mississippi Band of Choctaw Indians P.O. Box 6010 Choctaw, MS 39350	Mr. Bryant Celestine Historic Preservation Officer Alabama-Coushatta Tribe of Texas 571 State Pk Rd 56 Livingston, TX 77351	Mr. Charles Coleman Representative Thlophlocco Tribal town P.O. Box 188 Okemah, OK 74859
Ms. Natalie Harjo Historic Preservation Officer Seminole Nation of Oklahoma P.O. Box 1498 Wewoka, OK 74884	Mr. Emman Spain Manager, Cultural Preservation Officer Muscogee (Creek) Nation of Oklahoma P.O. Box 580 Okmulgee, OK 74447	Mr. Robert Thrower Tribal Historic Preservation Officer Poarch Band of Creek Indians 5811 Jack Springs Rd Atmore, AL 36502

Fort Benning and Other Army Officials

IMCOM Attn: US Army Environmental Command 2405 Gun Shed Rd Ft Sam Houston, TX 78234	HQ US Army TRADOC Attn: Ken Kimidy 661 Sheppard Pl Fort Eustis, VA 23604	HQ US Army FORSCOM Attn: Public Affairs Building 8-1808 4700 Knox St Fort Bragg, NC 28310
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Garrison Commander 1 Karker St Building 4 Suite 5900 Fort Benning, GA 31905	MCoE Deputy Commanding General 1 Karker St Building 4 Suite 6300 Fort Benning, GA 31905	Infantry School Commandant 1 Karker St Building 4 Suite 6301 Fort Benning, GA 31905
Armor School Commandant 1 Karker St Building 4 Suite 6000 Fort Benning, GA 31905		

Local Media and Libraries

Columbus Ledger-Enquirer 17 West 12 th St Columbus, GA 31901	Tri-County Journal & Chattahoochee Chronicle P.O. Box 850 Buena Vista, GA 31803	The Bayonet & Saber Public Affairs Office 35 Ridgeway Loop Suite 381 Fort Benning, GA 31905
Sayers Memorial Library 6870 Wold Ave, Building 93 Fort Benning, GA 31905	Phenix City-Russell County Public Library 1501 17 th Avenue Phenix City, AL 36867	Columbus Public Library 3000 Macon Rd Columbus, GA 31906
Cusseta-Chattahoochee Public Library 262 Broad St Cusseta, GA 31805		

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APPENDIX A

Notice of Availability

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APPENDIX B

Public Comments