

**DRAFT**

**ENVIRONMENTAL ASSESSMENT  
FOR  
IMPLEMENTATION OF THE INTEGRATED  
NATURAL RESOURCES MANAGEMENT PLAN**

**U.S. Army, Fort A.P. Hill  
Bowling Green, Virginia**



**2008**

**Environmental Division  
Fort A.P. Hill, VA**

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# **Environmental Assessment U.S. Army Garrison Fort A.P. Hill**

## **Implementation of the Integrated Natural Resources Management Plan**

**December 2008**

Reviewed by:

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**TERRY L. BANKS**

Chief, Environmental Division  
Directorate of Public Works

Reviewed by:

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**BENJAMIN H. MCBRIDE**

Director of Public Works

Approval by:

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**MICHAEL S. GRAESE**

LTC (P), AD  
Commanding

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**FINDING OF NO SIGNIFICANT IMPACT**  
**IMPLEMENTATION OF THE INTEGRATED**  
**NATURAL RESOURCES MANAGEMENT PLAN**

Fort A.P. Hill (FAPH) has prepared and proposes to implement an Integrated Natural Resources Management Plan (INRMP). The activities and associated plans to be incorporated as part of this process include forest management, grasslands management, fisheries and wildlife management; soil and water conservation and protection; Integrated Training Area Management (ITAM); outdoor recreation; threatened and endangered species conservation and pest management. The INRMP sets forth specific goals and objectives to more effectively manage, protect and sustain natural resources in direct support of the Fort A. P. Hill training mission.

Consistent with the National Environmental Policy Act (NEPA), an environmental assessment (EA) was prepared to identify and evaluate the potential environmental impacts of the proposed action. The proposed action for this environmental assessment is to implement the FAPH Integrated Natural Resources Management Plan. The EA also evaluated one alternative: Council of Environmental Quality (CEQ) regulations and 32 CFR 651 require consideration of the No Action Alternative. Under this alternative, FAPH would not implement the INRMP. The No Action Alternative would be expected to have a significant negative impact on installation natural resources and mission support capability. Further, this alternative risks non-compliance with the requirements of AR 200-1 and the Sikes Act. This alternative increases the potential for loss of sustainable training land capability.

The EA concludes that the implementation of the INRMP at FAPH would not have significant adverse impacts to the human and natural environment. The proposed action would conserve ecological diversity; protect rare, threatened, and endangered species; protect soil and improve water quality. The INRMP promotes the development of more effective mitigation measures designed to minimize or eliminate potential impacts from future projects/activities that are critical to the FAPH mission. In accordance with the requirements of NEPA, FAPH has determined that there will be no significant impacts resulting from the implementation of the proposed action and therefore submits a Finding of No Significant Impact (FONSI) on behalf of this program. An Environmental Impact Statement will therefore not be required.

The Environmental Assessment for this project can be found on the FAPH website at: <http://www.aphill.army.mil/sites/directorates/EA.asp> or at the FAPH Directorate of Public Works Environmental Division Office, Building 1220, and may be reviewed by interested parties for the next thirty (30) days during normal business hours. All comments and concerns should be directed in writing to **Commander, U.S. Army Garrison Fort A. P. Hill, ATTN: DPW Environmental Division, 19952 North Range Road, Fort A. P. Hill, VA 22427-3123.**

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# **EXECUTIVE SUMMARY**

## **INTRODUCTION**

This Environmental Assessment is prepared in accordance with the National Environmental Policy Act (NEPA), its implementing regulations published by the Council on Environmental Quality (40 CFR 1500-1508), the Department of the Army's Regulation (AR) 200-1, *Environmental Protection and Enhancement* and 32 CFR 651.34(d). Under NEPA and its implementing regulations, Federal agencies are required to consider the environmental impacts of major proposed actions in the form of an Environmental Assessment (EA) or Environmental Impact Statement (EIS). This NEPA analysis is in the form of an EA, which analyzes the potential consequences of implementing the Integrated Natural Resources Management Plan (INRMP) for Fort A. P. Hill (FAPH).

## **PURPOSE AND NEED**

Army Regulation 200-1 requires installations to (1) integrate natural resources stewardship and compliance responsibilities with operational requirements to help achieve sustainable ranges, training areas, and other land assets and (2) develop, initiate, and maintain programs for the conservation, utilization, and rehabilitation of natural resources on Army lands. Further, installations will develop and implement an Integrated Natural Resources Management Plan in accordance with the Sikes Act, at 16 USC 670a, in cooperation with the U. S. Fish and Wildlife Service (USFWS) and the state fish and wildlife agency unless significant natural resources are absent from an installation.

The proposed action addressed in this EA is needed to ensure proper management, conservation and maintenance of natural resources within the installation boundaries while supporting the training mission of FAPH.

## **PROPOSED ACTION**

The proposed action for this EA is to implement the FAPH Integrated Natural Resources Management Plan. This INRMP reflects the FAPH commitment to conserve, protect and enhance the natural resources necessary to provide realistic military training. Its primary objective is to provide a proactive natural resources management plan that guides FAPH in achieving natural resource management goals, mission requirements, and compliance with environmental regulations and policies.

## **ALTERNATIVES CONSIDERED**

The No Action Alternative and the Preferred Alternative are the only alternatives to the proposed action carried throughout this EA. No other alternatives were analyzed for this EA. The Department of the Army requires development and implementation of an INRMP for installations such as Fort A.P. Hill that have significant natural resources; therefore, the Preferred Alternative is the only feasible alternative that meets the regulatory requirements. The No Action Alternative serves as a benchmark against which the Preferred Alternative can be

evaluated. For this analysis the No Action Alternative is defined as not implementing an INRMP on FAPH.

## **ENVIRONMENTAL CONSEQUENCES**

This EA evaluates potential environmental impacts of the proposed action and the No Action Alternative. Implementation of the INRMP, the installation's Preferred Alternative, would mean that training mission operations and facilities construction on the post would be conducted in such a way so that natural resources would be protected and preserved. Overall, implementation of the proposed action would have no significant impact on the majority of the resources evaluated, including land use; noise; geology and soils; water resources; biological resources; air quality; socioeconomics and protection of children; environmental justice; infrastructure and hazardous materials/wastes.

Implementation of the No Action Alternative would mean existing conditions (as presented in Section 4.0) would continue as the *status quo*. Under the No Action Alternative, the INRMP would not be implemented and FAPH would not be in compliance with the Sikes Act and Department of the Army regulations.

## **CONCLUSIONS**

Implementation of the proposed action would not result in significant impacts on the physical and socioeconomic environment of FAPH. Based upon the findings and conclusions within this EA, issuance of a Finding of No Significant Impact would be appropriate. Preparation of an Environmental Impact Statement would not be required prior to implementation of the INRMP.

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## **ACRONYMS**

ACUB	Army Compatible Use Buffer
APE	Area of Potential Effect
AR	Army Regulation
BMPs	Best Management Practices
CAAA	Clean Air Act Amendments
CBLAB	Chesapeake Bay Local Assistance Board
CEQ	Council of Environmental Quality
CFR	Code of Federal Regulations
CHPPM	Center for Health Promotion and Preventive Medicine
DNH	Division of Natural Heritage
DoD	Department of Defense
DOPAA	Description of Proposed Action and Alternatives
DPW	Directorate of Public Works
EA	Environmental Assessment
ED	Environmental Division
EIS	Environmental Impact Statement
ENMP	Environmental Noise Management Plan
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FAPH	Fort A.P. Hill
FONSI	Finding of No Significant Impact
GIS	Geographic Information System
ICRMP	Integrated Cultural Resources Management Plan
INRMP	Integrated Natural Resources Management Plan
IPMP	Integrated Pest Management Plan
ITAM	(Army) Integrated Training Area Management
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NPDES	National Pollution Discharge Elimination System
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
PLS	Planning Level Surveys
PLI	Public Lands Initiative
SRP	Sustainable Range Program
TSI	Timber Stand Improvements
USFWS	United States Fish and Wildlife Service
VDEQ	Virginia Department of Environmental Quality
VDGIF	Virginia Department of Game and Inland Fisheries
VPDES	Virginia Pollution Discharge Elimination System

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## 1.0 PURPOSE AND NEED FOR THE PROPOSED ACTION

### 1.1 Introduction and Scope of the Document

Fort A.P. Hill (FAPH) proposes to manage the natural resources within the installation boundaries through the implementation of an Integrated Natural Resources Management Plan (INRMP). Implementation of the INRMP will guide the conservation and management of natural resources at FAPH through 2011. The plan supports the installation's commitment to sustaining and conserving the natural resources necessary to carry out its military mission. It outlines conservation and management efforts for the FAPH natural resources (e.g., aquatic resources, flora, and fauna) and will aid in ensuring compliance with applicable environmental laws and regulations.

This Environmental Assessment (EA) is prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, its implementing regulations published by the Council on Environmental Quality (40 CFR 1500-1508), and 32 CFR Part 651 which implements NEPA for the Army (AR 200-2). Pursuant to NEPA, federal agencies are required to consider the environmental impacts of their major proposed actions. The National Environmental Policy Act applies when a federal agency is the proponent of the action or where federal funds are involved in the action.

### 1.2 Purpose and Need for the Proposed Action

#### 1.2.1 Background

FAPH is situated within the boundaries of Caroline County, Virginia, along the I-95 corridor and astride U. S. Route 301 (**Figure 1**). The installation is 20 miles southeast of Fredericksburg and is situated roughly midway between Richmond, Virginia, and the Washington, D.C. metropolitan area. The installation rests on the upper Atlantic Coastal Plain and in the watersheds of the Rappahannock and Mattaponi Rivers. FAPH terrain consists of rolling hills with some low areas and wetlands throughout post. Most of the installation is forested with wooded areas containing both hardwood and deciduous trees.

U.S. Route 301 (**Figure 2**) divides the post into northern and southern sections, allowing maneuver and range operations to occur simultaneously. The northwest portion of the post is dedicated to maneuver operations and the southeast portion contains a 27,000-acre modern range facility and impact area. To the south and west, the installation is bordered by forest, farmland and the town of Bowling Green. Forests, farmland and the town of Port Royal lie to the east and north.

The mission of FAPH is to maintain an all-purpose, year-round training facility that serves Active, Reserve, and National Guard troops of the Army, Marine Corps, Navy, and Air Force as well as personnel from other government agencies.

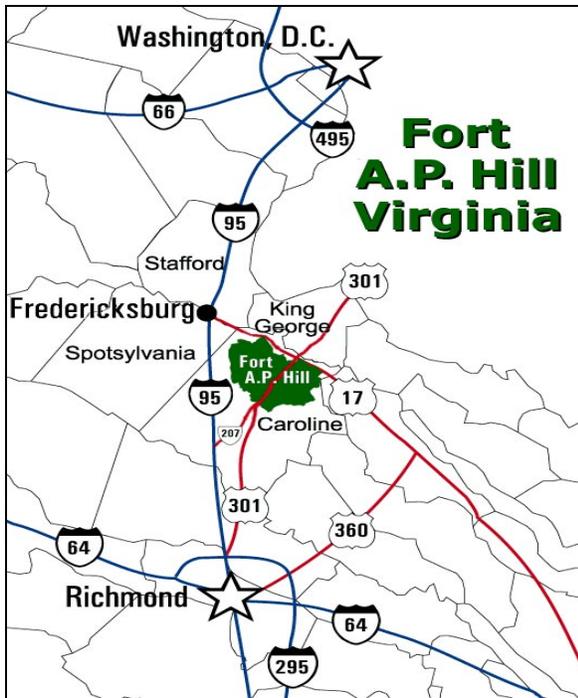


Figure 1. Location of Fort A.P. Hill, Caroline County, Virginia

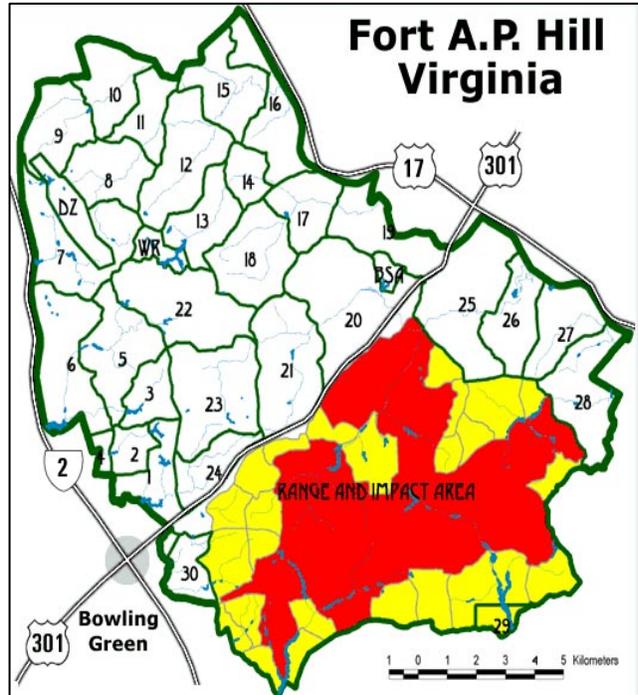


Figure 2. Fort A.P. Hill Training Areas

### 1.2.2 Purpose

Several regulations mandate the preparation and implementation of an Integrated Natural Resources Management Plan. They are the Sikes Act (16 U.S.C. 670a et seq.) as amended in the Sikes Act Improvement Act of 1997, DoD Instruction 4715.3 (*Environmental Conservation Program*), and Army Regulation (AR) 200-1, *Environmental Protection and Enhancement*. Army Regulation 200-1 states that installation commanders will develop an Integrated Natural Resources Management Plan as a component of the Installation Master Plan. Additionally, the INRMP is consistent with the provisions of the 10 October 2002 DoD memorandum, Subject: Updated Guidance for Implementation of the Sikes Act Improvement Act, as implemented by the Army in the May 25, 2006, memorandum, Subject: Guidance for Implementation of the Sikes Act Improvement Act.

The FAPH Integrated Natural Resource Management Plan will guide the conservation and management of natural resources at FAPH through 2011. The plan supports the installation’s commitment to sustaining and conserving the natural resources necessary to carry out its military mission. It outlines conservation and management efforts for FAPH natural resources (e.g., aquatic resources, flora, and fauna) and will aid in ensuring compliance with applicable environmental laws and regulations.

The INRMP addresses integration with existing Army and other federal management programs and initiatives including the Sustainable Range Program (SRP) and its Integrated Training Area

Management (ITAM) component, the Public Lands Initiative (PLI) and Army Compatible Use Buffer Program (ACUB). This INRMP also includes the following elements:

- Summary of the installation's history, current and future military mission and other related Army initiatives
- Description of responsible and/or interested parties for implementing the INRMP
- An overview of the FAPH natural resources program, including a vision and mission statement, as well as overall goals for the natural resources program
- Baseline natural resources conditions and current management initiatives at FAPH
- Ongoing and future management actions to inventory, conserve, and enhance natural resources
- Promotion of sustainable use of natural resources that support the military mission, installation and public interests, and are consistent with conservation objectives
- Integration with other installation processes and activities, including master planning, cultural resources management, pest management, pollution prevention, etc.
- Characterization of natural resources activities by compliance, stewardship, and service projects, identification of staffing and funding requirements, and provision of an annual implementation schedule through CY 2011.
- Integration of all natural resource management plans and program areas

### 1.2.3 Need

The need for the proposed action is to ensure that natural resource compliance and conservation is maintained while reaching training goals, providing soldiers with updated facilities and realistic training areas, which are needed to ensure attainment and maintenance of a full readiness posture and to meet Department of the Army mission essential requirements. Prior to the integration of the Army's mission requirements for land use with sound natural resource management techniques, the waters and uplands of FAPH were managed with an emphasis on the harvest of fish and wildlife game species by anglers, trappers, and hunters. In accordance with AR 200-1, the general trend of natural resources management has shifted from a focus on commercially valuable species, game species and/or endangered species, to a holistic approach of ecosystem management.

## 1.3 Scope of the Document

This EA is limited to assessing the effects of implementing the INRMP on the following environmental resources: land use; air quality; noise; geology and soils; water resources; biological resources including vegetation; cultural resources; socioeconomic; environmental justice; infrastructure; and hazardous materials/wastes. Any potential cumulative and secondary impacts associated with this project are also analyzed. This EA was written with the best data and information available at the time of its development. Any major changes in the information,

data, or regulatory requirements following the public release of this EA that affect the assessments or decisions made in this EA prior to completion of the described projects shall require a reassessment of those decisions.

#### **1.4 Interagency Coordination, Review and Public Comment Period**

The preparation of this EA was coordinated with appropriate federal, state and local agencies. Copies of the agency correspondence are provided in Appendix A. The initial public comment period will be held following completion of the draft EA. Comments submitted by agencies, organizations and members of the public on the proposed action and EA will be considered. If the EA concludes that there are no significant impacts, a Finding of No Significant Impact (FONSI) will be issued. The EA will become final upon signature of the FONSI by the FAPH Garrison Commander.

## **2.0 PROPOSED ACTION**

### **2.1 Intent and Purpose**

The proposed action for this EA is to implement the FAPH Integrated Natural Resources Management Plan. This INRMP reflects the FAPH commitment to conserve, protect and enhance the natural resources necessary to provide realistic military training. Its primary objective is to provide a proactive natural resources management plan that guides FAPH in achieving natural resource management goals, mission requirements, and compliance with environmental regulations and policies.

The FAPH natural resources program conserves and protects biodiversity using an ecosystem management approach. Baseline surveys of the installation's resource types (e.g., aquatic resources, threatened and endangered species, etc.) have been completed to characterize and assess their status. The following conservation goals contribute to the development and implementation of management strategies:

- Support the military mission by providing sustainable and viable lands.
- Maintain compliance with federal and state laws and regulations.
- Protect natural resources by practicing ecosystem management.
- Ensure FAPH lands and resources accommodate multiple uses.

### **2.2 Objectives**

FAPH ecosystem management approach supports FAPH military mission requirements and involves setting management goals and objectives that are both appropriate for the ecological setting, and that are consistent with established conservation initiatives. The ecosystem approach necessitates that FAPH continue to (1) obtain and use the best available scientific information; (2) employ a skilled and professionally trained natural resource staff that is experienced in all areas of natural resources management, and is qualified to make sound professional decisions regarding resource management; and, (3) coordinate with natural resource professionals within the regulatory, scientific and resource-user communities to obtain the best available information on regulatory requirements, conservation initiatives, and implementation technologies.

Prior to execution, all proposed actions are reviewed to evaluate potential impacts. Terrestrial, aquatic, wildlife, endangered species, and training area management activities are integrated in a way that promotes consideration of ecosystem integrity.

Due to the full integration of natural resource programs on FAPH, management actions are not necessarily discipline-specific. However, to facilitate the development of the INRMP, the FAPH natural resources management program is defined and described in terms of six major subject areas that are described in sections 2.2.1- 2.2.6.

### 2.2.1 Terrestrial Habitat Management

Terrestrial habitat management efforts are directed towards the conservation and enhancement of native flora and fauna communities on FAPH. The primary program areas under this title are forests, grasslands, agricultural and landscaped areas. These communities perform many ecological functions and services (i.e. economic, quality of life, aesthetic), all the while supporting the military mission. Maintaining healthy, native vegetative cover is essential to protect water quality, enhance watersheds and wildlife habitat, and conserve biodiversity. Healthy vegetative cover also ensures that land and water resources are available for military training; provides for sustained multiple uses including the production of forest products, outdoor recreation and scientific research and education; and enhances quality of life.

To achieve the previously stated goals, the installation proposes to implement the following high priority initiatives for terrestrial habitat management on FAPH:

- Maintain inventory and monitoring of terrestrial habitats and the species contained therein to ensure ecosystem integrity.
- Implement an adaptive management strategy for terrestrial habitat management.
- Prevent introduction of exotic and invasive flora and provide management strategy for controlling these and other non-native species.
- Manage terrestrial habitat to sustain military training activities, support native flora and fauna, and maintain ecosystem vitality and health.
- Integrate wildlife habitat requirements into early forest management decision making process.
- Improve landscape aesthetics for open and cantonment areas.
- Establish and maintain agricultural leases to reduce maintenance costs.
- Manage forest and grassland areas for fuel loading and wildfire prevention.

### 2.2.2 Aquatic Habitat Management

Aquatic habitat management activities are focused on the implementation of sound policies to sustain the military mission while maintaining a high level of ecosystem integrity and providing sustainable aquatic environments using a pro-active management approach in accordance with the FAPH Watershed Management Plan. Aquatic habitats on FAPH include multiple wetlands, surface waters, floodplains, and riparian areas. These waters are essential not only to aquatic and amphibious wildlife and plants, but also the DOD for maintaining the military mission and quality of life for soldiers. The aquatic habitat management program will continue to take a progressive approach toward protecting existing wetlands, rehabilitating degraded wetlands and restoring former wetlands where applicable.

The objectives of the aquatic habitat management program at FAPH are to:

- Maintain healthy aquatic ecosystems and provide pristine water quality and superior fisheries resources.
- Prevent introductions of exotic and invasive aquatic flora and ichthyofauna species and provide management strategies for controlling these and other nuisance species in accordance with applicable regulations.
- Quantify and protect vernal pools
- Protect against impacts to wetland resources.

### 2.2.3 Fish and Wildlife Management

On FAPH, the fish and wildlife management programs strive to develop and maintain healthy and abundant wildlife and fisheries populations based on the carrying capacity of the installation. Effective conservation of terrestrial and aquatic resources and their associated wildlife populations require that FAPH be managed as a contiguous ecosystem. The ecosystem approach recognizes the complex interdependencies between soil, vegetation and hydrology, and a biologically diverse assemblage of species.

The responsibility for implementing and monitoring this program lies with the Environmental Division with assistance from the Virginia Department of Game and Inland Fisheries (VDGIF) and the United States Fish and Wildlife Service (USFWS). Fish and wildlife management on FAPH requires the production of current surveys, inventories, and classification of installation resources and their status.

The Fish and Wildlife Management program's high priority objectives are to:

- Maintain inventory and monitoring of wildlife to ensure ecosystem integrity and support of the military mission.
- Promote FAPH natural resources at the regional level to include all stakeholders for development, implementation and maintenance of sound management strategies.
- Cooperate with VDGIF to incorporate the strategies of the Virginia Comprehensive Wildlife Conservation Strategy – Wildlife Action Plan.
- Maintain and update current planning level survey data for natural resources.
- Develop and maintain healthy and diverse native wildlife populations within the carrying capacity of the FAPH ecosystem and compatible with land management objectives and the military mission.
- Provide quality recreational hunting, trapping, and wildlife observation opportunities for the public using sustainable fisheries and game management strategies.
- Prevent introductions of exotic and invasive wildlife species, and provide management strategies for controlling these and other nuisance species in accordance with applicable regulations and in a manner consistent with land use and training objectives.
- Maintain and improve the big game management program to ensure healthy, sustainable populations consistent with resource conservation.

- Identify, protect, and enhance waterfowl and waterfowl habitat.
- Monitor wildlife species disease vectors.
- Improve beaver management and control.
- Integrate wildlife considerations into forestry planning and management.
- Identify and protect critical wildlife habitats.
- Manage vernal pools to promote the production of amphibian species.
- Improve cooperative efforts with the regulators and other conservation organizations.

#### 2.2.4 Threatened and Endangered Species Management

The threatened and endangered species management program focuses on the preservation and enhancement of existing threatened and endangered species and their habitats, with the goal of conservation, protection, and sustenance of biological diversity while supporting the military mission. Through cooperative efforts with both state and federal agencies, six federal-listed and/or state-listed species (two animal and four plant species) have been documented at FAPH. Species-specific management plans have been implemented to include habitat protection, inventorying, monitoring, and awareness and education for each species. A total of eighteen Conservation Areas have been established to protect rare communities and all corresponding threatened and endangered species habitat. Populations of rare, threatened and endangered species are maintained and enhanced by protecting existing populations and their habitats. According to the INRMP, the following installation-specific conservation measures will be implemented:

- Develop and implement long-term management plans for each Conservation Area.
- Continue to survey areas with proposed land-altering activities for threatened and endangered species as a part of the integrated Natural Resources Site Assessment (NRSA) process.
- Identify potential biological impacts to threatened and endangered species and implement control measures to minimize such impacts.
- Identify and incorporate appropriate land management strategies consistent with threatened and endangered species conservation.
- Utilize the Forestry Decision Support System in managing threatened and endangered species.
- Utilize the small whorled pogonia predictive map as a management tool.
- Increase awareness training for appropriate personnel on threatened and endangered species regulations, protection measures and habitat.
- Update and implement Endangered Species Management Plans
- Increase the use of Seibert Stakes and/or signage on the ground to inform Warriors and public of off-limits areas.

- Utilize bald eagle habitat predictive models for the installation.

### 2.2.5 Integrated Training Area Management (ITAM)

As part of the Sustainable Range Program, the ITAM program is the Army standard for sustaining the capability of installation land units to support specific military training missions. The ITAM program integrates training and other mission requirements for land use with sound natural resource management of its lands to achieve the following goals (HQDA, 2005).

- Integrate environmental planning procedures into all operations
- Conserve natural and cultural resources
- Ensure compliance with existing statutory regulations
- Prevent pollution and reduce hazardous waste and toxic releases

The ITAM program includes a set of component programs that address all aspects of land utilization for military training. Specific program objectives associated with each component program are as follows:

- Develop and implement an ITAM 5-year management plan
- Continue to build and update ITAM program requirements to meet the needs of land management and military training.
- Develop and implement a Tactical Vehicle Maneuver Corridor Management Plan
- Continue monitoring efforts of land condition on Tactical Vehicle Maneuver Corridors to determine the environmental impacts from military training and make recommendations for sustainable utilization and management.
- Conduct field surveys of live-fire range facilities identifying established indicators and using spatial data to determine approximate limits of munitions dispersion to support long-term range planning.
- Continue to integrate forestry activities into mission requirements and strategic planning of installation forest management.
- Monitor forest health and forest structure parameters to develop mission-supporting vegetation management plans.
- Monitor land condition around the Combined Arms Collective Training Facility to assess training impacts and suitability.
- Develop and implement an Artillery Firing Point monitoring plan.
- Hire a seasonal Land Rehabilitation and Maintenance (LRAM) crew to conduct repair/rehabilitate land condition.
- Develop information and awareness products for Warriors to facilitate an understanding of environmental management practices and responsibilities (e.g. posters, handbooks, presentations, sustainable range video, FAPH Soldier's Field Card).

### 2.2.6 Outdoor Recreation

Outdoor recreation is the use of natural resources, including indoor interpretive centers, where the focus is on the understanding and use of the natural environment. Both consumptive and non-consumptive uses such as hunting and fishing, the use of nature and recreational trails, picnic and camping areas, as well as other natural resource uses all are included in the definition of outdoor recreation. Primary objectives of the FAPH outdoor recreation program are to:

- Systematically emphasize optimum outdoor recreation benefits within the constraints of the military mission and capability of the resources.
- Identify semi-primitive areas and training areas with special considerations.
- Mediate conflicts between recreational uses.
- Insure multiple uses of natural resources for outdoor recreation, fish and wildlife, forestry and other purposes on a sustained yield basis.
- Maximize available and potential outdoor recreation resources for the benefit of military personnel and their dependents and the general public consistent with safety requirements and military security.
- Optimize a recreational experience while preserving the quality of the resource.
- Advance the Compatible Recreation concept - This refers to planning of recreation activities that will benefit each other in multiple use areas.

## 2.3 Sikes Act Requirements

The FAPH INRMP describes how the installation will implement provisions of the Sikes Act, AR 200-1, and DoD Instruction 4715.3 in a cooperative effort with federal and state fish and wildlife agencies. It will ensure compliance with applicable federal and state laws, particularly those associated with environmental documentation, wetlands, endangered species, water quality, and wildlife management. As specifically required by the Sikes Act, this INRMP addresses the following:

- Fish and wildlife habitat improvements or modifications.
- Range rehabilitation where necessary to support wildlife.
- Wetland protection and restoration and wetland creation where necessary to support fish and wildlife.
- Control of off-road vehicle traffic.
- Specific habitat improvement projects and related activities and adequate protection for species of fish, wildlife, and plants considered threatened or endangered.
- Consideration of conservation needs for all biological communities.
- The establishment of specific natural resource management goals, objectives, and time frames for proposed actions.

In addition, under the Sikes Act as amended through 2003 (16 U.S.C. § 670a), each INRMP must, to the extent appropriate and applicable, provide for:

- fish and wildlife management, land management, forest management, and wildlife-oriented recreation.
- integration of, and consistency among, the various activities conducted under the plan.
- no net loss in the capability of installation lands to support the military mission of the installation.
- sustainable use by the public of natural resources to the extent that access is not inconsistent with the needs of fish and wildlife resources. Provide for professional enforcement of natural resource laws and regulations.

## **3.0 ALTERNATIVES CONSIDERED**

### **3.1 Alternatives Development**

For proposed actions that require preparation of an EA, Council of Environmental Quality regulations (§1508.9[b]), NEPA (§102[2] [E]), and Army regulations (32 CFR 651) and policy require that appropriate alternatives for the proposed action be described and evaluated. The reason is to identify a reasonable range of alternatives that meet the underlying purpose and need for the proposed action. An EA must include an evaluation of the No Action Alternative as a reference for the comparison of potential environmental impacts associated with the proposed action. Additionally, the EA should identify any alternatives eliminated from detailed analysis and indicate the reasons for their elimination.

Because the INRMP is required by Army Regulation 200-1 (32 C.F.R. Part 651), FAPH only considered the Preferred Alternative and the No Action Alternative as part of the NEPA process. Each alternative was considered for meeting the purpose and need, cost and impact to the human and natural environment. No other alternatives were analyzed for this EA.

### **3.2 The Preferred Alternative**

The proposed action presented in Section 2.0 is the installation's Preferred Alternative. This alternative would implement the INRMP, meet the regulatory requirement and provide information and guidance to staff at FAPH to ensure protection and conservation of existing natural resources.

### **3.3 No Action Alternative**

Under the No Action Alternative, FAPH would not implement the INRMP. The No Action Alternative would be expected to have a negative impact on installation natural resources. Certain generic natural resources management procedures, which may not meet the requirements of AR 200-1, might be used to maintain the existing conditions of the environment on the installation. These baseline conditions are described in Section 4.0 of this EA and serve as a benchmark for evaluations of potential impacts of the proposed action. CEQ regulations and 32 C.F.R. Part 651 require consideration of the No Action Alternative.

## **4.0 AFFECTED ENVIRONMENT**

### **4.1 Introduction**

FAPH is in Caroline and Essex counties and located approximately 20 miles southeast of Fredericksburg, Virginia. The installation is situated roughly midway between Richmond, Virginia, and the Washington, D.C. metropolitan area. The political jurisdictions surrounding FAPH are Caroline County, Essex County, King George County, Spotsylvania County and the towns of Port Royal and Bowling Green.

### **4.2 Land Use**

FAPH is a Department of the Army training facility located in the northeastern portion Caroline County, Virginia. The installation is 75,794 acres in size and is bisected by U. S. Route 301. Most of the installation (approximately 85 percent) is forested and is primarily used as vehicle maneuver areas, weapons firing ranges and to conduct training exercises. The mission of FAPH is to provide realistic joint and combined arms training, logistics, and support, enabling America's Defense Forces to win in 21<sup>st</sup> Century operational environment. Active Army, National Guard and Reserve units as well as other federal and state law enforcement agencies use the installation for training activities. The INRMP would guide the conservation and management of natural resources throughout the installation while sustaining a healthy environment in which to carry out its military mission.

### **4.3 Physiography and Soils**

The installation is located in central Virginia, directly east of the fall line between the Piedmont and Atlantic Coastal Plain physiographic regions of Virginia. This large tract of land is diverse in topography and environmental resources. The general topography ranges from rolling countryside terrain to mostly level plains interrupted by numerous shallow valleys. The elevation varies from 10 feet above mean sea level (MSL) at the northeastern portion to 255 feet above MSL on hilltops throughout the installation. Most of FAPH lies above 100 feet above MSL. There are twenty-six unique soil series on FAPH (USDA 2006). The soil ranges from mostly well-drained sandy soil to moderate well drained loamy sand, to poorly drained sandy clay and silt.

### **4.4 Aquatic Resources**

FAPH is drained by the Rappahannock River and its tributaries to the north and the Mattaponi River and its tributaries to the south. The Mattaponi River is part of the York River drainage. The northern 75 percent of the installation drains to the Rappahannock River which in turn drains to the Chesapeake Bay. The southwestern 25 percent of the installation drains to the Mattaponi River which drains to the York River and then to the Chesapeake Bay. Approximately 20 lakes and ponds totaling 300 acres in surface water area, and numerous beaver ponds totaling and additional 327 acres in surface water area are also located at FAPH. The water quality of the streams, ponds and lakes within the installation boundary is generally within the expected ranges for Coastal Plain water bodies.

Currently, there are approximately 5,856 acres of wetlands at FAPH, which represents approximately eight percent of the installation's total land area. The wetlands are widespread but are largely limited to the narrow stream valleys of the installation. Greater than 90 percent of the total wetlands are palustrine forested and palustrine emergent wetlands with the remainder consisting of palustrine scrub-shrub wetlands. Additionally, water quality protection standards have been established for lands adjacent to wetlands and water bodies with perennial flow. FAPH imposes a minimum 100 foot buffer around all wetlands minimize impacts from erosion and soil disturbance. The first 50 feet of the buffer landward of the wetland boundary is designated "No Harvest" to further protect the resource from silvicultural activities.

Stormwater impacts are regulated through the installation's National Pollution Discharge Elimination System (NPDES) general permit for construction activities. FAPH is primarily used as a training area, and therefore stormwater management activities are usually site-specific. Stormwater management activities include the implementation of best management practices (BMPs) and erosion and sediment control practices to reduce runoff and sedimentation. Virginia Stormwater Management Program (VSMP) Permits are obtained for construction areas and other land disturbing activities greater than 2,500 square feet.

#### **4.5 Biological Resources**

FAPH has approximately 65,000 acres of forests in a natural belt of mixed southern pine and hardwood on the uplands, and mostly hardwoods in the creek bottoms. When the Army acquired the installation, approximately 14,000 acres were cleared agricultural land. Under military ownership of FAPH, ecological succession of farmland to stands of southern pine has occurred in a short period. Generally, the installation has a vegetation community characteristic of Virginia's Upper Coastal Plain.

Four broad upland forest vegetation types are present at the installation. Oligotrophic forest communities are the most prevalent community type and occur on the sandy, nutrient-poor soils that are widespread at FAPH. Submesotrophic forest occurs locally on ravine slopes where soil nutrient conditions have been enriched by colluvial processes (i.e., accumulation of materials on and at the base of a slope). Mesotrophic forest occurs very locally on sheltered ravine bottoms and lower slopes where soil nutrient and moisture conditions are significantly enhanced and promote a higher diversity of plant species. Permesotrophic forests are rare on FAPH, but occur in small areas along lower Mount Creek in the far northern section of the installation.

Managed game species include; rabbit, squirrel, whitetail deer (*Odocoileus virginianus*), bobwhite quail (*Colinus virginianus*), wild turkey (*Meleagris gallopavo*), and mourning dove (*Zenaida macroura*). Managed non-game species include resident birds, neotropical migratory birds, small mammals, reptiles, and amphibians. FAPH also manages nuisance species such as the beaver and predator species such as the red and gray fox, raccoon, and coyote. The wildlife at FAPH includes species typical of both the Piedmont and Coastal Plain physiographic provinces. Common mammal species include whitetail deer, beaver (*Castor Canadensis*), eastern cottontail rabbit (*Sylvilagus floridanus*), eastern gray squirrel (*Sciurus carolinensis*) and raccoon (*Procyon lotor*). Common bird species on the installation are: red-tailed hawk (*Buteo jamaicensis*), downy woodpecker (*Picoides pubescens*), common crow (*Corvus brachyrhynchos*), red-eyed vireo (*Vireo olivaceus*), pine warbler (*Dendroica pinus*), bluebird (*Sialia sialis*), wild turkey, mourning

dove and Carolina chickadee (*Parus carolinensis*). The mallard (*Anas platyrhynchos*), great blue heron (*Ardea herodias*), red-winged blackbird (*Agelaius phoeniceus*), green-backed heron (*Butorides striatus*) and prothonotary warbler (*Protonotaria citrea*) occur in wetlands (Paciulli, 1997).

In 1994, the Virginia Department of Conservation and Recreation - Division of Natural Heritage (DNH) undertook a comprehensive biological diversity inventory, which identified six state and/or federally listed threatened and endangered species of concern (two animal and four plant) existing on the installation (DNH, 1994). The state-listed threatened and endangered species are given the same level of protection as federal species. The six listed species include two animal species and four plant species. The animal species are bald eagles (*Haliaeetus leucocephalus*) (state threatened; federal delisted, 7/9/2007, monitoring in effect) and Bachman's sparrow (*Aimophila aestivalis*) (state threatened; federal Species of Concern). Currently, 12 nesting bald eagle pairs are known to be present on the installation. These sites are buffered from unit activities by marked eagle protection zones. Only one Bachman's sparrow call has been recorded on the installation and the species presence on the installation has not been confirmed. The plant species include swamp-pink (*Helonias bullata*) (state endangered; federal threatened), small whorled pogonia (*Isotria medeoloides*) (state endangered; federal threatened), New Jersey rush (*Juncus caesariensis*) (state threatened) and American ginseng (*Panax quinquefolia*) (state threatened). Each known plant colony of these species is protected from timber management and land clearing activities with an established buffer as identified in the FAPH Endangered Species Management Plans for these species.

The DNH designated fifteen Conservation Areas on FAPH that are considered worthy of special protection and management measures. Since the completion of the survey in 1994, previously unknown plant colonies and bald eagle nest locations were added to the inventory. As a result, FAPH Environmental Division personnel extended conservation measures to other areas of the installation, ensuing in the delineation of three more Conservation Areas (in addition to DNH's fifteen). These Conservation Area designations are based on the overall significance of the natural resources in terms of the rarity of ecological resources and quality of their occurrences. A re-inventory was initiated by DNH in the spring of 2005 and will be completed in 2009.

#### **4.6 Cultural Resources**

The FAPH cultural resource management program operates under the guidance of the Integrated Cultural Resources Management Plan (ICRMP). Originally prepared for the installation in 2000 (CRI 2000), this plan has recently undergone a formal major revision. The ICRMP contains a summary of the cultural resources identified on the installation, preservation and maintenance strategies for archaeological and architectural resources, cultural resource management strategies and planning, and standard operating procedures to ensure the protection of resources and consideration of effects on resources resulting from military training.

All buildings and structures dating to 1959 and older have been recorded and evaluated for eligibility for listing on the National Register of Historic Places (NRHP). Of the 97 recorded resources, two (Liberty Church and Travis Lake Historic District) are considered eligible for

listing on the NRHP and one (a mid-19<sup>th</sup> century to early 20<sup>th</sup> century dwelling) is considered potentially eligible.

Many surveys to identify prehistoric and historic archaeological resources have been completed on FAPH. Approximately 16,500 acres (almost 22 percent of the installation) have been surveyed to identify sites. These inventories have recorded 223 archaeological sites. Of these sites, 97 have been determined not eligible for listing on the NRHP and 93 have been determined potentially eligible (CRI 2000; FAPH geographic information system (GIS) database).

#### **4.7 Socioeconomic Resources**

Caroline County is located in the rapidly growing I-95 urban corridor, separating two major metropolitan statistical areas (MSA): the Baltimore-Washington MSA comprising a population in excess of 1,825,000 (Virginia portion only) and the Richmond-Petersburg MSA encompassing a population of nearly 900,000 (Census 2000). Caroline County is part of the Fredericksburg Region which contains a population in excess of 215,000 (Census 2000). Historically, Caroline County's major private industries have been tied directly to natural resources. These include agriculture and forestry products. The populations surrounding FAPH tend to have lower incomes than Virginia residents as a whole; however, this fact most likely reflects the rural nature of the county and the lag in growth compared to its more rapidly urbanizing neighbors such as Stafford and Spotsylvania Counties.

Profits generated from the sale of timber harvesting are shared with Caroline County as a regular part of the Army Timber Management Fund. Monies from this fund help to support the local school system as well as other county programs.

Executive Order 13045 seeks to protect children from disproportionately incurring environmental health or safety risks that might arise as a result of installation policies, procedures, programs, activities and standards. The training lands and ranges of FAPH are restricted to authorized personnel and access is limited, excluding the entry of unauthorized adults and children.

#### **4.8 Air Resources**

FAPH is located in the Northeastern Virginia Air Quality Control Region, which is one of seven regions in the Commonwealth used to monitor ambient air quality trends. The Virginia Department of Environmental Quality (VDEQ) has classified Caroline County as an attainment area for all National Ambient Air Quality Standards (NAAQS) based on the air quality monitoring stations closest to FAPH and the County.

#### **4.9 Noise**

In accordance with Department of Defense guidance, the Department of the Army has developed an Environmental Noise Management Program, which considers noise from all sources of military activities. FAPH has both a noise contour map and an installation Environmental Noise Management Plan (ENMP). The ENMP, which applies to all units training on FAPH, provides information and recommendations for reducing noise impact during land and air training

exercises. It also provides limits for weapons firing and noise complaint investigation procedures.

#### **4.10 Hazardous Materials/Wastes**

FAPH has a current contract for collection and disposal of any regulated and hazardous waste generated on the installation. Hazardous and regulated materials and wastes on FAPH are regulated by Army Regulation (AR 200-1) and applicable Federal, state and local laws and regulations. FAPH follows Department of the Army pollution prevention and recycling methods wherever applicable.

#### **4.11 Infrastructure and Utilities**

Existing infrastructure on the installation consists of paved roads, gravel roads and unimproved trails. There are also numerous scattered training facilities, barracks, assembly areas and other various training structures. Utilities, including water, sewer, power, and communication lines, run along main roadways throughout the installation. Several closed landfills and monitoring wells are also present on the installation and require buffering from management actions.

#### **4.12 Environmental Justice**

Executive Order 12898, federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, requires federal agencies to identify and address disproportionate adverse effects of their programs, policies and activities on minority and low-income populations. No low-income or minority populations exist within the boundary of the installation.

## **5.0 ENVIRONMENTAL CONSEQUENCES**

### **5.1 Introduction**

This chapter describes the potential environmental consequences of managing natural resources at FAPH under two alternatives: the preferred alternative and the no action alternative. Overall, no significant impacts would result from the development and implementation of an INRMP. In fact, INRMP implementation is specifically designed to promote and sustain dynamic and diverse ecosystems, increased protection to the installation's sensitive areas, and improved environmental awareness in users of the installation's resources. The activities in support of implementing an INRMP include the review of all previously developed and implemented natural resource management plans for FAPH. This review ensures that all natural resources requiring protection, receive consideration while improving the installation's ability to acquire the necessary staff to meet the objectives stated within the plans.

### **5.2 Land Use**

#### *5.2.1 Effects of the Preferred Alternative*

The current land use includes military operations and training and the land management activities that support this land use. Terrestrial habitat and wildlife habitat management, elements of ITAM and outdoor recreation applications have all been integrated with land management strategies historically used on this installation. Grounds maintenance and forestry-related selective herbicide applications are limited and would not be expected to have adverse impacts on soil conditions when applied by manufacturer's label instructions. The continuation of these management strategies in accomplishing the recommended goals and objectives would produce no significant impact to land use on the installation.

#### *5.2.2 Effects of the No Action Alternative*

The No Action Alternative would be expected to create no short-term impact on land use. However, long-term impacts from forest fuel build-up, increasing forest stand density and uncontrolled invasive plant occurrences may be expected on available training lands due to loss of maneuverability, and increased wildfire and safety risks.

### **5.3 Physiography and Soils**

#### *5.3.1 Effects of the Preferred Alternative*

Terrestrial habitat management would be expected to create minor temporary impacts to soils resources from cultivation, timber harvesting, prescribed burning, site preparation, and herbicide applications. Timber harvesting and site preparation that occur on steep slopes could be expected to increase soil dislocation, movement and sedimentation. If applied outside of prescribed conditions, prescribed burning activities would be expected to degrade the organic layer of the forest floor, potentially altering the soil structure. Vegetation management field applications and procedures are designed to promote viable terrestrial habitats by maintaining appropriate vegetative cover, improving vegetative species diversity and reducing soil migration or loss. Cultivation on agricultural outleashes and in-house wildlife habitat management sites could result in short-term land disturbance and soil dislocation. The LRAM component of ITAM

would be expected to produce minor short-term land disturbance but significant positive long-term effects on soil conservation since this component is specifically intended to restore and rehabilitate training lands.

Land and grounds maintenance would be expected to create no significant impacts to soil resources. This program includes erosion and sediment control and stormwater management for new projects and grounds maintenance for all improved, semi-improved and unimproved grounds.

Outdoor recreation management would be expected to create insignificant impacts to soil resources. Activities are regulated to alleviate potential negative impacts of recreation use. Recreation, including hunting and fishing, is closely controlled on all portions of the installation.

Pest management would be expected to create negligible impacts to soil resources with the exception of chemical pest management. Invasive plant species control and forestry-related selective herbicide applications are strictly limited and would not be expected to have adverse impacts on soil conditions when applied by manufacturer's label instructions. FAPH maintains an Integrated Pest Management Plan that regulates the use of chemical pesticides.

#### *5.3.2 Effects of the No Action Alternative*

The No Action Alternative would have no impact on the physiography or soil conditions currently found on the installation.

### **5.4 Aquatic Resources**

#### *5.4.1 Effects of the Preferred Alternative*

This section discusses the potential impacts on both water resources and aquatic wildlife. The INRMP implementation would be expected to have insignificant impacts on surface and groundwater resources. When appropriate mitigation measures are applied, impacts from natural resource management activities are generally insignificant.

Fish and wildlife management promotes healthy habitats to maintain surface water quality for aquatic and terrestrial wildlife utilization, and would be expected to create positive direct and indirect impacts.

Without full implementation of established FAPH best management practices, terrestrial habitat management activities would be expected to create moderate short-term impacts to surface and groundwater resources from timber harvesting, prescribed burning, site preparation, cultivation and herbicide applications. Timber harvesting, pre-commercial thinnings (low potential for soil disturbance) and site preparation would potentially increase stream sedimentation in surface waters located downslope from timbering activities. Prescribed burning activities would be expected to have minor to moderate direct adverse impacts to surface or groundwater. The most common impact of prescribed burning on water resources is the potential for increased runoff on steeper slopes where vegetation has been burned.

Land and grounds maintenance would be expected to create minor, short-term impacts to surface and groundwater resources. This program provides preventive maintenance of areas of high utilization. This includes stormwater management, erosion and sediment control for new projects and grounds maintenance for improved, semi-improved and unimproved grounds.

The LRAM component of ITAM would be expected to produce minor short-term impacts to aquatic resources during repair or replacement of stormwater conveyance systems, but would result in major positive long-term effects on protection of those resources as the projects are designed to restore and stabilize natural stream flow and improve management of stormwater runoff.

Outdoor recreation management would be expected to create insignificant impacts to surface and groundwater resources. Activities are regulated to alleviate potential negative impacts of recreation use. Recreation areas are maintained (land and grounds maintenance) for use and to reduce potential disturbances from utilization.

Pest management (mechanical/physical, biological, and chemical control) would be expected to have negligible to minor potential impacts to surface and groundwater resources. The FAPH Integrated Pest Management Plan (IPMP) regulates and outlines pest management procedures utilized on the installation. An Environmental Assessment has been prepared to assess the impacts of the IPMP. Mechanical/physical and biological pest management would be expected to create negligible impacts to surface and groundwater resources. Chemical pest management would be expected to create a moderate potential impact to water resources by the introduction of chemical pesticides in the event of an accidental spill, runoff, and/or leaching. Fisheries management-related herbicide applications are limited to control of noxious or exotic invasive aquatic plant species and would be expected to have negligible or no adverse impacts on surface or groundwater conditions, as they are conducted according to the manufacturer's instructions and FAPH Integrated Pest Management guidelines.

#### *5.4.2 Effects of the No Action Alternative*

The No Action Alternative would have no impact on soil or vegetation conditions currently found on the installation.

### **5.5 Biological Resources – Terrestrial**

#### *5.5.1 Effects of the Preferred Alternative*

Activities that are most likely to cause the greatest negative impact to terrestrial resources (non-sensitive species – not endangered or threatened) were determined to be activities that were habitat altering and/or degrading (including loss of vegetation, cover, roosting locations and food). However, the INRMP implementation would be expected to have predominantly positive impacts to terrestrial wildlife resources.

Fish and wildlife management would be expected to create negligible impacts. The management techniques utilized by the installation include habitat enhancement, land reclamation, hunting and trapping, forest management, and administrative protection. Some active management includes the planting of wildlife enhancement areas, construction of nest boxes, and maintenance

of large continuous forested areas.

Impacts from timber harvesting, prescribed burning and site preparation would be expected to be minor and temporary. Forest management promotes a healthy, sustainable forest ecosystem while providing opportunities for timber production. Forest management aids fish and wildlife management with the preservation and enhancement of the natural environment to sustain biodiversity. Forest management would be expected to create both small short-term impacts and positive long-term impacts to wildlife resources.

Timber harvesting activities would be expected to alter existing species distribution and habitat type. These changes would be largely temporary until the habitat regenerates and would include loss of canopy cover vegetation, change in forest structure and composition, and consequent microhabitat ground changes. Forest-dwelling mammal and bird species which are dependent on the interior habitat for food and cover, may experience increased predation, parasitism, and decreased interior vegetation species. Conversely, long-term positive effects would be produced by the creation of a more elaborate vegetation structure, therefore increasing habitat and vegetation diversity. Regeneration occurs rapidly and more open understory conditions generally favor wildlife movement and availability of herbaceous vegetation. Additionally, overall, historical and expected harvest rates only impact a maximum of 3-4% of the forested acres on the installation during any year.

Prescribed burning activities would be expected to have both potentially minor negative impacts and positive impacts on wildlife resources. The most common negative impact of prescribed burning on wildlife resources is the alteration of food and cover. Impacts are typically temporary until vegetation regenerates. Immediate short-term impacts include the destruction of nesting sites, killing of some birds, amphibians, reptiles or mammals occurring in the burning area. Most burns occur during winter months when most animals are underground or not nesting.

Land and grounds maintenance would be expected to create no significant impacts to wildlife resources. This program provides preventive maintenance and upkeep of areas of high utilization, and renovation of closed training areas. Some activities include landscape planting of native shrubs and trees to provide natural habitat food sources. Generally, lands and grounds maintenance is performed around highly utilized areas and would not be expected to impact terrestrial species.

The LRAM component of ITAM would be expected to produce minor short-term land disturbance but significant positive long-term effects on terrestrial biological resources since this component is specifically intended to sustain and rehabilitate training lands.

Outdoor recreation management would be expected to create insignificant impacts to wildlife resources. Common outdoor recreation pursuits, including jogging, trail walking, etc., are very low impact and are limited by Force Protection regulations. These regulations limit access to designated special use areas, roadways and trails. Hunting, fishing and camping are strictly controlled.

Integrated Pest Management (biological, cultural, mechanical/physical, and chemical control) would be expected to generally have negligible potential impacts to terrestrial wildlife, with the exception of chemical applications. The FAPH IPMP outlines the pest management procedures for the installation. Biological, cultural, mechanical and physical pest management would be expected to create negligible impacts to wildlife resources. Chemical pest management would be expected to create potentially moderate impacts to wildlife resources by the introduction of chemical pesticides in the event of an accidental spill, runoff, and/or leaching into the habitat and food sources. Pesticide runoff and leachate are minimized by spot application techniques. Herbicide applications are limited and would be expected to have no adverse impacts on wildlife resources, as they are conducted according to the manufacturer's label instructions and FAPH IPMP guidelines.

#### 5.5.2 Effects of the No Action Alternative

The No Action Alternative would have a moderately negative impact on terrestrial biological conditions on the installation. The lack of sound ecosystem-based management strategies and integrated pest management applications would tend to affect vegetative diversity throughout the installation and would result in uncontrolled expansion of known invasive exotic plant species distributions.

### **5.6 Biological Resources: Ecologically Sensitive Areas**

#### 5.6.1 Effects of the Preferred Alternative

Impacts to ecologically sensitive resources from natural resource management activities are generally positive, with the exception of potential impacts from forest management and outdoor recreation. Activities that are likely to cause the greatest impact to ecologically sensitive areas were determined to be activities that occurred within established conservation areas and/or wetland areas and exhibited the potential to overlap locations.

Fish and wildlife management procedures would be expected to create positive direct and indirect impacts by protection of sensitive aquatic and wetland habitats critical to the conservation of aquatic and terrestrial wildlife.

Without appropriate application of BMP's and mitigation measures, forest management activities could create moderate short-term impacts to ecologically sensitive terrestrial and aquatic areas from timber harvesting, prescribed burning, site preparation, and herbicide applications within or upslope of sensitive habitats. Prescribed burning activities would be expected to have both potentially moderate impacts and positive impacts on ecologically sensitive resources. The most common negative impact of prescribed burning on sensitive resources is the potential for the destruction of nesting sites and riparian areas. Additionally, possible fuel spills during the filling process of the drip torches or ignition of fires near streams, wetlands, or other areas of standing water could impact these resources. Positive impacts occur from scheduled burnings within areas that require periodic burnings for specific resource requirements.

The LRAM component of ITAM would be expected to produce major positive long-term effects on ecologically sensitive resources since this component is specifically intended to sustain and rehabilitate and protect training lands and the ecosystems comprised therein.

Land and grounds maintenance would be expected to have negligible impacts to ecologically sensitive resources. This program provides preventive maintenance and upkeep of areas of high utilization. This includes stormwater management, erosion and sediment control for new projects and grounds maintenance for improved, semi-improved and unimproved grounds.

Outdoor recreation management would be expected to have negligible impacts on ecologically sensitive areas. Common outdoor recreation pursuits, including jogging, trail walking, etc., are very low impact and are limited by Force Protection regulations. These regulations limit access to designated special use areas, roadways and trails. Hunting fishing and camping are strictly controlled.

Pest management would be expected to generally have negligible potential impacts to ecologically sensitive resources, with the exception of chemical application techniques. The FAPH IPMP regulates and outlines pest management procedures.

Mechanical/physical and biological pest management would be expected to create negligible impacts to ecologically sensitive resources. Without strict adherence to established procedures, chemical pest management would be expected to create potentially moderate impacts to ecologically sensitive resources by the introduction of chemical pesticides in the event of an accidental spill, runoff, and/or leaching. Herbicide applications are limited and would be expected to have minimal or no adverse impacts on ecologically sensitive areas, if conducted according to the manufacturer's instructions and IPMP guidelines. Pesticide usage installation-wide may be expected to increase at a rate directly attributable to planned military construction projects over the next five years and beyond

#### *5.6.2 Effects of the No Action Alternative*

The No Action Alternative would have a moderate long-term impact on ecologically sensitive areas due to the discontinuation of monitoring and protective measures.

### **5.7 Cultural Resources**

#### *5.7.1 Effects of the Preferred Alternative*

FAPH maintains an Integrated Cultural Resource Management Plan that provides procedures for the installation to insure integration of cultural resource management and mission requirements. Activities associated with INRMP implementation that are most likely to cause the greatest impact to cultural resources were determined to be activities that were located near known sites or in areas not yet surveyed but with a high probability of cultural resource occurrence. Impacts to cultural resources from INRMP implementation are generally positive, with the exception of potential impacts from forest management and outdoor recreation.

Outdoor recreation management would be expected to create negligible impacts to cultural resources. Activities are regulated to alleviate potential negative impacts of recreation use. Recreation areas are maintained (land and grounds maintenance) for use and sensitive resource areas are monitored (i.e., for vandalism or maintenance needs).

Forest management would be expected to create minor impacts to cultural resources from timber harvesting, prescribed burning, and site preparation. These activities would potentially impact undiscovered resources in an area that ground surfaces are disrupted.

The LRAM component of ITAM would be expected to produce negligible effects on cultural resources since all cultural resources are avoided.

Pest management activities would be expected to positively impact existing cultural resources by maintaining the surrounding areas and preventing further degradation of historic sites (e.g., forest insects and disease)

#### *5.7.2 Effects of the No Action Alternative*

Except for the potential reduction of survey, monitoring and protection procedures, the No Action Alternative would have no impact on cultural resource conditions currently found on the installation.

### **5.8 Socioeconomic Resources**

#### *5.8.1 Effects of the Preferred Alternative*

INRMP implementation would be expected to create negligible and positive impacts to socioeconomic resources. Natural resource management activities, with the exception of forest management and fish and wildlife management, would be expected to create negligible impacts to socioeconomics. Positive impacts would be expected from the employment of individuals involved in the timber harvesting activities.

The wages and salaries earned by the individuals have a positive impact on the local and regional economy. However, because the lumber and wood products sector is already the largest manufacturing employer in Caroline County, the jobs, salaries and wages associated with the timbering activities may not necessarily represent increases from current levels, but simply a shift in the local/regional work location for individuals already employed in the industry.

Terrestrial, aquatic resources and fish and wildlife management provide a safe habitat for sensitive resources that are rare to the local area, county, state and region.

Pest management activities would be expected to have a minor positive impact on socioeconomic resources.

Cultural resource management potentially creates a positive impact from the conservation of local resources, and the availability of discovered resources to local communities.

#### *5.8.2 Effects of the No Action Alternative*

The No Action Alternative would result in minor to moderate effects to local socioeconomics through the reduction of sound terrestrial, fish and wildlife management applications which contribute to the local forest products industry and recreational hunting and fishing.

## 5.9 Air Resources

### 5.9.1 *Effects of the Preferred Alternative*

The INRMP implementation activities would generally have short-term impacts on air resources. Activities evaluated which presented negligible impacts to air resources include fisheries management, wildlife management, physical/mechanical/biological pest management, soil resource management and cultural resource management. Activities that present a moderate potential impact to air resources include chemical pest management. Activities that present a major potential impact to air resources include fire/forest management.

Pollutant emissions created by forestry activities include fugitive dust from road construction, site preparation, harvesting and particulate release from prescribed burning. Impacts from road construction, site preparation, and harvesting would be expected to be minor, however, compared with the potential air impacts from prescribed burning activities.

Prescribed burning activities (for forest and wildlife management on training lands) produce large quantities of smoke and small unburned particles as well as ozone precursor pollutants (VOCs and oxides of nitrogen).

Chemical pest management, which is comprehensively covered in the FAPH Integrated Pest Management Plan, would be expected to have minor potential to increase air quality degradation. Chemical pesticides potentially impact outdoor air resources via volatilization or aerial drift. However, due to usage and application rates, chemical pest management is not expected to create significant adverse impacts to air resources. In accordance with federal regulations and the FAPH IPMP, chemical pesticides must be properly stored and used in limited frequencies and quantities.

Pest management activities potentially impact outdoor air resources via volatilization or aerial drift from application. Volatilization is the vaporization of chemicals and dispersal to the atmosphere without chemical change. Volatilization is typically a concern with the application of broadleaf herbicides. FAPH utilizes one broadleaf herbicide (Round Up Pro), but the usage quantities are only sufficient to cause localized, short term, air quality degradation. FAPH is not currently performing aerial application of any pesticides.

Six pesticides are considered Hazardous Air Pollutants under the National Emissions Standards for Hazardous Air Pollutants. Emissions of these chemicals are regulated under Title III of the 1990 Clean Air Act. Given the usage quantities at FAPH, the application of these pesticides is not expected to contribute to increased air degradation.

Indoor air quality is subject to contamination within the mixing and formulations room in the Entomology Shop. This room is equipped with a hardwired and continuously active ventilation system. In accordance with the IPMP, an Industrial Hygienist from Fort Belvoir performs annual air quality testing within the Entomology Shop's mixing and formulation room.

### 5.9.2 Effects of the No Action Alternative

The No Action Alternative would have minor to moderate potential impacts on air quality due to the reduction of or discontinuation of sound wildland fire management practices.

## 5.10 Noise

### 5.10.1 Effects of the Preferred Alternative

The INRMP implementation would be expected to have negligible to minor impacts on noise levels on the installation. Impacts to noise quality from natural and cultural resource management activities would be expected to be generally negligible with the exception of forest and pest management.

Forest management would be expected to create minor impacts to noise quality from the additional traffic produced during timber harvesting, prescribed burning, site preparation, and herbicide applications. The noise level increase would be expected to be less than that typically generated by normal military training activities. Indirect and cumulative effects would be expected to occur where timber harvesting and prescribed burning activities occurs near installation boundaries and/or in existing Installation Compatible Use Zones. These activities would potentially reduce the natural sound buffers and could increase noise levels to the surrounding areas.

Pest management would be expected to create negligible impacts to noise quality. Some chemical pesticides are hand-applied using backpack-mounted sprayers.

### 5.10.2 Effects of the No Action Alternative

The No Action Alternative would have no new impact on noise generated on the installation.

## 5.11 Hazardous Materials/Wastes

### 5.11.1 Effects of the Preferred Alternative

Hazardous materials that would be used in the proposed action include gasoline, diesel, hydraulic fluid, chain lubricants, and oil mixes required by vehicles, machinery, and prescribed burning ignitions. The use of these materials on site would be temporary and all remaining materials would be removed from the site upon conclusion of the action. These materials and any wastes generated would be handled, stored, and disposed of in accordance with federal, state, and Army regulations and requirements. Fort A.P. Hill would provide disposal for all wastes generated in the proposed action through existing contracts, through its program for recycling and pollution prevention. FAPH would follow its Integrated Discharge Prevention and Contingency Plan (IDPCP) that includes a SPCC plan. The proposed action would not have a significant impact due to generation, storage, or disposal of hazardous materials or wastes.

### 5.11.2 Effects of the No Action Alternative

The No Action Alternative would involve no additional hazardous materials or wastes. Existing conditions would continue.

## **5.12 Infrastructure and Utilities**

### *5.12.1 Effects of the Preferred Alternative*

The Preferred Alternative would result in minor to moderate positive effects on existing utilities and infrastructure. Many existing roads, trails, firebreaks and stormwater conveyance systems would be maintained by Environmental Division and Grounds Branch staff for multi-purpose use and in direct support of the training mission. Prescribed burning activities would not significantly increase vehicular traffic on or off the installation.

No new electrical, water, or sewage utilities would be required for this proposed action. Any above or below ground utility structures would be identified and protected.

### *5.12.2 Effects of the No Action Alternative*

The No Action Alternative would not require any additional infrastructure or utilities to be added or used on Fort A.P. Hill. Existing conditions would continue.

## **5.13 Environmental Justice**

### *5.13.1 Effects of the Preferred Alternative*

The Preferred Alternative would not create any adverse human health or environmental effects on children, minorities, or low-income population or communities within or surrounding the installation. The proposed action would occur completely within the existing boundaries of Fort A.P. Hill.

### *5.13.2 Effects of the No Action Alternative*

The No Action Alternative would have no disproportionate or adverse impacts or environmental or social effects on minority and low-income populations.

## **5.14 Cumulative Effects**

Cumulative effects are defined as the impacts on the environment that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes these actions. INRMPs are intended to follow an ecosystem or landscape-level approach to natural resources management. They also involve partnerships with Federal, State and local groups. The above-mentioned characteristics of INRMPs reduce the possibility for cumulative effects arising that have not already been considered in the INRMP. Integrated planning, ecosystem management, and partnering are techniques that, by their nature, reduce cumulative effects. As new, relevant issues or initiatives arise, regardless of the proponent agency, they would be considered in the Fort A.P. Hill INRMP during either the annual review or the five-year review period. In this way, the INRMP is maintained as an active reference document that describes Fort A.P. Hill's planned natural resources management for the current five-year period.

Beyond the projects that collectively make up the preferred alternative, other general actions could also result in cumulative impacts. Within the same time frame as the proposed action, there are three reasonably foreseeable actions that may have cumulative effects on the environment of Fort A.P. Hill: the establishment of the AWG training ranges and complex, the establishment of the Naval Surface Warfare Explosive Center of Excellence and the construction and operation of an Explosive Ordnance Disposal Field Training Area. These actions are similar in scope and impact to the activities that have occurred at the installation since its inception in the early 1940's.

Natural resource management activities are planned and scheduled to provide a sustainable training setting and forest health condition while maintaining ecological diversity and to incrementally enhance and protect ecological integrity. Most impacts resulting from these actions are small or negligible cumulative impacts as the management areas regenerate to former dynamics within a short period of time. The Preferred Alternative will have a positive cumulative effect on Fort A. P. Hill or the surrounding area of Caroline County. Table 1 presents the expected cumulative effects on each major resource group.

<b>Table 1</b> <b>Cumulative Effects</b> <b>Integrated Natural Resources Management Activities</b> <b>Fort A.P. Hill</b>	
<b>Resource Area</b>	<b>Expected Level of Cumulative Effects</b>
Land Use	Negligible
Physiography and Soils	Small
Aquatic Resources	Negligible
Biological Resources - Terrestrial	Small
Ecologically Sensitive Areas	Small
Cultural Resources	Negligible
Socioeconomics	Negligible
Air Resources	Small
Noise Resources	Negligible
Hazardous Materials/Wastes	Negligible
Infrastructure/Utilities	Negligible
Environmental Justice	Negligible

## 6.0 MITIGATION MEASURES

Mitigation involves avoiding or minimizing impacts, and taking actions to compensate for unavoidable impacts. Managing Fort A.P. Hill's natural resources under a revised INRMP is a positive action that provides overall benefits to a broad range of natural resources while maintaining Fort A.P. Hill's ability to meet its mission requirements. As part of the integrated planning process, the proposed action has been selected and modified to minimize adverse impacts. Consequently, impact avoidance and minimization have already been considered in the planning process. The proposed action will be carried out in accordance with all applicable federal, state, and local laws and regulations. In conjunction with Fort A.P. Hill's self-imposed BMPs, the following mitigation and monitoring measures will be implemented to minimize impacts:

- Though noise-production will be minimal, noise-producing activities will occur in a forested setting during business hours only to minimize any noise disturbance to surrounding communities
- Monitoring to determine whether the implementation actions are accomplishing what was intended
- Monitoring to determine whether the implementation actions are having any unintended consequences
- Monitoring to determine if any unforeseen events are having an impact on implementation of the natural resources management program as described in the INRMP.

As necessary, subsequent environmental analysis and NEPA documentation will be done for specific management actions if and when they are implemented.

## 7.0 CONCLUSIONS

This EA considers the potential environmental impacts of the proposed action, which is the Preferred Alternative for implementation of the INRMP at FAPH in Caroline County, Virginia. The proposed action is needed to comply with the Sikes Act, to support the installation's military mission and to fulfill the FAPH natural resource management goals. Army regulations, management plans, and environmental requirements implemented by FAPH would ensure activities are in compliance with applicable federal, state, and local laws and regulations. The proposed action would include the use of outlined BMP and mitigation measures to avoid, minimize, or prevent significant impacts to environmental resources. Local air quality requirements would be applied and smoke management plans prepared and implemented. Noise complaints would be investigated and mitigated as necessary under current FAPH policy. Local socioeconomics would not be adversely impacted. Impacts to soil resources would be minimal. Wetlands and streams would be identified and buffered in pre-commercial thinning activities or appropriately used as potential control lines in prescribed burning activities. Cultural resources, and threatened and endangered species areas, would be identified, buffered, and avoided; therefore, there would be no impact to these resources. Hazardous materials and wastes utilized in the proposed action will be handled and disposed of according to FAPH protocol and existing contracts.

The proposed action delineated in this EA is the Preferred Alternative among those considered. The No Action Alternative would not comply with Sikes Act requirements, would inhibit beneficial management for military training or the health and vigor of terrestrial and aquatic ecosystems, would increase the risk of degradation of natural resources, and would, therefore, not appropriately meet management directives for the installation.

As a result of the analyses performed by this EA, it has been determined that the known and potential impacts of the Preferred Alternative on the physical and socioeconomic environment would not be significant. Based on the findings and conclusions in this EA, issuance of a Finding of No Significant Impact would be appropriate and preparation of an Environmental Impact Statement would not be required.

## **8.0 PREPARERS AND REVIEWERS**

### **8.1 Preparers**

*Fort A.P. Hill*

Kristine Brown, NEPA Coordinator  
Tim Southard, Natural Resource Specialist

Department of the Army  
Environmental Division  
19952 North Range Road  
Fort A.P. Hill, VA 22427-3123

### **8.2 Reviewers**

*Fort A.P. Hill Personnel*  
Department of the Army  
Environmental Division  
19952 North Range Road  
Fort A.P. Hill, VA 22427-3123

Terry Banks	Environmental Division Chief
Jason Applegate	Natural Resources Specialist
Larry Capelle	Installation Forester
Anne Ulrey	Assistant Installation Forester
Gef Fisher	Environmental Specialist
Mark Indseth	Wildlife Biologist
Scutter Lee	Fisheries Biologist
John Mullin	Cultural Resource Manager
Sergio Sergi	Environmental Specialist

## **9.0 AGENCIES AND INDIVIDUALS CONSULTED**

Department of Environmental Quality  
629 East Main Street  
Richmond, VA 23219  
Ellie Irons, Office of Environmental Impact Review  
Michelle Henicheck, Office of Wetlands, Water Protection and Compliance  
Allen Brockman, Waste Division  
Kotur Narasimhan, Division of Air Program Coordination

Department of Environmental Quality  
13901 Crown Court  
Woodbridge, VA 22193  
John Bowden, Northern Virginia Regional Office

Department of Conservation and Recreation  
203 Governor Street  
Richmond, VA 23219  
John Davy, Planning and Recreation Resources  
Nancy VanAlstine, Division of Natural Heritage

Department of Conservation and Recreation  
101 N. 14<sup>th</sup> Street, 17<sup>th</sup> Floor  
Richmond, Virginia 23219  
Alice Baird, Chesapeake Bay Local Assistance Board

Department of Forestry  
900 Natural Resources Drive  
Charlottesville, VA 22903  
Todd Groh, Division of Forest Management

Department of Game and Inland Fisheries  
4010 West Broad Street  
Richmond, VA 23230  
Amy Ewing, Division of Project Review

Department of Historic Resources  
2801 Kensington Avenue  
Richmond, VA 23221  
Marc Holma, Division of Project Review

U. S. Fish & Wildlife Service  
Virginia Field Office  
6669 Short Lane  
Gloucester, VA 23061  
Tylan Dean

## 10.0 REFERENCES

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## **11.0 APPENDICES**

## **Appendix A: Agency Correspondence**

## **Appendix B: Determination of Consistency with Virginia's Coastal Resources Management Program Integrated Natural Resources Management Plan**

Pursuant to Section 307 of the Coastal Zone Management Act of 1972, as amended, this is a federal Consistency Determination for Fort A.P. Hill's implementation and use of an Integrated Natural Resources Management Plan (INRMP). The Army is required to determine the consistency of its activities affecting Virginia's coastal resources or coastal uses with the Virginia Coastal Resources Management Program (VCRMP).

This document represents an analysis of project activities in light of established VCRMP Enforceable Programs. Furthermore, submission of this consistency determination reflects the commitment of the Army to comply with those Enforceable Programs. The proposed project will be implemented and used in a manner which is consistent with the VCRMP. FAPH has determined that the implementation of the INRMP would not affect the land and water uses or natural resources of the Commonwealth of Virginia's coastal zone.

### **1. Description of Proposed Action**

The proposed action for this EA is to implement the FAPH Integrated Natural Resources Management Plan. This INRMP reflects the FAPH commitment to conserve, protect and enhance the natural resources necessary to provide realistic military training. Its primary objective is to provide a proactive natural resources management plan that guides FAPH in achieving natural resource management goals, mission requirements, and compliance with environmental regulations and policies.

### **2. Assessment of Probable Effects**

The planning and design phase of the proposed action will have no coastal zone effects to relevant VCRMP elements. No permits are needed for implementation of the INRMP. Any applicable permits required for individual projects within the INRMP will be obtained and complied with throughout project duration. A review of the permits and/or approvals required under the enforceable Regulatory Program will be conducted prior to commencement of each individual project. FAPH evaluated implementation of the INRMP based on the foreseeable effect on the following enforceable policies:

**Fisheries** - The INRMP has no foreseeable impacts on finfish or shellfish resources and would not affect the promotion of commercial or recreational fisheries at the project site area. The installation lies within the watersheds of the Mattaponi and the Rappahannock Rivers. The project implements best management practices (BMPs) recommended by the Virginia Departments of Conservation and Recreation and FAPH Environmental Division.

**Subaqueous Lands Management** – The INRMP has no foreseeable impact on subaqueous resources. The project complies with all federal and state regulations and implements BMPs recommended by the Virginia Departments of Conservation and Recreation and Forestry.

**Wetlands Management** – FAPH has established guidelines to protect wetlands on the installation. There would be no impacts on wetlands from implementation of the INRMP.

**Dunes Management** – Implementation of the INRMP has no foreseeable impact on coastal primary sand dunes. The project would not destroy or alter coastal primary sand dunes.

**Non-Point Source Pollution Control** – As a result of sound, proactive storm water management procedures, non-point-source pollution would be minimal during implementation of the INRMP. For future individual projects within the INRMP, all erosion control would be designed in accordance with the Virginia Erosion and Sediment Control Regulations handbook. Erosion and sediment controls would be implemented in accordance with the Virginia Stormwater Management Program (VSMP), Forestry BMPs for Water Quality and Chesapeake Bay Preservation Area Designation and Management guidelines. These controls would continue into the operational phase of any associated project. Implementation of the INRMP would not cause non-point source pollution.

**Point Source Pollution Control** – Implementation of the INRMP would not generate any new discharge. The implementation of the INRMP would not cause point source pollution.

**Shoreline Sanitation** – Implementation of the INRMP would have no impact on shoreline sanitation.

**Air Pollution Control** – FAPH is located in an attainment area for air pollutants. Construction and operation of any future projects would be subject to regulation by the Virginia Department of Environmental Quality (VDEQ). The INRMP would have no significant impact on air quality.

**Coastal Lands Management** – The INRMP would have no impact on any coastal lands.

**Chesapeake Bay Preservation Areas** –The INRMP would not involve either development or redevelopment activities on any property designated Resource Protection Areas (RPA) as defined by the Chesapeake Bay Preservation Act, Virginia Code 10.1-2100 *et seq.* and its implementing Chesapeake Bay Preservation Area Designation and Management Regulations, 9 VAC 10-20-10 *et seq.*

### **3. Summary of Findings**

Based on the above analysis and as elaborated in the Draft Environmental Assessment, FAPH finds the proposed implementation of the INRMP fully consistent, or consistent to the maximum extent practicable, with the federally approved enforceable provisions of VCRMP, pursuant to the Coastal Zone Management Act of 1972, as amended and in accordance with 15 CFR 930.30(c).

By certification that the proposed action is consistent with VCRMP Enforceable Programs, the Commonwealth of Virginia will be notified that it has 60 days from receipt of this letter, in which to concur with or object to this Consistency Determination. However, pursuant to 15 CFR 903.63(b), if the Commonwealth of Virginia has not issued a decision by the 60<sup>th</sup> day from receipt of this determination, it shall notify FAPH of the status of the matter and the basis for further delay. The State's concurrence, objection, or notification of review status shall be sent to:

**Commander, US Army Garrison Fort A.P. Hill**

**ATTN: ED**

**19952 North Range Road**

**Fort A.P. Hill, VA 22427-3123**