ENVIRONMENTAL ASSESSMENT

FOR

TIMBER HARVEST IN TRAINING AREAS (TA) 5B, 7A, 7B, 7C AND 16D - UNITS 1-12

AΤ

MARINE CORPS BASE QUANTICO, Prince William County, Virginia Stafford County, Virginia



National Environmental Policy Act (NEPA) Coordination Program,
Environmental Planning Section
Natural Resources and Environmental Affairs Branch
Installation and Environment Division
Marine Corps Base Quantico, Virginia



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ABSTRACT

Title of Proposed Action: Timber Harvest in Training Areas 5B, 7A, 7B, 7C and 16D - Units 1-12.

Project Location: Marine Corps Base Quantico, Virginia Lead Agency for the EA: United States Marine Corps

Action Proponent: Marine Corps Base Quantico, Virginia, - Natural Resources and Environmental Affairs, - Natural Resources Section, - Forestry Program.

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This Environmental Assessment is intended to meet NEPA requirements to harvest timber in Training Areas (TA) 5B, 7A, 7B, 7C and 16D within 12 loblolly pine units. The No Action Alternative (Alternative A) and the Action Alternative (Alternative B) were evaluated. Alternative A would have no adverse effects on cultural and natural resources or to human health and the environment as the status quo would be maintained.

Alternative B would involve the thinning of timber in TAs 5B, 7A, 7B, 7C and 16D within Units 1-12. Alternative B would also involve improvement of approximately 4,500 linear feet of logging roads. There would be no significant impacts to land use, water resources, biological resources, air quality, noise, infrastructure or hazardous waste issues. Temporary water quality impacts associated with soil disturbance resulting from tree removal as well as road improvement activities would be mitigated through appropriate Erosion and Sediment Control measures per the soil disturbances will be minimized through the implementation of Best Management Practices (BMPs) per the Virginia BMP Field Guide (2009), the Virginia BMPs For Water Quality Technical Manual (2011) and the Virginia Erosion and Sediment Control Handbook (1992).

Alternative B is the preferred action and, if the stated mitigation measures are executed, would not have significant impacts on human health and the environment.

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1.0 PURPOSE AND NEED FOR THE PROPOSED ACTION

This environmental assessment (EA) has been prepared pursuant to the National Environmental Policy Act (NEPA) of 1969; regulations of the Council on Environmental Quality (CEQ) 40 C.F.R. parts 1500-1508; and Marine Corps Order (MCO) 5090.2, which documents the US Marine Corps' (USMC) internal operating instructions on how to implement NEPA. This EA is intended to meet NEPA requirements for a timber harvest within 12 loblolly pine units, at Marine Corps Base Quantico (MCBQ).

CEQ regulations for implementing NEPA (40 C.F.R. part 1500) require documentation that succinctly describes the environment of the area or areas potentially affected by the alternatives being considered under the proposed action, and discusses the impacts in proportion to their significance.

This EA also satisfies 36 C.F.R. part 800.6(a) which states that a federal agency when presented with the potential of an adverse effect as a result of its undertaking must "develop and evaluate alternatives or modifications to the undertaking that could avoid, minimize or mitigate adverse effects on historic properties."

1.1 Introduction

The Natural Resources and Environmental Affairs (NREA) Branch - Forestry Program at MCBQ, proposes to harvest timber in TAs 5B, 7A, 7B, 7C, and 16D while concurrently improving 4,500 linear ft. of road. This action would begin after September 15, 2019 and conclude after September 15, 2020. The proposed action would allow MCBQ to continue to fulfill its requirements under the Sikes Act Section 101 16 U.S.C. 670a which states:

"The Secretary of Defense shall carry out a program to provide for the conservation and rehabilitation of natural resources on military installations"

The action is also designed in part to satisfy the requirements under Department of Defense (DoD) Directive 4700.4 which states:

"DoD forest lands shall be managed for sustained yield of quality forest products, watershed protection, wildlife habitats, and other uses that can be made compatible with mission activities."

1.2 Background

MCBQ and the NREA Forestry Program are proposing to thin and harvest timber within 12 loblolly pine stand units (see Figures 2.1.1-2.1.8). Each thinning location will have a one-quarter acre harvest deck where trees will be loaded on to forestry trucks. The proposed action also includes restoring as well as improving sections of logging road from State Route (SR)-643 to Units 3 and 4, as well as the sections of logging road from Washboard Rd. to Units 8 and 9. A total of 228 acres will be thinned and harvested.

1.3 Location

The thinning and harvest of the loblolly pine will occur within a total of 12 loblolly pine stand units (see Figures 2.1.1-2.1.8):

- Units 1 and 2, which are located in TA5B near the Russell-Knox Building and Cemetery Rd with a total of 40.4 acres. Dense loblolly pine that is now 8-12" of diameter at breast height (dbh) will be thinned to a Basal Area of 70.
- Units 3 and 4, located near SR-643 and Gun Point 4 (GP-04) in TA7A, with a total of 32.3 acres. Dense loblolly pine at 10-14" dbh will be thinned to a Basal Area of 70.
- Units 5, 6 and 7 in TAs 7B and 7C located near the southern boundary of the base adjacent to Washboard Rd totaling 30.2 acres. The location was over seeded. Loblolly pine 12-16 dbh will be thinned to a Basal Area of 40 in this area.
- Unit 8 in TA7C on Washboard Rd. near Long Branch and The Basic School (TBS) totaling 13.5 acres. The location was over seeded. Loblolly pine 12-16" dbh will be thinned to a Basal Area of 40 in this location.
- Unit 9 in TA7C near TBS, Long Branch and Aquia Creek has an area of 46.6 acres. Dense loblolly pine 10-14" dbh will be thinned to a Basal Area of 70.
- Units 10 and 11 within TA16D have a total of 22.037 acres. The stands are located adjacent to MCB-1 near Lucky Run and Johns Branch. Dense loblolly pine 8-12" dbh will be thinned to a Basal Area of 70.
- Unit 12 within TA7A adjacent to the southern boundary of the base along Phillips Cemetery Rd., Garrisonville Rd. and near Aquia Creek is roughly 44 acres in area. Loblolly pine 10-14" dbh will be thinned to a Basal Area of 70 in this location.

Units 1-9 and 12 are located in Stafford County, VA. Units 10-11 are located in Prince William County, VA.

1.4 Purpose of and Need for the Proposed Action

The purpose of the proposed action is to thin and harvest approximately 228 acres of 12 loblolly pine stands within 5 training areas at MCBQ. Approximately one-third of the trees in each stand will be removed which will allow more suitable trees to grow in the stand while at the same time removing inferior, dead, diseased or damaged trees as well as undesirable tree species such as the Virginia pine. The need for the proposed action involves:

- Maintenance of an ecologically healthy and diverse training area for Marines in compliance with the base Integrated Natural Resources and Management Plan (INRMP) as well as (DoD).
- Reduction of the potential for damaging wildfires due to both the presence of several trees densely clustered together, diseased or damaged trees, and less fireretardant tree species.
- Eliminate insect infestations that can occur when trees are located within very dense, tight locations.
- Improvement of wildlife habitat by utilizing effective forest management principles.
- Improve access for individuals traveling on foot through the pine stands.

1.5 Scope of Environmental Analysis

This EA includes an analysis of potential environmental impacts associated with the Action Alternatives and the No Action Alternative. The environmental resource areas analyzed in this EA include: Air quality, water resources, geological resources, cultural resources, biological resources, land use, visual resources, military training and airspace, noise, infrastructure, transportation, public health and safety, hazardous materials and waste, socioeconomics, and environmental justice.

1.6 Key Documents

Key documents that are being utilized for this EA include the following:

- Atkins (2015). Marine Corps Base Quantico Master Plan Update. The Louis Berger Group.
- Natural Resources and Environmental Affairs Branch (NREA) 2015-2019 Integrated Natural Resources Management Plan for Marine Corps Base, Quantico, Virginia. Natural Resources and Environmental Affairs Branch, Marine Corps Base Quantico, VA
- Naval Facilities Engineering Command. (2012). Range Complex Management Plan, Marine Corps Base Quantico. Washington D.C.
- Virginia Tech Conservation Management Institute (VTCMI) 2017. 2017 Bat Survey for U.S. Marine Corps Base Quantico, Virginia Blacksburg, Virginia (Draft).

1.7 Relevant Laws and Regulations

The USMC has prepared this EA based upon federal and state laws, statutes, regulations, and policies pertinent to the implementation of the proposed action, including the following:

- National Environmental Policy Act (NEPA) (42 United States Code [U.S.C.] sections 4321-4370h), which requires an environmental analysis for major federal actions that have the potential to significantly impact the quality of the human environment.
- Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [C.F.R.] parts 1500-1508).
- Clean Air Act (42 U.S.C. section 7401 et seq.)
- Clean Water Act (33 U.S.C. section 1251 et seq.).
- DoD Directive 4700.4. Natural Resources Management Program. 24 January 1989.
- National Historic Preservation Act (54 U.S.C. section 306108 et seq.)
- Endangered Species Act (16 U.S.C. section 1531 et seq.).
- Migratory Bird Treaty Act (16 U.S.C. sections 703-712).
- Bald and Golden Eagle Protection Act (16 U.S.C. section 668-668d).
- Resource Conservation and Recovery Act (42 U.S.C. section 6901 et seq.).
- Sikes Act Section 101 16 U.S.C. 670a

- Toxic Substances Control Act (15 U.S.C. sections 2601-2629).
- Executive Order (EO) 11988, Floodplain Management
- EO 11990, Protection of Wetlands.
- EO 12088, Federal Compliance with Pollution Control Standards.
- EO 12898 (As amended by EO 12948), Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations.
- EO 13045 (As amended by EO 13296), Protection of Children from Environmental Health Risks and Safety Risks.
- EO 13175, Consultation and Coordination with Indian Tribal Governments.

A description of the Proposed Action's consistency with these laws, policies, and regulations, as well as the names of regulatory agencies responsible for their implementation, is presented in Chapter 6.0 (Table 6-1).

1.8 Public and Agency Participation and Intergovernmental Coordination

Regulations from the CEQ direct agencies to involve the public in preparing and implementing their NEPA procedures.

The USMC-MCBQ has prepared this EA to inform the public of the proposed action and to allow the opportunity for public review and comment. The EA will also be made available on the following website:

http://www.quantico.marines.mil/Offices-Staff/G-F-Installationand-Environment/Natural-Resources-Environmental-Affairs/

The USMC-MCBQ has performed all of the necessary consultation with the U.S. Fish and Wildlife Service (USFWS), Virginia Department of Environmental Quality (VDEQ), Virginia Department of Game and Inland Fisheries and the Virginia State Historic Preservation Officer (SHPO) pertaining to this proposed action.

2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 Alternatives Carried Forward for Analysis

2.1.1 No Action Alternative - Alternative A

Under the No Action Alternative, there would be no thinning and harvest of the trees in Loblolly Pine Units 1-12. Current environmental conditions will remain the same.

2.1.2 Action Alternative - Alternative B - Timber Harvest in TA5B, 7A, 7B, 7C and 16D - Units 1-12

Under the Action Alternative 228 acres of trees would be thinned and harvested in Loblolly Pine Units 1-12 within 5 TAs. The TAs will contain a more diversified ecosystem as well as a healthier woodland training area for Marines. The possibility of wildfires or insect infestations will be greatly reduced or eliminated. Wildlife habitat for plant and animal species as well as pedestrian traffic will be improved. Lastly, three segments of roads accessing stands 3, 4, 8, and 9 totaling 4,500 ft., will be restored as well as repaired by smoothing and utilization of aggregate (see Figures 2.1.1 - 2.1.8 for locations of Alternative B).



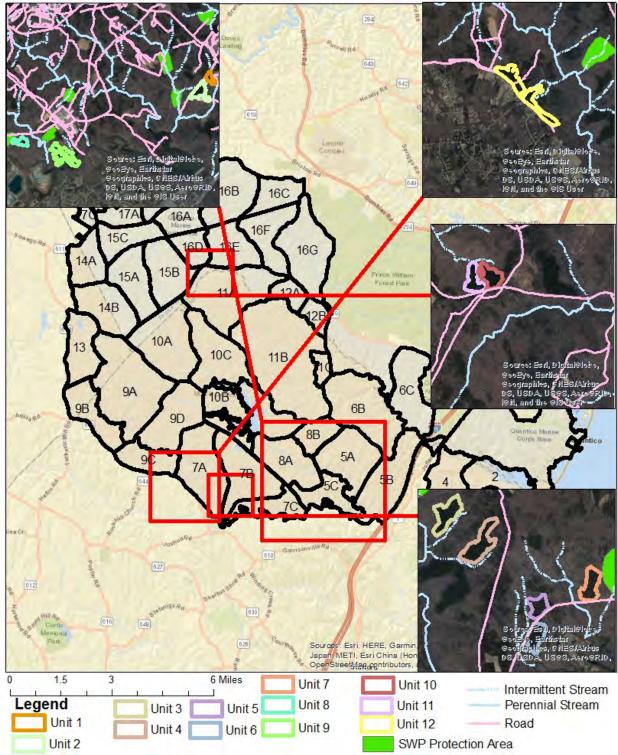


Figure 2.1.1

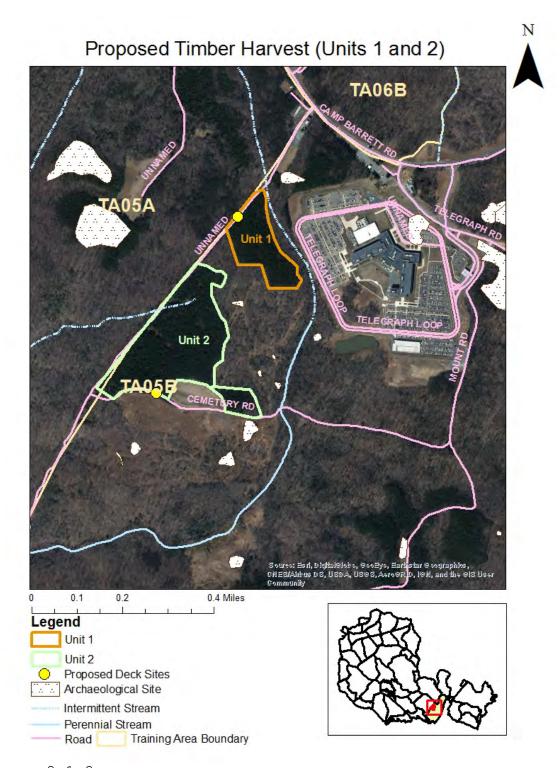


Figure 2.1.2

Proposed Timber Harvest (Units 3 and 4)

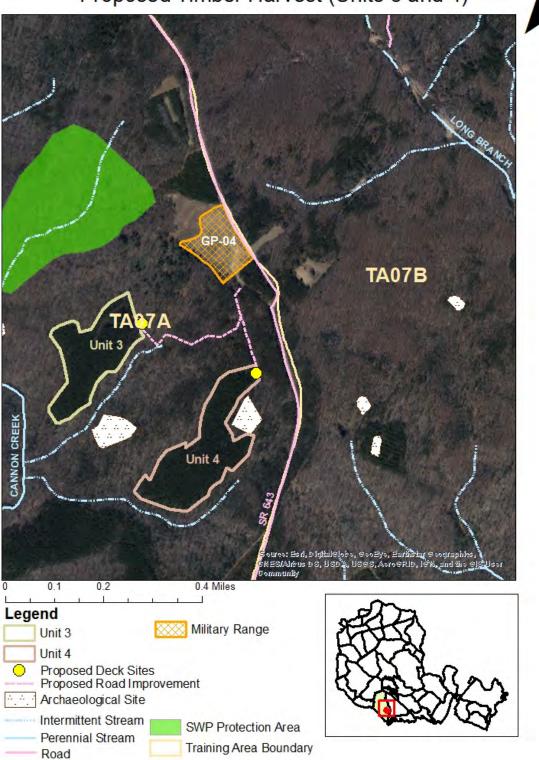


Figure 2.1.3

Proposed Timber Harvest (Units 5, 6 and 7)



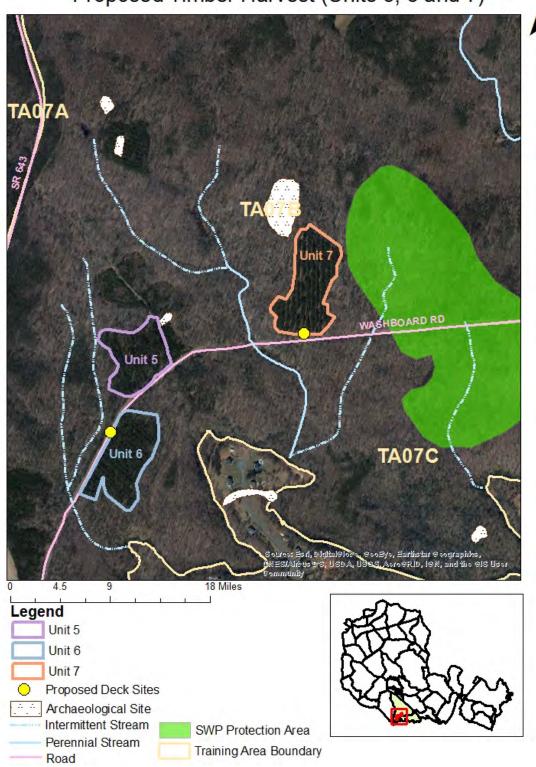


Figure 2.1.4

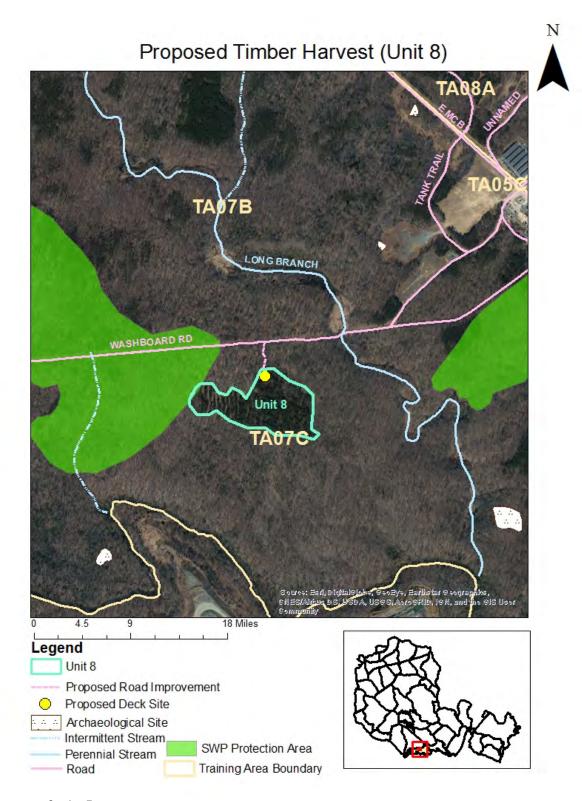


Figure 2.1.5

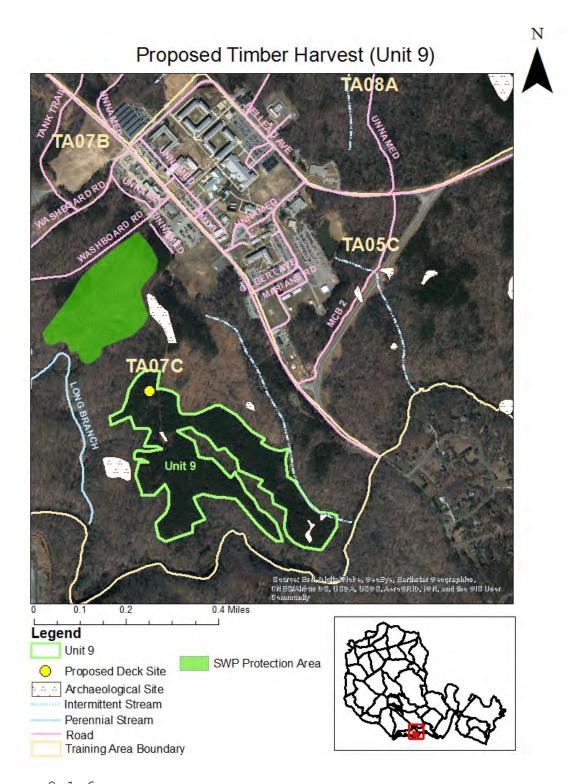


Figure 2.1.6

Proposed Timber Harvest (Units 10 and 11)



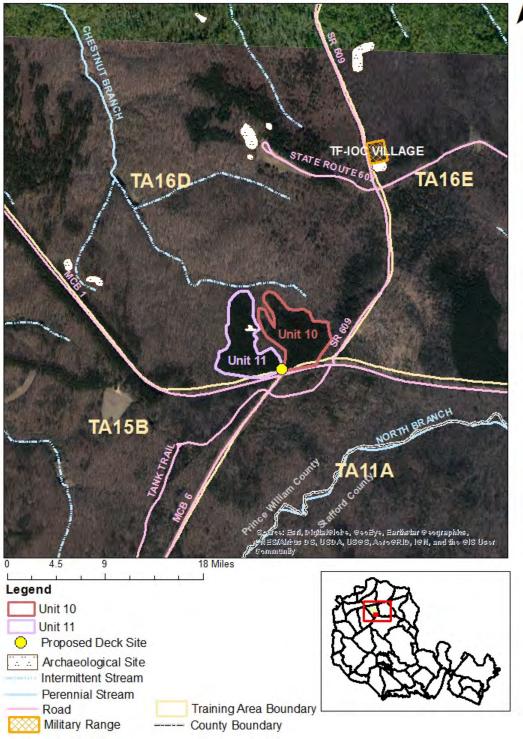


Figure 2.1.7

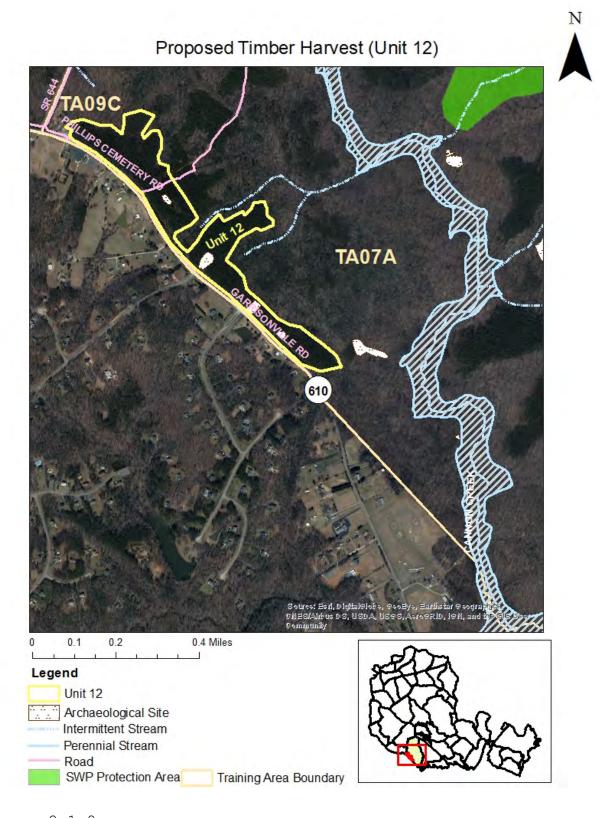


Figure 2.1.8

3.0 Affected Environment

This chapter presents a description of the environmental resources and baseline conditions that could be affected from implementing any of the alternatives.

All potentially relevant environmental resource areas were initially considered for analysis in this EA. In compliance with NEPA, the CEQ, Department of the Navy (DoN), and USMC guidelines; the discussion of the affected environment (ie., existing conditions) focuses only on those resource areas potentially subject to impacts. Additionally, the level of detail used in describing a resource is commensurate with the anticipated level of potential environmental impact. This section includes air quality, water resources, geological resources, cultural resources, biological resources, land use, visual resources, military training and airspace, noise, infrastructure, transportation, public health and safety, hazardous materials and wastes, socioeconomics, and environmental justice.

The potential impacts to the following resource areas are considered to be negligible or non-existent so they were not analyzed in detail in this EA:

Visual Resources:

The proposed action involves thinning of forest. Densely populated forested locations will be made less dense. Dead, diseased, and damaged trees will be removed. Unwanted species such as Virginia pine will also be removed from the units where they are present. However, it does not involve a significant change in land use (such as clear cutting) or conversion into a non-natural structure. More desirable species such as the loblolly pine and shortleaf pine will remain although with less density. The overall health of the forest ecosystem will benefit and the base will be safer from fire as a result. The Quantico Marine Corps Base Historic District (QMCBHD) will also not be impacted by the proposed action and there will be no impacts to viewsheds. Consequently, visual resources will not be analyzed within this EA.

Hazardous Materials and Wastes:

The proposed action locations and the implementation of the proposed action involves timber removal. The timber harvest

will not be a generator of hazardous materials or wastes and will not be implemented at an existing hazardous waste site.

Socioeconomics:

The proposed action is a forest management action that will be occurring on the base. Population demographics, employment characteristics, schools, housing occupancy status and economic activity either on MCBQ or within Fauquier, Prince William or Stafford Counties will be negligible or non-existent.

Environmental Justice:

The United States Environmental Protection Agency (USEPA) defines Environmental Justice as the fair treatment and meaningful involvement of all people regardless of race, color, natural origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies (USEPA 2014).

Executive Order (EO) 12898 (As amended by EO 12948), Federal Actions to address Environmental Justice in Minority Populations and Low-income Populations, was issued in 1994. This order directs agencies to address environmental and human health conditions in minority and low-income communities so as to avoid the disproportionate placement of any adverse effects from federal policies and actions on these groups.

EO 13045 (As amended by EO 13296), Protection of Children from Environmental Health and safety Risk, was issued in 1997. This order requires agencies, to the extent permitted by law and mission, to identify and assess environmental health and safety risks that might disproportionately affect children. The proposed timber harvest will be implemented entirely within the boundaries of MCBQ where natural resource management and training related activities occur frequently. The proposed action will not involve effects specific to children.

The proposed action will not significantly alter current environmental conditions and any effects to low-income, minority groups or children will be non-existent. The proposed timber harvest will be occur completely inside the boundaries of MCBQ where forest management and training related activities are implemented on a consistent basis. As a result, environmental justice was not significantly analyzed in detail in this EA.

3.1 Air Quality

3.1.1 Regulatory Setting

3.1.1.1 National Ambient Air Quality Standards and Criteria Pollutants

The U.S. Environmental Protection Agency (EPA) defines ambient air as "that portion of the atmosphere, external to buildings, to which the general public has access" (40 C.F.R. part 50). In compliance with the Clean Air Act (CAA) (42 U.S.C. §7401 et seq.) the EPA promulgated the National Ambient Air Quality Standards (NAAQS) for six criteria pollutants: Carbon monoxide (CO), sulfur dioxide (SO₂), particulate matter (PM), ozone, nitrogen oxides (NO_x) , and lead. States are required to develop a State Implementation Plan (SIP) to attain and maintain the NAAQS, with specific requirements for areas that do not meet the NAAOS, called nonattainment areas. Prince William County has been designated as a non-attainment area for 8-hour ozone NAAQS whereas Stafford County has been designated as being in attainment for 8-hour ozone NAAQS. Both Prince William and Stafford Counties are in attainment for $PM_{2.5}$. NO_x and volatile organic compounds (VOCs) are precursors to ozone formation and are regulated to control ozone pollution.

3.1.1.2 General Conformity

To ensure that actions taken by federal agencies in a nonattainment area do not interfere with a state's plan for attainment of the NAAQS, EPA promulgated the General Conformity rule [CAA section 176(c)(4)]. The General Conformity rule requires federal actions, whose emissions exceed *de minimis* thresholds of criteria pollutants and their precursors, to undergo a Conformity Determination. A Conformity Determination is a detailed analysis the action's impact on regional air quality. *De minimis* levels in the DC region are:

• NO_X : 100 tons per year (tpy)

VOC: 50 tpyPM_{2.5}: 100 tpy

An Applicability Analysis is the first step in the Conformity process, used to determine if a full Conformity Determination must support the action. Proposed actions may be exempt from a Conformity Determination by two means:

- 1. If EPA identifies the action in 40 C.F.R. part 93.153(c)(2) as resulting in no emissions increase or an increase that is clearly *de minimis*.
- 2. If emissions from the action, including construction and post construction activities, are calculated and determined to fall below the *de minimis* emission rates.

If the Conformity Analysis indicates that the action falls into one of the listed actions, or the emissions are below *de minimis* thresholds, no further action is necessary. For actions that exceed *de minimis* thresholds and are not exempt, a Conformity Determination is required.

A Conformity Determination requires detailed direct and indirect emissions estimates, dispersion modeling analysis, and mitigation of air quality impacts, and an opportunity for public comment prior to approval.

3.1.1.3 Permitting

Title V (Operating Permit)

Generally, major sources of pollution are required to obtain federal operating permits issued under Title V of the CAA by either the EPA or the state regulatory agency. The primary purpose of a Title V permit is to improve compliance at a source by consolidating all requirements into a single document. Title V permits are reviewed and reissued on a 5 year cycle. While some changes to equipment may occur as "off-permit" changes and may be incorporated into the next permit renewal, most New Source Review (NSR) permit actions require modification of the Title V permit within 12 months.

In the DC ozone nonattainment area, any source with a NO_X PTE greater than 100 tpy is a major source and must apply for a Title V Permit within 12 months of being designated such. The thinning and harvest of trees in TAs 5B, 7A, 7B and 7C (Units 1-9 and 12) occur in Stafford County which is entirely within an ozone attainment area. The thinning and harvest of trees in TA16D (Units 10-11) would occur entirely within Prince William County, which is an ozone nonattainment area.

The base's NO_X PTE is well above 100 tpy. The base currently operates under a Title V permit issued by the VDEQ on 2 September 2003. Renewal applications are pending.

3.1.1.4 Greenhouse Gases

Greenhouse Gas (GHG) reporting and permitting are the newest broad scale programs under the CAA. In 2009, the EPA determined that GHGs have a detrimental effect on human health and the environment and began developing regulatory programs to limit the emission of GHGs.

Greenhouse gases (GHG) are gas emissions that trap heat in the atmosphere (called the "greenhouse effect"). It is a natural phenomenon that can create a wide range of environmental concerns referred to as climate change. Climate change is associated with rising global temperatures, sea level rise, changing weather patterns, changes to local and regional ecosystems, including the potential loss of species, longer growing seasons, and shifts in plant and animal ranges. Most GHGs occur naturally within the atmosphere but scientific evidence indicates a trend of increasing global temperature over the past century due to a combination of natural occurrences and an increase in GHG emissions from human activities (Intergovernmental Panel on Climate Change, 2007). GHGs include carbon dioxide (CO_2), methane (CH_4), nitrogen oxides (NO_x), hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and other fluorinated gases including nitrogen trifluoride and hydrofluorinated ethers.

According to the Quadrennial Defense Review Report of February 2010, the DoD has recognized that climate change will affect the DoD operating environment, roles, and missions undertaken; furthermore, adjustments due to climate change impacts on facilities and military capabilities will be necessary. The DoD has made a commitment to foster efforts to assess, adapt to, and mitigate the impacts of climate change. Specifically, the DoD has leveraged the Strategic Environmental Research and Development Program, a joint effort among the DoD, the Department of Energy, and the EPA, to develop climate change assessment tools.

GHG Reporting

In October 2009, the EPA promulgated the GHG Reporting Rule in 40 C.F.R. part 98. The rule establishes mandatory reporting requirements for facilities that fit into any of three applicability classifications.

A facility may be required to report GHG emissions if it falls into an "all-in" source category defined in 40 C.F.R. part 98.2(a)(1). One of these categories is Municipal Solid Waste

(MSW) Landfills that emit more than 25,000 metric tons of carbon dioxide equivalent (CO₂e) in a year and accepted waste after 1 January 1980. The base has three MSW landfills, two of which accepted waste after 1 January 1980.

A facility may also be required to report if it falls into a second set of defined source categories and emits more than 25,000 metric tons of CO_2e in a year. The second set of categories includes production facilities outlined in 40 C.F.R. part 98.2(a)(2). The base does not operate any of these facilities.

Finally, a facility may be required to report if it does not meet either of the first two requirements, but it does operate stationary fuel combustion equipment with an aggregate rated heat input capacity of at least 30 MMBtu/hr and the facility emits more than 25,000 metric tons of CO_2e in a year from these sources. The aggregate rated heat input capacity of MCBQ is well in excess of 30 MMBtu/hr.

The base's MSW landfills and stationary fuel combustion equipment emissions are evaluated annually to determine applicability of Part 98. The most recent calculations demonstrate that, based on 2013 data, Part 98 reporting requirements do not apply to the base. As of 2013, base-wide $\rm CO_{2}e$ emissions from stationary fuel combustion equipment totaled 18,658 tons.

GHG Permitting

The Title V permitting programs apply to GHGs if a facility is subject to those programs for other pollutants. While traditional permitting thresholds for Title V technically apply to GHGs, actual application of those thresholds has been found impractical to use as thresholds for GHGs. In response, EPA has used its discretion to increase the thresholds under those programs for GHGs so that excessive GHG regulation and controls is avoided. The current threshold for significant emissions increases of GHGs is 75,000 TPY of CO2e or more, and the Title V threshold for GHGs is 100,000 TPY of CO2e or more. If GHG emissions are included in any permit issued to MCBQ, then Best Available Control Technology (BACT) and other requirements will apply and be reflected in the MCBQ Title V permit.

On 23 June 2014, the U.S. Supreme Court issued a decision that said EPA could not require a source to obtain a PSD or Title V permit on the basis of GHG emissions alone. However, sources

that must obtain PSD or Title V permits based on regulated NSR pollutants may still be required to control GHG emissions by application of BACT.

Pending further court action, a new stationary source at MCBQ may be subject to BACT for GHGs if it causes a significant emissions increase of a regulated NSR pollutant and also an emissions increase of 75,000 CO₂e or more.

Ozone Depleting Substances

Title VI of the CAA regulates the manufacture and use of ozone depleting substances (ODS) typically found in certain refrigerants, fire extinguishers, and consumer products. Work on equipment containing ODS must be performed only by technicians who are certified through an EPA accredited course. 40 C.F.R. part 82 requires strict production, consumption, recycling, and emission reduction programs.

The base operates a number of heating, ventilation, and air conditioning (HVAC) units that use ODS.

Virginia SIP Regulations

Virginia's SIP includes a number of broadly applicable regulations as well as process-specific regulations for existing sources intended to ensure continued progress towards attainment of all NAAQS.

Cutback asphalt is prohibited except when stockpile storage greater than one month is necessary, when used or applied during the months of November through March, or when used or applied as a penetrating prime or tack coat, as per 9 VAC 5-45, Article 7 of VDEQ's air pollution regulations.

Traffic marking is limited to 150 grams/Liter of VOC per 9 VAC 5-45, Article 5: Emission Standards for Architectural and Industrial Maintenance Coatings.

3.2 Water Resources

This discussion of water resources includes groundwater, surface water, wetlands, floodplains, and shorelines. This section also discusses the physical characteristics of groundwater, surface water, wetlands, floodplains, and shorelines. Wildlife and vegetation are addressed in Section 3.5, Biological Resources.

Groundwater is water that flows or seeps downward and saturates soil or rock, supplying springs and wells. Groundwater is used for water consumption, agricultural irrigation, and industrial applications. Groundwater properties are often described in terms of depth to aquifer, aquifer or well capacity, water quality, and surrounding geologic composition. Sole source aquifer designation provides limited protection of groundwater resources which serve as drinking water supplies.

Surface water resources generally consist of wetlands, lakes, rivers, and streams. Surface water is important for its contributions to the economic, ecological, recreational, and human health of a community or locale. A Total Maximum Daily Load (TMDL) is the maximum amount of a substance that can be assimilated by a water body without causing impairment. A water body can be deemed impaired if water quality analyses conclude that exceedances of water quality standards occur.

Wetlands are jointly defined by USEPA and USACE as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Wetlands generally include "swamps, marshes, bogs and similar areas."

Floodplains are areas of low-level ground present along rivers, stream channels, large wetlands, or coastal waters. Floodplain ecosystem functions include natural moderation of floods, flood storage and conveyance, groundwater recharge, and nutrient cycling. Floodplains also help to maintain water quality and are often home to a diverse array of plants and animals. In their natural vegetated state, floodplains slow the rate at which the incoming overland flow reaches the main water body. Floodplain boundaries are most often defined in terms of frequency of inundation, that is, the 100-year and 500-year flood. Floodplain delineation maps are produced by the Federal Emergency Management Agency and provide a basis for comparing the locale of the Proposed Action to the floodplains.

Shorelines can be located along marine (oceans), brackish (estuaries), or fresh (lakes) bodies of water. Physical dynamics of shorelines include tidal influences, channel movement and hydrological systems, flooding or storm surge areas, erosion and sedimentation, water quality and temperature, presence of nutrients and pathogens, and sites with potential

for protection or restoration. Shoreline ecosystems are vital habitat for multiple life states of many fish, birds, reptiles, amphibians, and invertebrates. Different shore zones provide different kinds and levels of habitat, and when aggregated, can significantly influence life. Organic matter that is washed onto the shore, or "wrack," is an important component of shoreline ecosystems, providing habitat for invertebrates, soil and organic matter, and nutrients to both the upland terrestrial communities and aquatic ecosystems.

3.2.1 Regulatory Setting

Activities in surface waters (including streams) and wetlands are regulated under numerous federal laws, regulations, and policies. The proposed action would be bound by the following:

- The Clean Water Act (CWA), 33 U.S.C. §1344 (Section 404) requires a permit from the US Army Corps of Engineers for the discharge of dredged or fill material in to "waters of the US", a term that includes most streams, wetlands, and ponds.
- Executive Order (E.O.) 11990, Protection of Wetlands, requires federal agencies to take action to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands.
- Department of the Navy "no net loss" policy, for implementing E.O. 11990.

The Commonwealth of Virginia also regulates streams and wetlands that are considered "waters of the state" through a number of laws and provisions. Any action that requires a federal Section 404 permit may also require a water quality certification per CWA 33 U.S.C. §1341 (Section 401) from the Virginia Department of Environmental Quality (VDEQ) and, under certain circumstances, the Virginia Marine Resources Commission.

In 1988, Virginia enacted the Chesapeake Bay Preservation Act (CBPA), Code of Virginia, Title 10.1-Conservation, Chapter 21. This Act established a cooperative program between state and local governments to improve water quality in the Bay by requiring resource management practices in the use and development of environmentally sensitive land features. As defined by the CBPA, Resource Protection Areas (RPA) are buffer zones that include all areas within 100 feet of a tidal wetland, contiguous non-tidal wetlands, or perennial streams. Other areas are designated as Resource Management Areas (RMA). The

RMA includes the 100-year floodplain, highly erodible soils, highly permeable soils, and non-tidal wetlands that are not part of an RPA. The DoD is a signatory to an agreement supporting the CBPA and its associated regulations and will comply to the maximum extent possible consistent with the military mission and budget constraints.

3.2.2 Affected Environment

3.2.2.1 Groundwater

The Potomac Aquifer extends from New Jersey in the north, to North Carolina in the south, and eastward under the Chesapeake Bay. The MCBQ lies within this aquifer. In this aquifer water can be reached at depths between 200 and 350 feet. One of the largest surface recharge areas for the Potomac Aquifer exists in Stafford County, near Interstate 95. No comprehensive studies of groundwater resources have been conducted at MCBQ to date.

3.2.2.2 Surface Water

An intermittent stream flows near the eastern boundary of Unit 1. This stream flows into a perennial stream that flows south into Beaverdam Run. The headwaters of another intermittent stream forms within Unit 2 and also flows in a southwestern direction into Beaverdam Run. An intermittent stream that discharges into Aquia Creek forms the eastern boundary of Unit 9. Units 1 and 11 also have an intermittent stream that flows adjacent to their northern boundaries. This stream flows into Chestnut Branch. Units 1 and 2 are located within the Beaverdam Run watershed. The Beaverdam Run watershed, which occupies a total of 12,084 acres, is located in the south central section of MCBQ.

Units 3-9 and Unit 12 are located within the Cannon Creek watershed. This watershed occupies a total of 9,058 acres and forms the southern boundary of the base. Units 10-11 are located within the Cedar Run watershed which occupies a total of 12,952 acres while occupying much of the northern section of MCBQ. The Beaverdam Run, Cannon Creek and Cedar Run watersheds are part of the Potomac River watershed which occupies a total of 9,388,800 acres across the states of Maryland, Pennsylvania, Virginia, and West Virginia. These watersheds are illustrated in Figures 3.2.1 - 3.2.4.

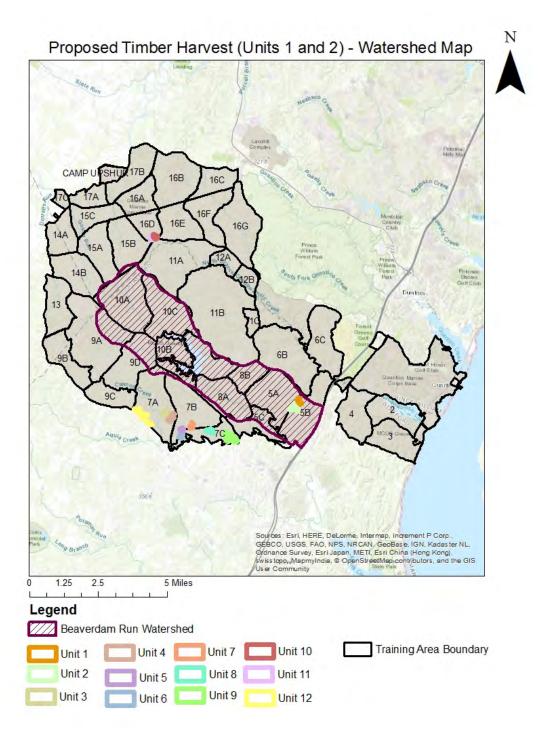


Figure 3.2.1

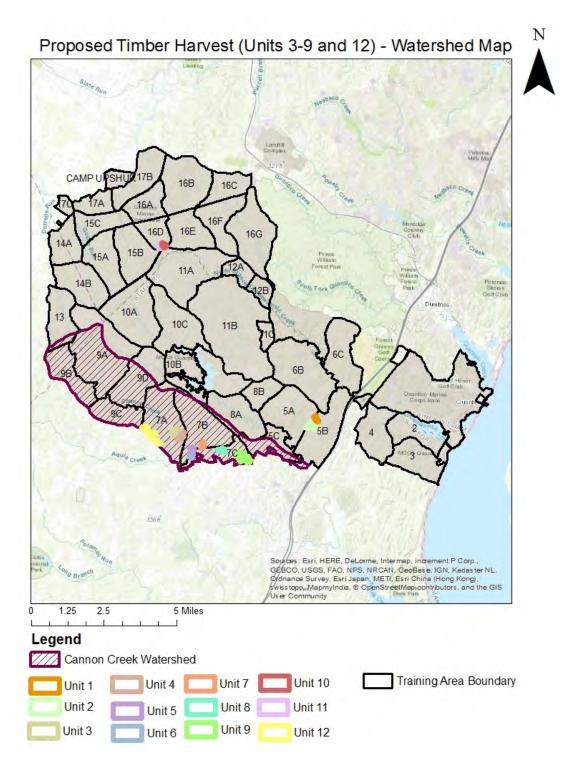


Figure 3.2.2

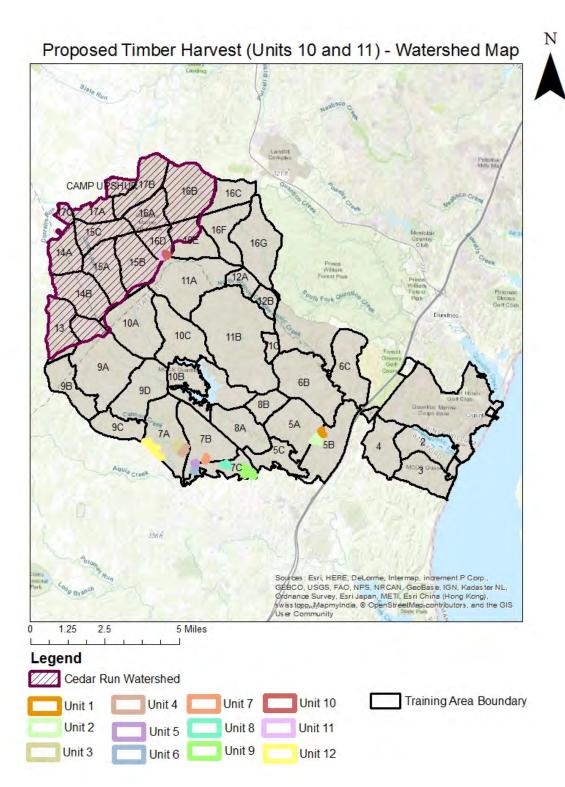


Figure 3.2.3

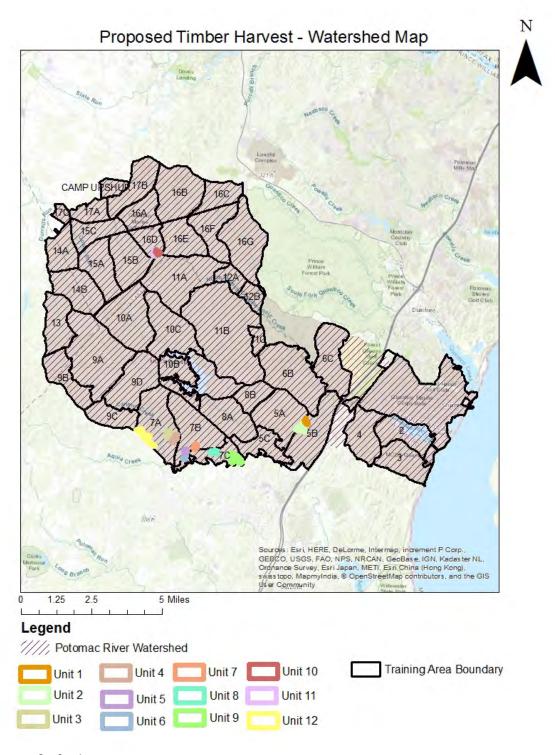


Figure 3.2.4

3.2.2.3 Wetlands

Several wetlands occur along Long Branch, Aquia Creek, Cannon

Creek, Chestnut Branch and the North Branch of Chopawamsic Creek within the training areas associated with Units 1-12. However, no wetlands are located within or adjacent to any of these units.

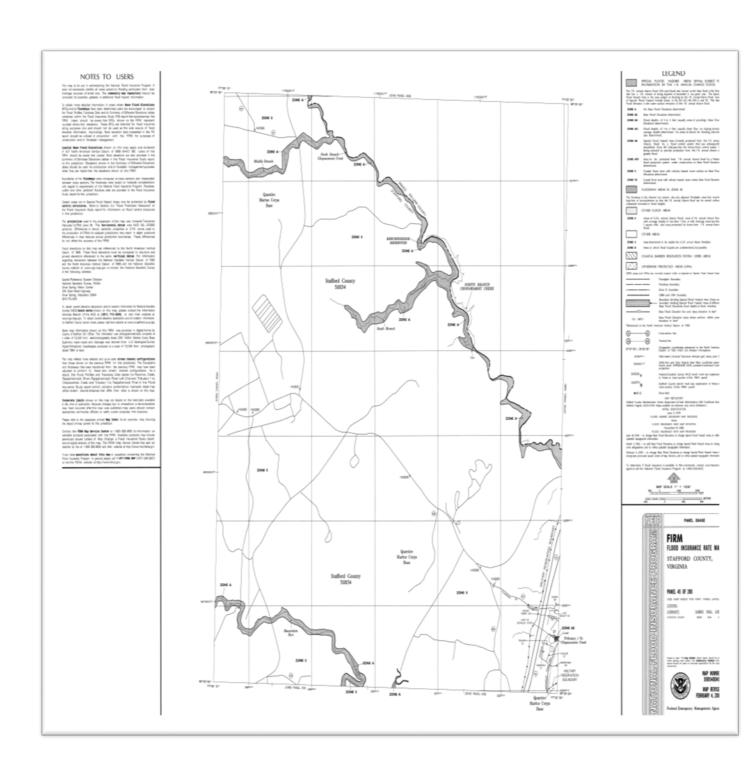
3.2.2.4 Floodplains

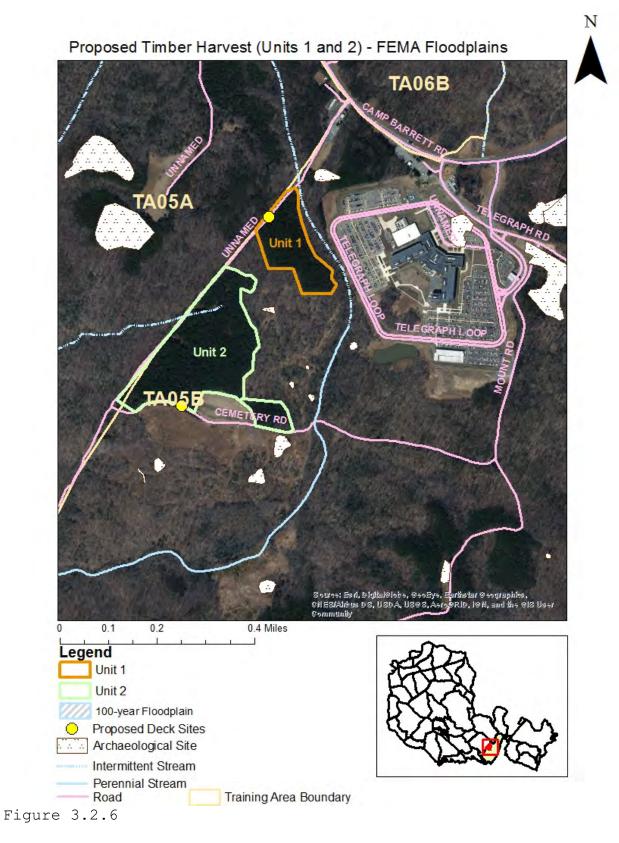
Executive Order 11988 (1977), Floodplain Management, requires federal agencies to take action to minimize occupancy and modification of floodplains. The order specifically prohibits federal agencies from funding construction in the 100-year floodplain unless no practicable alternative exists.

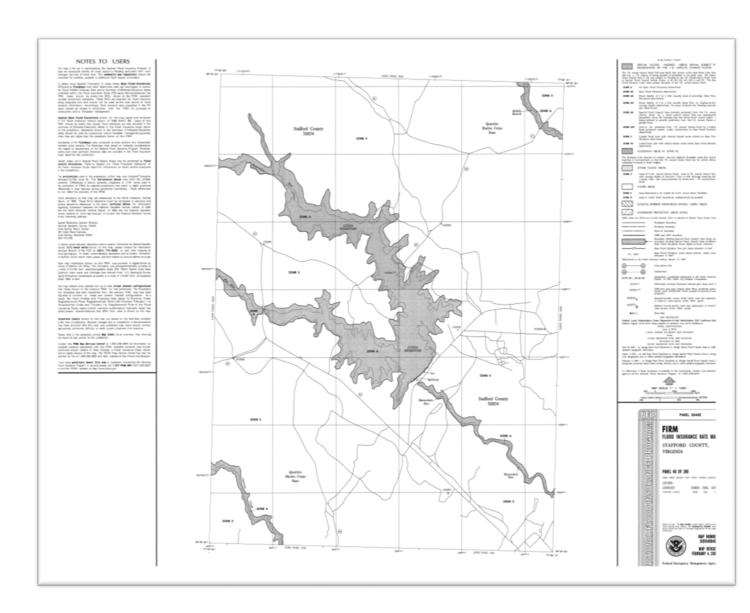
The area of Units 1-12 is depicted on the following Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps (FIRM) displayed in Figures 3.2.6 - Figures 3.2.12.:

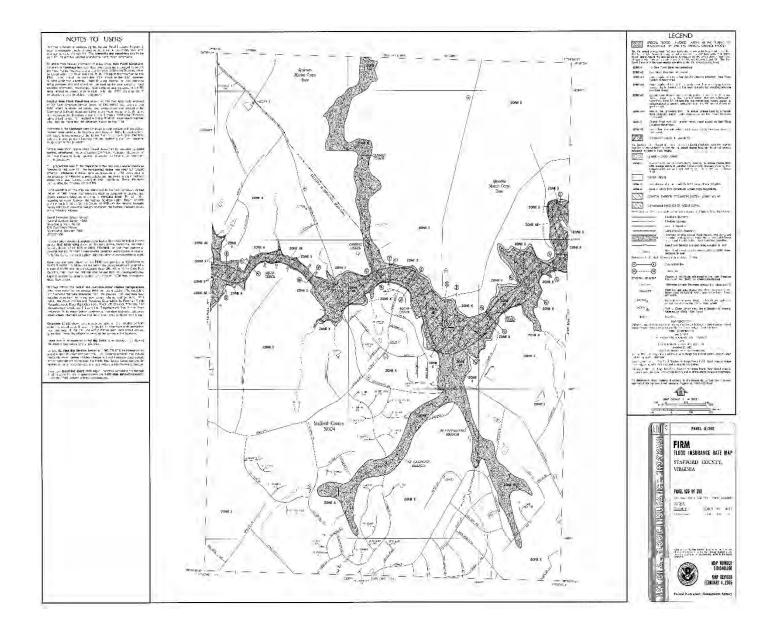
- Units 1-4, FIRM 5101540040E, Panel 40 of 280.
- Unit 4 (southern portion), Units 5 and 6, FIRM 5101540126E, Panel 126 of 280.
- Units 7-9 and 12 (southeastern portion), FIRM 5101540127E, Panel 127 of 280.
- Unit 9 (southeastern portion), FIRM 5101540131E, Panel 131 of 280.
- Units 10 and 11, FIRM 51153C0300D, Panel 300 of 300.
- Unit 12, FIRM 5101540020E, Panel 20 of 300 (northeastern portion).

The FIRMs display all of the proposed action locations outside of Flood Zone A, which is an area inside of the 100-year floodplain.









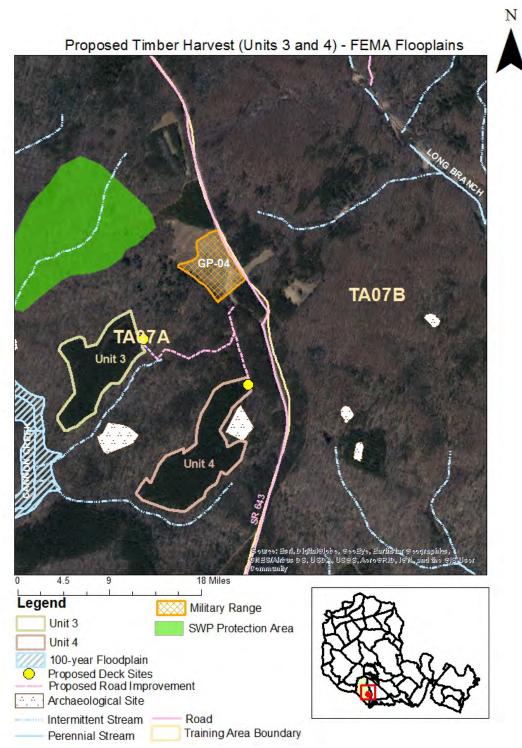
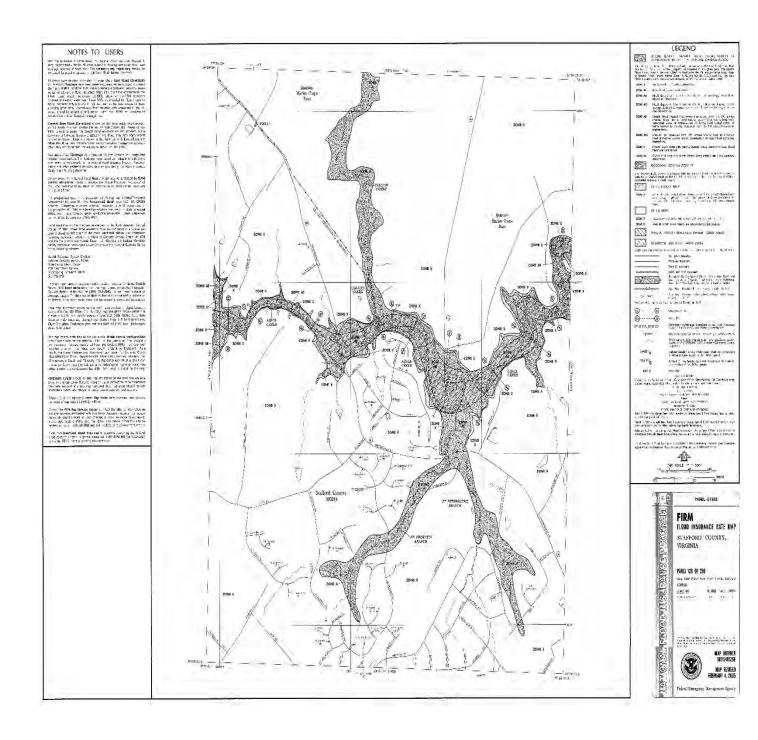
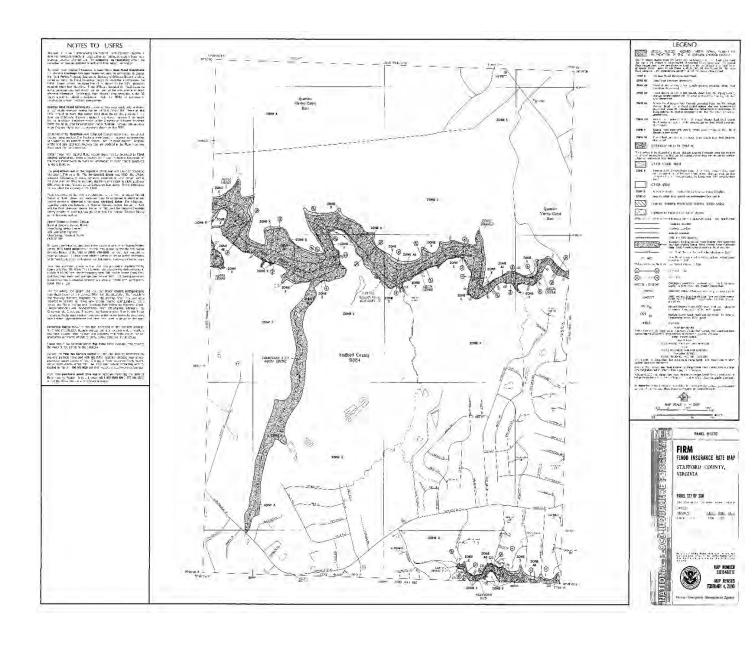


Figure 3.2.7





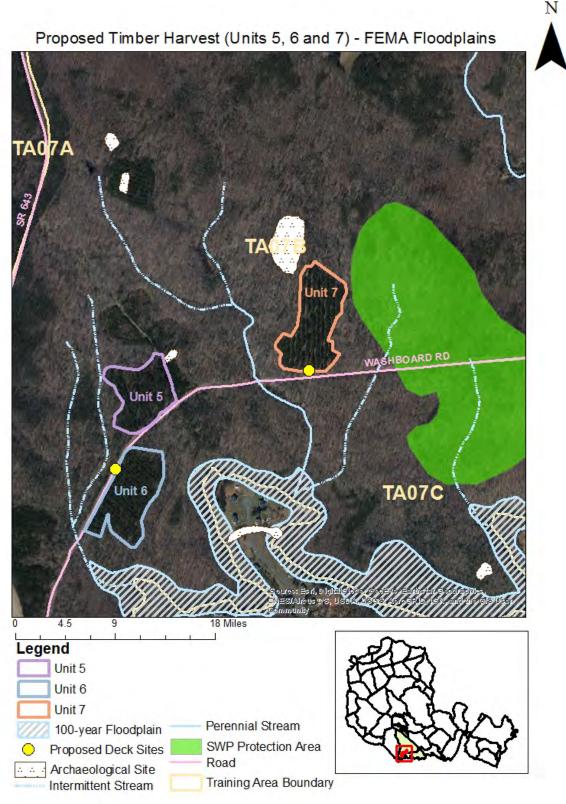
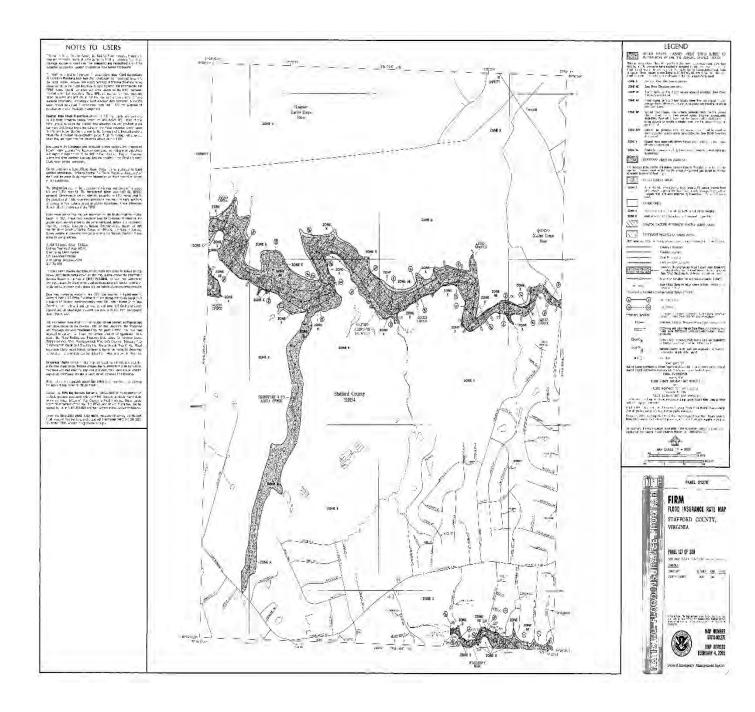
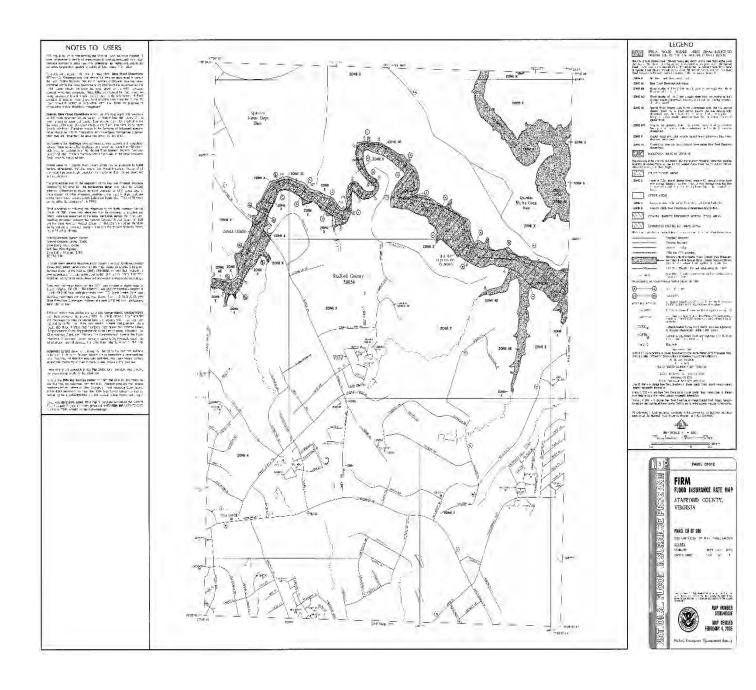


Figure 3.2.8







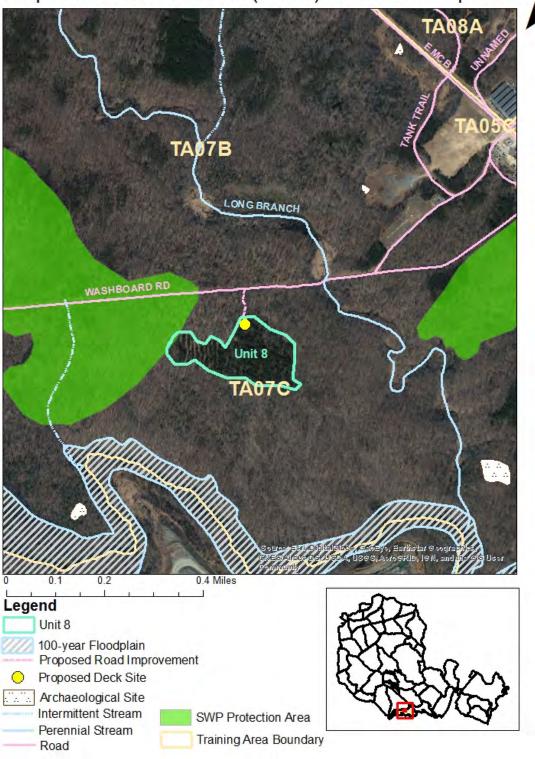
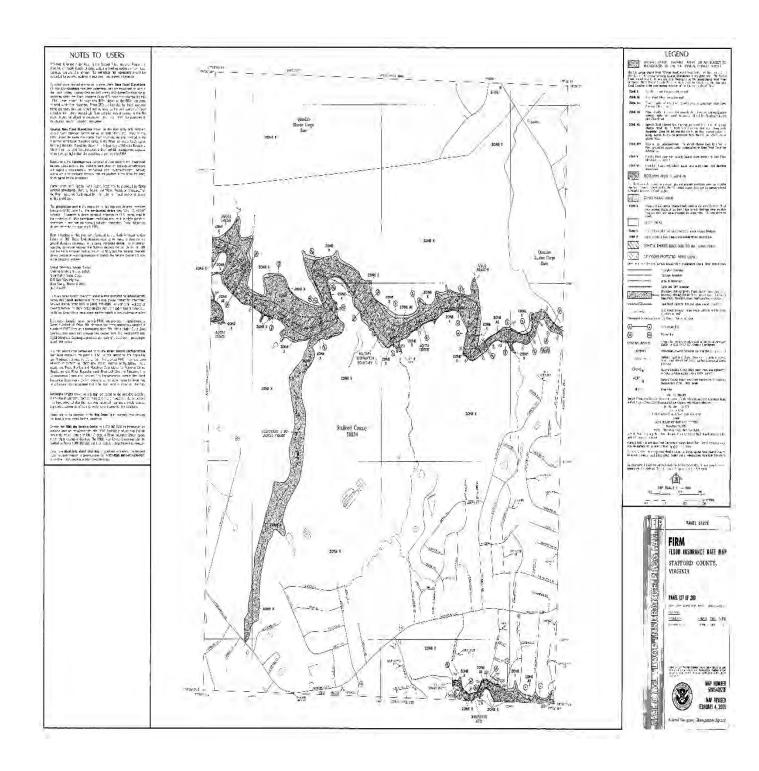
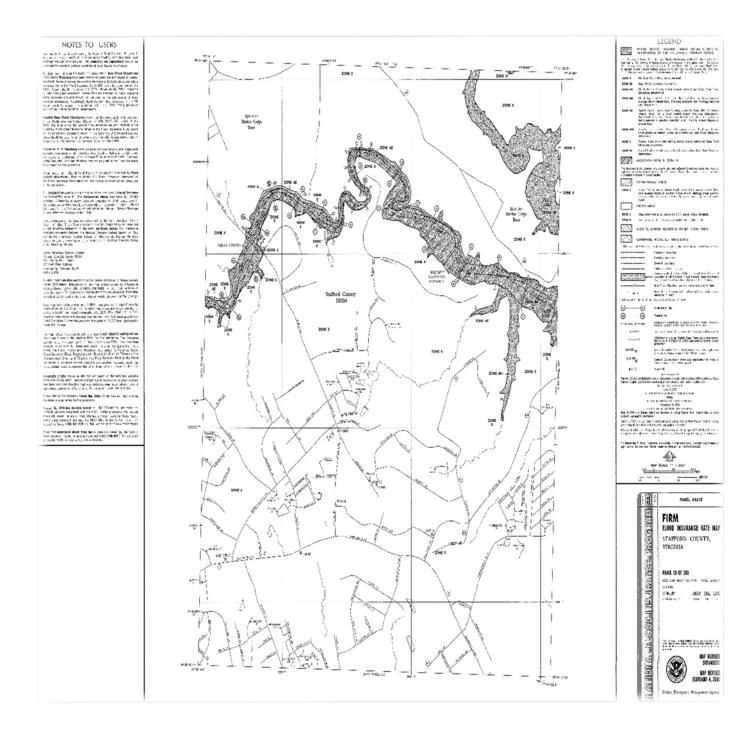


Figure 3.2.9





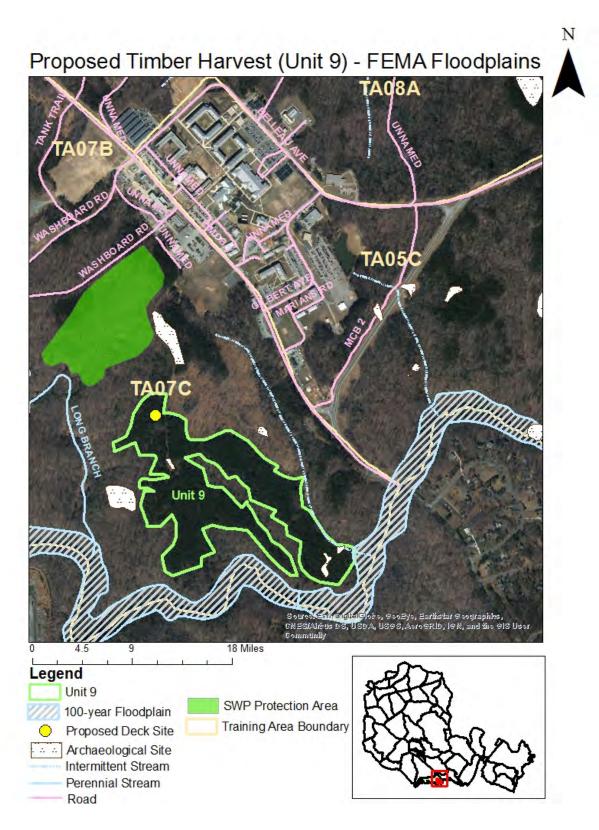
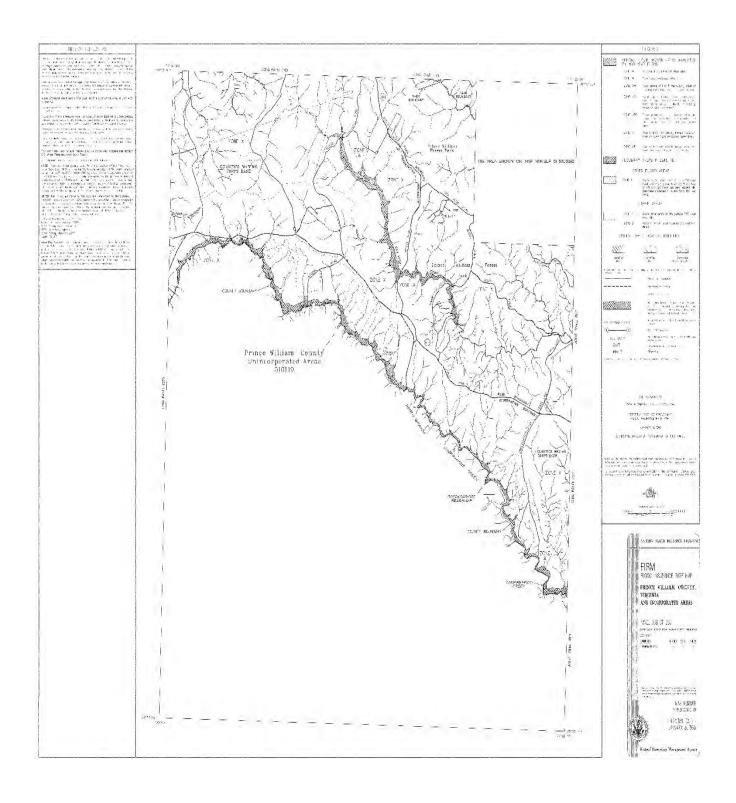


Figure 3.2.10





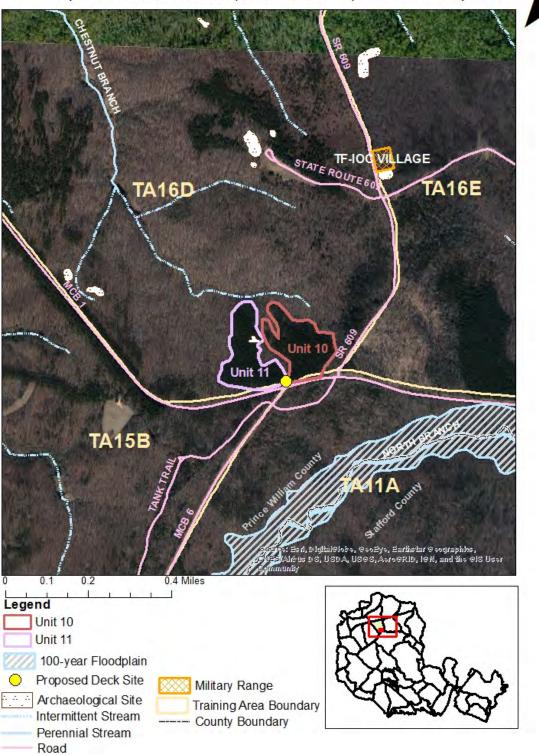
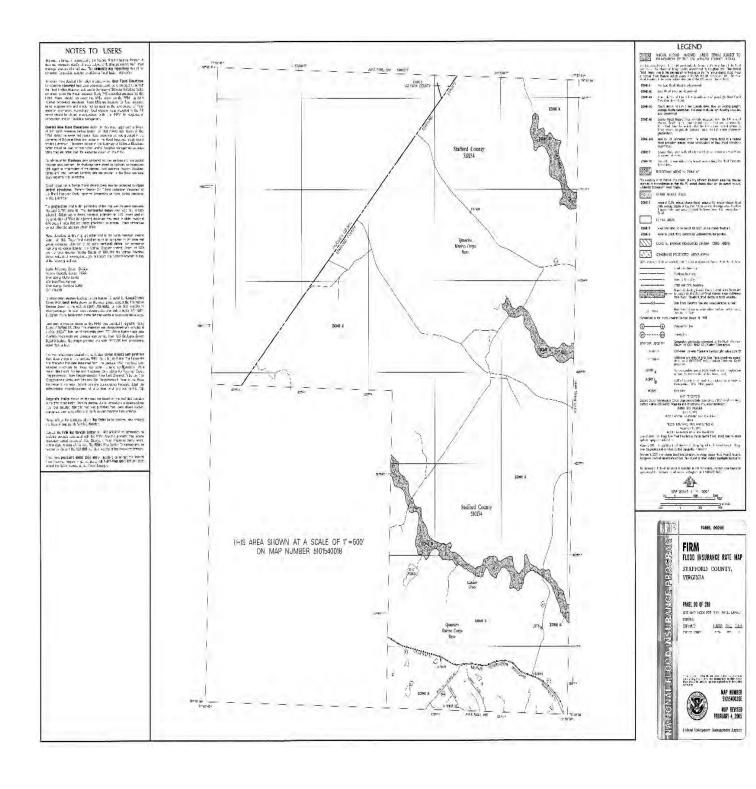
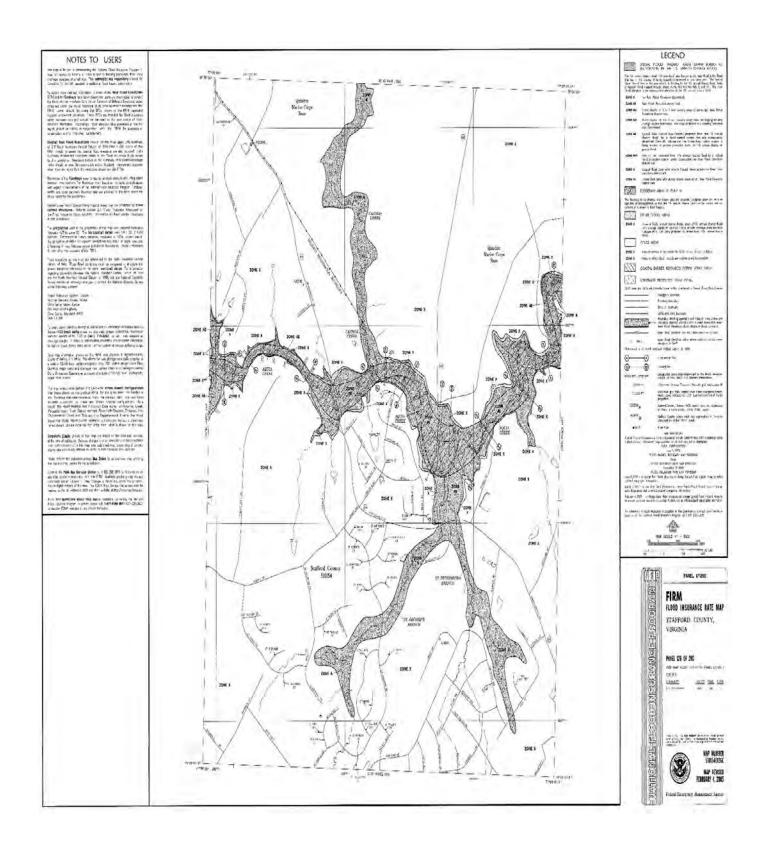


Figure 3.2.11





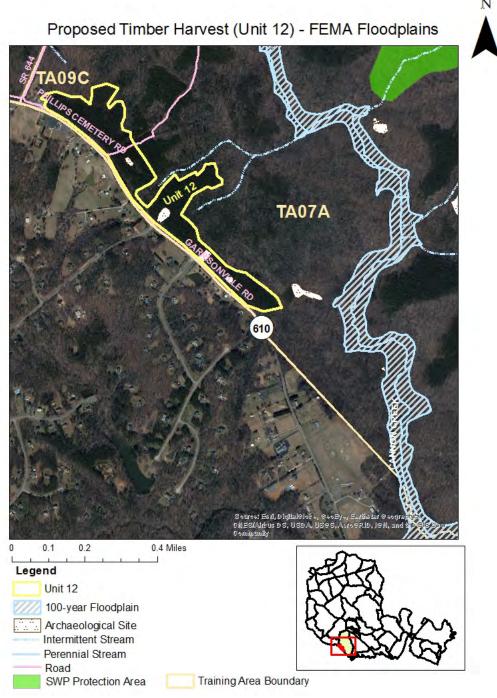


Figure 3.2.12

3.3 Geological Resources

This discussion of geological resources includes topography, geology, and soils.

3.3.1 Regulatory Setting

Consideration of geologic resources extends to prime or unique farmlands. The Farmland Protection Policy Act (FPPA) was enacted in 1981 to minimize the loss of prime or unique farmland due to federal actions. Farmland subject to FPPA requirements does not have to be currently used for cropland. It can be forest land, pastureland, cropland, or other land, but not water or urban built-up land.

3.3.2 Affected Environment

The following discussions provide a description of the existing conditions for each of the categories under geological resources at MCBQ.

3.3.2.1 Topography

3.3.2.1.1 - Topography of Units 1 and 2

The terrain of Unit 1 is characterized by a very low gradient. The highest point of the unit is at 210 ft. and occurs near the access road at the northwest boundary. The elevation gradually decreases from northwest to southeast to 190 ft. towards the southeast boundary. The topography of Unit 2 rises from 190 ft. gradually to 200 ft. within the central portion of the unit. The terrain steepens somewhat moving towards Cemetery Rd. dropping to 150 ft. Any stormwater runoff generated within Unit 1 flows from the roadways in a southeastern direction towards the intermittent stream that is outside of the boundary. Within Unit 2, runoff flows towards the roadway and the intermittent stream within the unit. The topographical profile is summarized in Figure 3.3.1

3.3.2.1.2 - Topography of Units 3 and 4

The terrain of Unit 3 increases gradually moving from northwest to southeast reaching its highest elevation at 290 ft. within the middle of the footprint. The topography decreases gradually and the gradient steepens towards the southeast boundary where the elevation declines to 250 ft. Stormwater that is generated flows in a southeasterly direction towards two streams. The topography of Unit 4 is variable with the highest elevations being in the northeast section of the footprint. The elevation gradually decreases from 300 ft. to 260 ft. moving from northeast to southwest maintaining a very low gradient. Runoff

flows downslope in a southwesterly direction towards an intermittent stream. The roads leading to Units 3 and 4 decrease from 320 ft. to 290 ft. showing a moderate gradient. The runoff flows in an east and southeast direction (see Figure 3.3.2).

3.3.2.1.3 - Topography of Units 5,6 and 7

The elevation of Unit 5 is highest at approximately 295 ft. in the eastern portion of the unit. The topography decreases gradually moving towards Washboard Rd. to the lowest point at 270 ft. Unit 6 also decreases gradually moving from Washboard Rd. south from 290 ft. to 240 ft. moving towards Aquia Creek. Unit 7, like Unit 6, has a low gradient as the topography and decreases moving north to south from 290 ft. to 240 ft. at Washboard Rd. Runoff generated from all three units flows to the south towards Aquia Creek (see Figure 3.3.3).

3.3.2.1.4 - Topography of Unit 8

The elevation along the road leading to Unit 8 increases from roughly 265 ft. to 280 ft. showing a moderately steep gradient. The gradient lowers substantially from the northern boundary to the central location of Unit 8 at 290 ft. and decreases to 280 ft. at the southern boundary. Moving east to west, the topography increases from 260 ft. to the highest point of the unit at 310 ft. in the western corner before dropping to 300 ft. at the western boundary. The topography of the road increases from Washboard Rd. to the unit. Runoff generated from either the unit or the road flows towards Washboard Rd. (see Figure 3.3.4).

3.3.2.1.5 - Topography of Unit 9

The terrain of Unit 9 decreases from the 290 ft., the highest point in the northern section of the unit to a 150 ft. at the unit's southeastern boundary. The gradient overall is fairly low steepening in the central portion of the footprint. The elevation continues to decrease towards the southeast boundary and towards Aquia Creek. Any runoff generated flows towards the southeast (see Figure 3.3.5).

3.3.2.1.6 - Topography of Units 10 and 11

The terrain of both Units 10 and 11 are characterized by a moderate gradient. The topography of Unit 10 increases from 370 ft. in the northern section to 410 ft. in the southern section

of the unit before showing a gradual, small decrease approaching MCB-1. The topography of Unit 11 rises from north to south and east to west from 370 ft. to 410 feet. Runoff flows north to south in Unit 10 towards MCB-1 and flows south to north within unit 11. (see Figure 3.3.6).

3.3.2.1.6. - Topography of Unit 12

The topography of Unit 12 overall has a steep gradient and rolling terrain. The highest point of the footprint being approximately 330 ft. in the northwest corner. The elevation decreases to 250 ft. in the southeastern section. Runoff that is generated at the site flows from Garrisonville Rd. towards the northeast (see Figure 3.3.7).

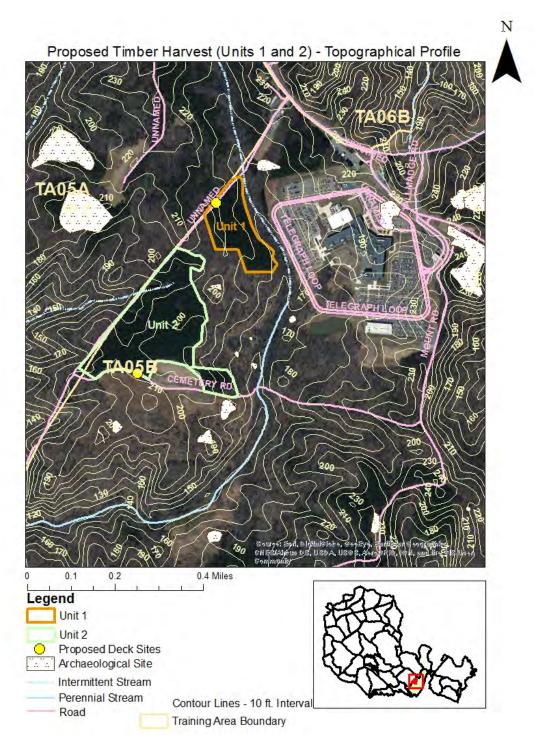


Figure 3.3.1

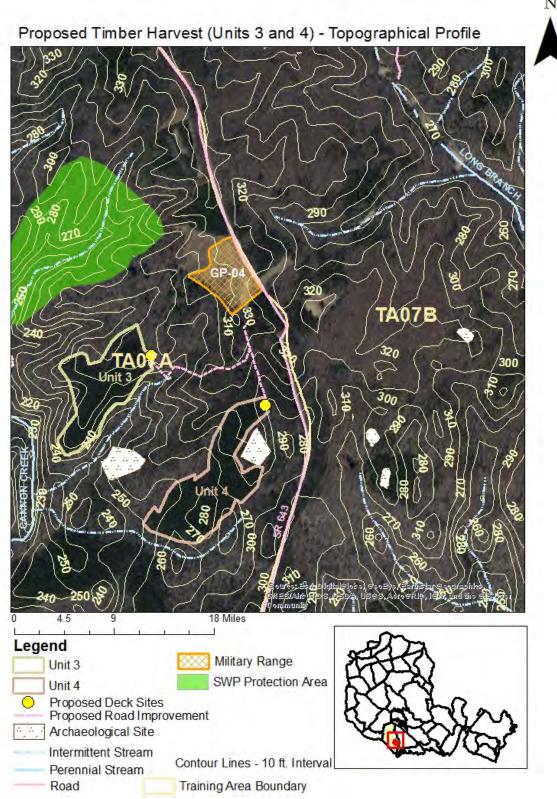


Figure 3.3.2



Proposed Timber Harvest (Units 5, 6 and 7) - Topographical Profile

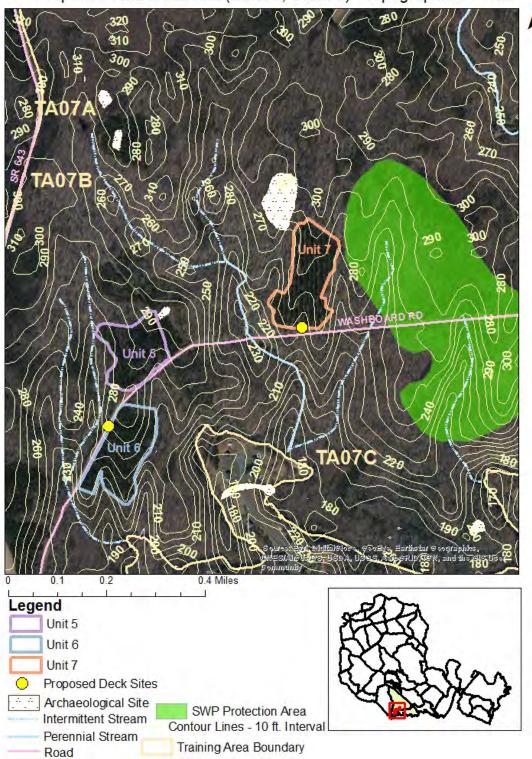


Figure 3.3.3



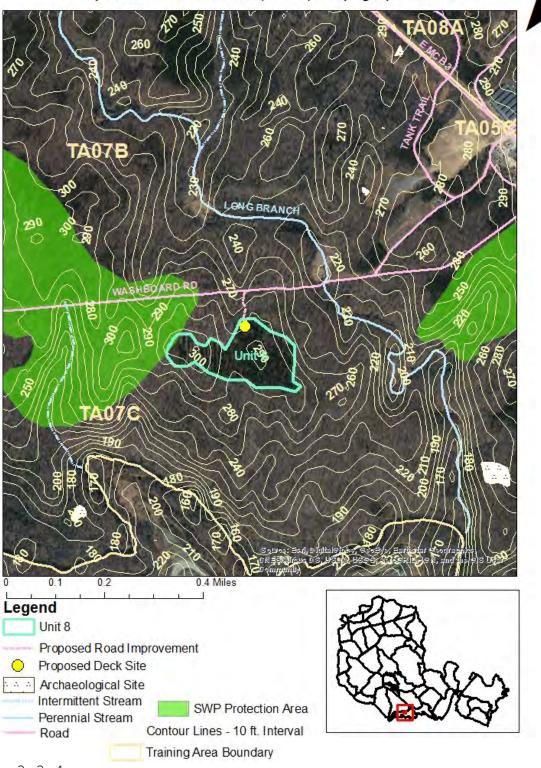
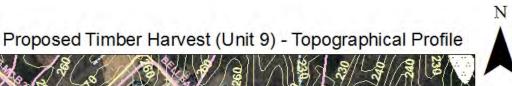
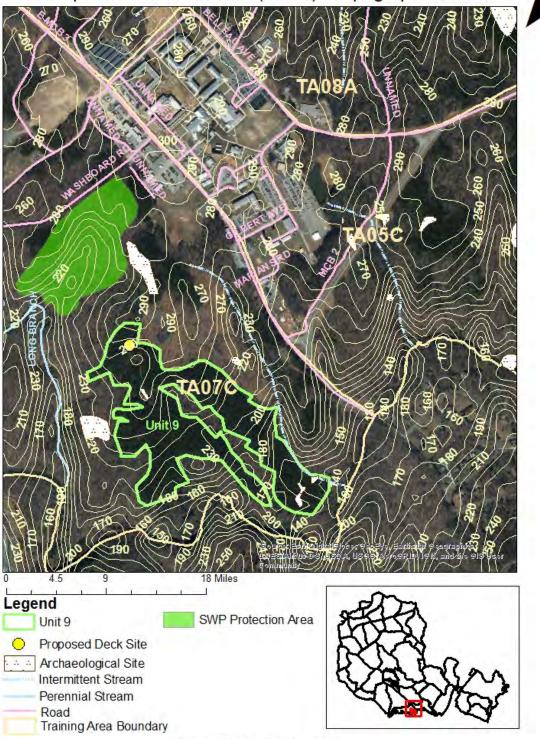


Figure 3.3.4





Contour Lines - 10 ft. Interval

Figure 3.3.5



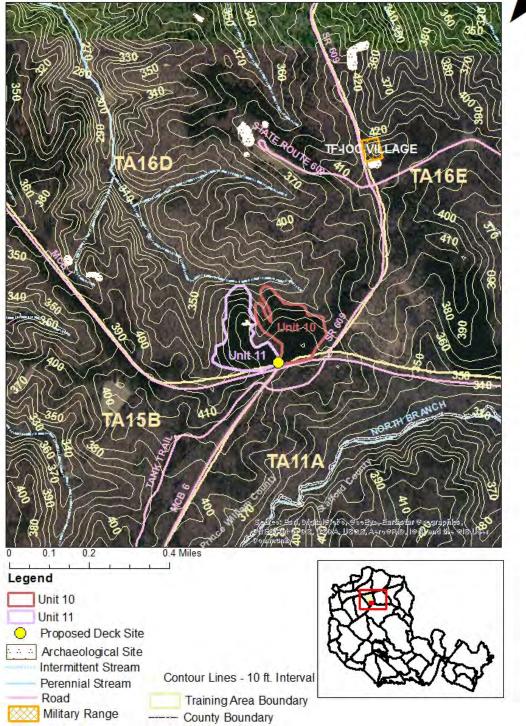


Figure 3.3.6

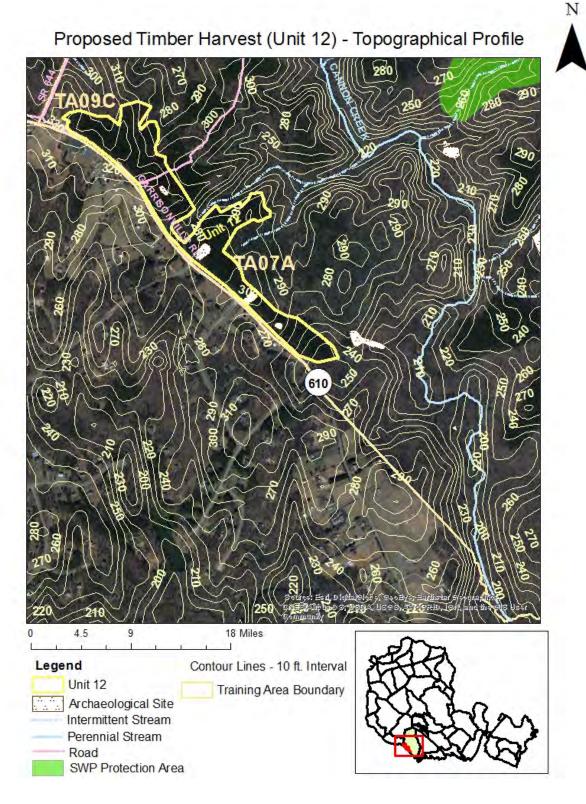


Figure 3.3.7

3.3.2.2 Geology

The proposed action would occur within the Westside portion of the base, which lies in the Coastal Plain geologic region. The region consists of Mesozoic and Cenozoic marine sediments, some consolidated into sandstone and marl. The project area is specifically within the Patapsco formation, which dates to the Cretaceous Period at the end of the Mesozoic Era. It is comprised of sand and clay from shallow aquatic deposits, which cover Pre-Cambrian crystalline rock with a thickness of approximately 150 feet. These deposits are generally unconsolidated.

3.3.2.3 Soils

The soils found in the Coastal Plain are the result of the soil formation on the underlying sediments.

The dominant soil type within Unit 1 is the Susquehanna Soils (SuC) 2-10% slopes. This soil type comprises 62% of Unit 1 and is most often associated with marine terraces, prime farmland as well as moderate slopes. The soil is most common within the central portion of the footprint. Its profile consists of loam as well as clay characteristics. SuC is a somewhat poorly drained soil with a high probability of creating runoff. second most common soil within Unit 1 is the Tetotum Fine Sandy Loam (TeB) 2-6% slopes. This soil is found along the far western and eastern portions of unit while comprising 38% of the footprint. TeB is associated with marine terraces and prime farmland. Its composition consists of a fine sandy loam and a clay loam. TeB moderately well-drained with a low probability to create runoff. There is a trace amount of the Bibb Fine Sandy Loam (Bb) 0-4% slopes. This soil type composes 0.2% of Unit 1 and is associated with marine terraces as well as prime farmland. Bb is found on the very far northeastern edge of the footprint where along the boundary with the intermittent stream. It consists of fine sandy loam and loamy fine sand. The soil is associated with floodplains, is poorly drained and has a high probability to create runoff.

The most dominant soil type within Unit 2 is the SuC. It comprises roughly 57% of the unit and is found in the central as well as northeastern portion of the footprint. The second most common soil is the TeB which comprises 24% of the unit. TeB is dominates the northeastern portion of the footprint. Iuka Fine Sandy Loam (Iu) Local Alluvium 0-4% slopes is found in the southeastern and southwestern portions of the unit while comprising 8.2% of the total acreage. Iu is primarily

associated with floodplains, prime farmland (if drained), and it is characterized by a fine sandy loam as well as loam. It is moderately well-drained and has a low probability to create runoff. The Sassafras Fine Sandy Loam (Sfb), 2-6% slopes eroded, comprises 5.6% of the unit and is found within the far southern edges of the footprint. Sfb is associated with prime farmland and marine terraces. Its profile consists of fine sandy loam, sandy loam and loamy fine sand. The soil is well-drained and has a low probability to create runoff.

The Sassafras Fine Sandy Loam (SfC2), 6-10% slopes eroded comprises 4.8% of the unit and is also found in the southeastern and far southern portions of the footprint. The soil is moderately sloped as well as associated with marine terraces and prime farmland. SfC2 consists of fine sandy loam, sandy loam and loamy fine sand. These soils are very well-drained and moderately create runoff. A trace amount of the Aura Gravelly Fine Sandy Loam (AvD2), 10-18% eroded on the far southwestern edge of Unit 2. The soil is associated with marine terraces and is steeply sloped. The soil is composed of a gravelly fine sandy loam, gravelly sandy clay loam and gravelly sandy loam. It is well-drained and the probability of the soil to create runoff is low.

Unit 3 is dominated by the Appling Fine Sandy Loam (AlB), 2-6% slopes, eroded. AlB, comprises roughly 50% of the soil within Unit 3 and is dominant within the central portion of the unit. The soil is associated with hillsides and prime farmland. consists of a fine sandy loam, clay and a clay loam. well-drained and has a low probability to create runoff. Ashlar Fine Sandy Loam (AsD), 6-15% slopes, eroded is the second most common soil within the unit. AsD comprises 35% of the soil within the unit. This soil type is found mostly within the southern, western and southeastern portions of the footprint. Like the Alb, it is commonly associated with hillsides but unlike Alb it is not associated with prime farmland. Appling Clay Loam (ApC3) 6-15% slopes, severely eroded comprises roughly 13% of the soils within the footprint. ApC3 is found in the northeast portion of the unit and is associated with hillsides while being steeply-sloped. The soil is composed of clay loam, clay and fine sandy loam. It is well-drained with a moderate probability of creating runoff.

Three soil types occur in trace amounts within the unit. The State Fine Sandy Loam (Sn), Local Alluvium is located on the far northeastern boundary of the unit and is associated with stream terraces as well as prime farmland. Sn comprises about 2% of

the unit consists of a fine sandy loam and a clay loam. The soil is well-drained with a low probability to create runoff. Alluvial Land wet (Ae) is located on the far southeastern edge of the unit and comprises 0.5% of the unit. The soil is commonly associated with floodplains and is poorly drained with a high probability of creating runoff. Lastly, the Appling Fine Sandy Loam (AlC2), 6-15% slopes, eroded and composes 0.3% of the soils within the unit. AlC2 is steeply-sloped while being comprised of fine sandy loam, clay and a clay loam. This soil type is associated with hillsides and prime farmland while also being well-drained as well as having a moderate ability to create runoff.

The dominant soil within Unit 4 is Cecil Clay Loam (ChC3), 6-15% slopes, severely eroded. This soil comprises 59% of the footprint and is dominant within the central, southern and far northeastern portion of the footprint. ChC3 is associated with hillsides, is steeply-sloped, while also consisting of clay loam, clay and loam. The soil is well-drained with a moderate probability to create runoff. The Cecil Fine Sandy Loam (CfB2) 2-6% slopes eroded represents 24% of the soil found in the footprint and is located within the southeastern as well as northeastern portions of the unit. The soil is commonly associated with hillsides and prime farmland. The composition of CfB2 consists of a fine loam, clay, clay loam and loam. is well-drained and also has a low probability of creating runoff. Wehadkee Very Fine Sandy Loam, 0-2% slopes (Wh) comprises the far southeastern portion of the unit and 1% of the unit's soil composition. The soil consists of a very fine sandy loam, loam and gravelly fine sandy loam. The soil is poorlydrained and likewise has a high probability to create runoff. The remainder of Unit 4 is comprised of Sn (16% of unit) and Ae (1% of unit) respectively. CfB2, ChC3 and Sn are the dominant soils within the road improvement footprint that will connect SR 643 to Units 3 and 4.

Unit 5 is dominated by the CfB2 which comprises 42% of the unit. This soil type is found in the central and eastern portions of the Unit. AsD, the second most common soil, is found in the central and western portions of the footprint. AsD comprises 29% of the footprint. Sn, which is located on the western portion of the unit, composes 21% of the footprint. ChC3, the least common soil, comprises 8% of the unit and is located on the southeastern as well as the northwestern portion of the footprint.

The most common soil in Unit 6 is the Cecil Fine Sandy Loam

(CfC2), 6-15% slopes, eroded. CfC2, comprises 49% of the unit and is found in the eastern and western portion of the footprint. CfC2 is associated with hillsides and prime farmland. The soil consists of a fine sandy loam, clay, clay loam and a loam. The soil drains well and is moderately susceptible to runoff. CfB2 comprises 20% of Unit 6, is the second most common soil, and is located in the northeast section. AsD, the third most common soil type comprising 19% of the unit, is found in the southern and northwestern portions of the footprint. ChC3, represents 11% of the soil composition and is located in the northeastern corner of the unit. There is a trace amount of Ae located within the far southwest edge of the unit.

Unit 7 consists primarily of CfB2. This soil type represents 64% of the soil composition within the unit and is located within the central portion of the footprint. CfC2, representing 22% of the soils, is located in the eastern and western portions of the unit. Sn, the third most common soil, is found primarily within the unit's northeast corner and comprises 7% of the footprint. Ashlar Fine Sandy Loam (AsE), 15-25% slopes, comprises 5% of the soils in the unit. The soil is associated with hillsides and is steeply-sloped. The composition of AsE is fine sandy loam, gravelly fine sandy loam and bedrock. The soil has a high probability to create runoff however it drains very well. The least common soil is the AsD which is found in a low amount (2%) in the far southeast corner of the unit.

The primary soil type found within Unit 8 is AlB. AlB comprises 34% of the soils in the unit and is located within the eastern portion of the footprint. CfB2, is the second most common soil within the unit comprising 24% of the footprint. It is found in the eastern portion of the unit. Sn is the third most dominant soil within the unit and comprises 22% of the footprint while being located within its southern portion. CfC2 comprises 12% of the unit and is located in its northwest portion. AsD, consisting of 9% of the soils in the unit, is found in the northeastern portion. AlC2 occurs in trace amounts (1.3%) on the far eastern boundary. The road improvement footprint is dominated by CfC2 with a Sn occurring near Washboard Rd.

Unit 9 has a very diverse soil composition. Cecil Gravelly Fine Sandy Loam (CgB2), 2-6% slopes, eroded, is the soil most commonly found within the unit. The soil accounts for 36% of the soil within the footprint and it is found primarily within the western half of the unit although there is a decent concentration in the eastern portion. CgB2 is commonly

associated with hillsides and prime farmland. The soil's composition consists of a gravelly fine sandy loam, clay and a clay loam. CqB2 drains well and has a moderate capacity to create runoff. AlC2 comprises 22% of the unit representing the second-most common soil in the footprint. AlC2 is concentrated within the western and southeast portions of the unit. ApC3, the third most common soil type, is found primarily within the central portion of the unit and represents 12% of the soil composition. Doque Loam (DoA), 0-2% slopes, consists of 5.2% of the unit. The soil is located within the far southeastern corner of the footprint. DoA is associated with prime farmland and marine terraces. The soil's composition consists of a loam, clay and loamy fine sand. DoA drains moderately well with a low probability to create runoff. AsD represents 4% of the soils found in the unit and is concentrated within the northeastern section of the footprint.

The Wickham series consisting of the Wickham Sandy Loam (WnB), thin solum, variant, 2-6% slopes and the Wickham Sandy Loam (WmC2) 6-12% slopes eroded comprises 2.8% and 2.6% of the soils within the footprint respectively. WnB is found on the southwestern edge of the unit and is associated with prime farmland as well as stream terraces. It consists of sandy loam, sandy clay loam and gravelly sand. The soil drains well and has a low probability of runoff. WmC2, is found within the southeastern edge of the footprint. The soil is associated with steep slopes, stream terraces and prime farmland. WmC2 consists of fine sandy loam, clay loam and gravelly sand. This soil type drains well and has a moderate capacity to produce runoff. Both Wickham series soil types become prominent on the portions of Unit 9 that approach Aquia Creek. Sn is located within the northeastern portion of the unit and comprises 2% of the footprint. AsE is concentrated within the southeast portion of Unit 9 and represents 0.7% of the soil in the unit. A trace amount of Congaree Loam (Cn) is concentrated on the far southern edge of the unit. It is associated with floodplains and consists of a loam as silty clay loam. The soil is drains well and has a low capacity to create runoff.

Unit 10 is dominated by the Fairfax Loam (FaB), 2-6% slopes. FaB represents 63% of the soil in the unit, is concentrated within the central portion of the unit, and is associated with prime farmland as well as hillsides. The soil consists of a loam, silty clay loam, gravelly silty clay loam and a silt loam. FaB is well-drained and has a low probability to create runoff. The Manor Silt Loam (MaD), 6-15 slopes represents 19% of the soil within the footprint. MaD is the second most common of the

three soils found within the unit and is associated with prime farmland, steep-slopes as well as hillsides. It consists entirely of a silt loam, is well-drained with a moderate capacity to create runoff. The Elioak Silty Clay Loam (EmC3), 6-15% slopes, severely eroded is concentrated in the western portion of the unit. EmC3 comprises 18% of the soil types found within the footprint. EmC3 is associated with hillsides and steeply-sloped areas. This soil type comprises a silty clay loam, clay, and a silt loam. EmC3 drains well and has a medium capacity to create runoff.

Like Unit 10, Unit 11 consists of three types of soil. FaB, is the dominant soil within the unit and comprises 59% of the soil within the footprint. FaB is concentrated within the central portion of the unit. EmC3, representing 39% of the soil types within Unit 11, is concentrated within the western and northeastern sections of the unit. The Colfax Fine Sandy Loam (ClB), 2-6% slopes is found in the far southeast section of the unit and comprises 2% of the soils found in Unit 11. ClB consists of a fine sandy loam and a sandy clay loam. The soil is associated with hillsides, is somewhat poorly drained and has a very high capacity to create runoff.

The soils found within Unit 12 are very diverse. The AlB, comprises 42% of the soils found within the unit. AlB dominates the western and southeast portions of the unit. AlC2, is the second most common soil within the unit and it comprises 27% of the unit. AlC2 is located in the northern portion of the footprint and is prominent near the boundaries. CfB2 comprises 11% of the soils concentrated within Unit 12. This soil type is located within the central portion of the footprint. ChC3 represents 7% of the soils found within the footprint. It is found within the unit's central and near the southeastern boundary. AsD represents 6% of the soils found in the unit and is concentrated in the far southeast portion of the unit. represents 5% of the soils found and is concentrated near the northern boundary. Trace amounts of Ae (1.2% of soils in the unit) and Catecay Fine Sandy Loam (Ce), (1.0% of soils in the unit). Both soils are found in the far southeastern portion of the footprint. Ce, is associated with floodplains, is composed of a fine sandy loam and loamy fine sand. It also is a somewhat poorly drained soil with a very high probability to create runoff.

3.4 Cultural Resources

This discussion of cultural resources includes prehistoric and

historic archaeological sites; historic buildings, structures, and districts, and physical entities and human-made or natural features important to a culture, a subculture, or a community for traditional, religious, or other reasons. Cultural resources can be divided into three major categories:

- Archaeological resources (prehistoric and historic) are locations where human activity measurably altered the earth or left deposits of physical remains.
- Architectural resources include standing buildings, structures, landscapes, and other built-environment resources of historic or aesthetic significance.
- Traditional cultural properties may include archaeological resources, structures, neighborhoods, prominent topographic features, habitat, plants, animals, and minerals that Native Americans or other groups consider essential for the preservation of traditional culture.

3.4.1 Regulatory Setting

Implementation of the proposed action must comply with the National Historic Preservation Act (NHPA) of 1966, (54 U.S.C. \$300101 et seq.). Under the NHPA, consideration of historic preservation issues must be integrated into the early planning stages of project planning by federal agencies. Under NHPA 36 C.F.R. part 800 (Section 106), a federal agency is required to account for the effects of the proposed action on any district, site, building, structure, or object that is included or eligible for inclusion in the National Register of Historic Places (NRHP), prior to the expenditure of funds on the action. Under NHPA 54 U.S.C. §\$306101(a) and 306102 (Section 110), the identification and evaluation of any cultural resources on federal property that meet the eligibility criteria of the NRHP is required.

3.4.2 Affected Environment

Architectural historians with the U.S. Army Construction Engineering Research Laboratory (USCERL) conducted a survey of Quantico buildings between 1992 and 1994 (USCERL 1994). They identified significant historic buildings and landscapes on the base. Seven themes forming the historic context for the subsequently nominated NRHP QMCBHD include: First Permanent Construction, Aviation, Education, Industrial, Naval Clinic, African American Barracks, and Lustron Housing.

3.4.2.1 Archaeological Resources

The proposed action location's areas of potential effect (APE) are the 12 loblolly pine units where timber harvest would take place. All of the proposed action locations have archaeological sites that are found within a short distance. Three of the units have cultural resource sites within its APE. Unit 9 has three home sites within its APE, Unit 11 has one home site and Unit 12 has four (see figures 2.1.2 - 2.1.8).

3.5 Biological Resources

Biological resources include living, native, or naturalized plant and animal species and the habitats within which they occur. Plant associations are usually referred to as vegetation, and animal species as wildlife. Habitat can be defined as the resources and conditions present in an area that support a plant or animal.

Within this EA, biological resources are divided into three major categories: (1) Vegetation, (2) terrestrial wildlife, and (3) aquatic wildlife. Threatened, endangered, and other special status species are discussed in their respective categories.

3.5.1 Regulatory Setting

Special-status species, for the purpose of this EA, are those species listed as threatened or endangered under the Endangered Species Act (ESA) and species afforded federal protection under the Migratory Bird Treaty Act (MBTA).

The Endangered Species Act (ESA), 7 U.S.C. §136, 16 U.S.C. §1531 et seq., requires federal agencies to ensure that their actions will not jeopardize the continued existence of any threatened or endangered species or result in the destruction or adverse modification of its critical habitat.

The Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. §701-12) protects all species covered by the four migratory bird treaties the United States signed with Canada, Mexico, Japan, and Russia. The MBTA prohibits taking (e.g., pursuing, hunting, shooting, wounding, trapping, capturing, or collecting, or attempting to pursue, hunt, shoot, wound, trap, capture, or collect, intentionally or unintentionally), killing, or possessing of migratory birds (including parts, feathers, nests, and eggs) unless permitted by the Secretary of the Interior. The United States Fish and Wildlife Service (USFWS) currently recognizes 832 species of migratory birds.

Per Executive Order 13186, Responsibilities of Federal Agencies to Migratory Birds (2001), the DoD and USFWS set forth a Memorandum of Understanding (MOU) to promote the conservation of migratory birds and their habitats. Habitat that would be considered critical to the natural history and/or life cycle of migratory birds is/is not located within any of the proposed action locations.

The 1988 amendment to the Fish and Wildlife Conservation Act mandates the USFWS to "identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation action are likely to become candidates for listing under the ESA of 1973". The Birds of Conservation Concern (BCC) 2008 list is the USFWS most recent effort to address this issue.

Bald eagles (Haliaeetus leucocephalus), which are afforded federal protection under the MBTA and the Bald and Golden Eagle Protection Act (BGEPA) of 1940, as amended (16 U.S.C. §668-668d, 54 Stat. 250), and are listed as a species of concern in the USFWS Birds of Conservation Concern, 2008, are discussed within the Terrestrial Wildlife section (3.5.2.2) of this EA.

Marine Corps Order 5090.2, Ch. 3 directs the USMC to comply with environmental requirements, protect the environment and human health, and enhance and sustain mission readiness, to include cooperating with the Commonwealth of Virginia to protect Virginia-listed rare species and to provide consideration of state-listed species during the NEPA process. According to Marine Corps Order P5090.2, Section 11104.3b., to the maximum extent practicable where it does not conflict with the installation mission, each installation should survey and take appropriate measures to identify, monitor and manage other species at risk. Hence, MCBQ also considers project impacts to Virginia-listed rare species and state listed species during the NEPA process.

The Virginia piedmont waterboatman, Sigara depressa, and the brook floater, Alasmidonta varicose, are two Virginia-listed endangered faunal species. Both species are water dependent. The Virginia piedmont waterboatman is an insect that inhabits ponds and extremely slow moving streams. The brook floater is a bivalve that is found among boulders within gravel or sand.

3.5.2 Affected Environment

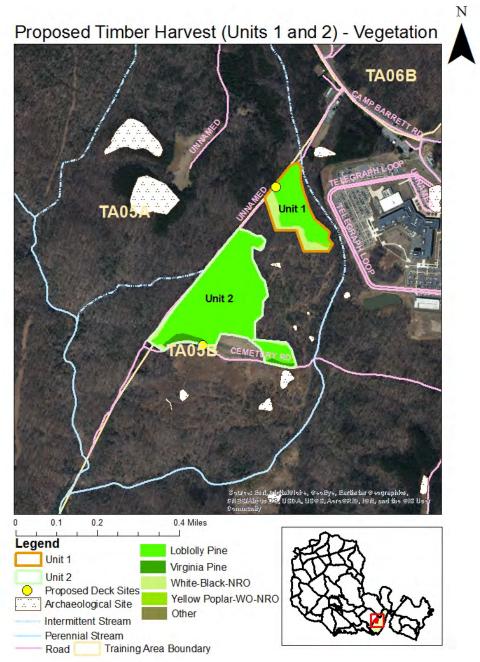
The base supports a wide variety of both game and non-game species and a diversity of wildlife habitat is available. Game species include white-tailed deer, wild turkey, gray squirrel, cottontail rabbit and bobwhite quail. Non-game species include resident and migratory songbirds, raptors, and various reptiles, amphibians, and insects.

Migratory birds utilize a variety of habitats available throughout MCBQ including forestland, grassland, wetland, and riparian corridors.

3.5.2.1 Vegetation

The land area of MCBQ is primarily covered by a forested landscape. Forests account for approximately 90% of the land cover of the base. MCBQ is located within an ecological transition zone inside the Eastern Deciduous Forest Biome of the United States. The major tree types found within the forests, particularly on the Westside of the base, are associated with the Central and Southern forest regions of the United States. The most common tree species found at MCBQ are yellow poplar (Liriodendron tulipifera), black oak (Quercus velutina), northern red oak (NRO) (Quercus rubra), white oak (WO) (Quercus alba), shortleaf pine (Pinus echinata), Virginia pine (Pinus virginiana) and loblolly pine (Pinus taeda). Other species found on the base include sweet qum (Liquidambar styraciflua), red maple (Acer rubrum), american beech (Fagus grandifolia), hickory (Carya sp.), red cedar (Juniperus virginiana), black walnut (Juglans nigra), black cherry (Prunus serotina) and bigtooth aspen (Populus gradidentata). If there is an undisturbed clear space, the most likely species to grow in that space is Virginia pine.

The species that are found within the proposed action locations mirrors the species found throughout the base. Loblolly pine is the most dominant. Other species found within the units in smaller numbers include black oak, NRO, red maple, Virginia pine, WO and yellow poplar. The vegetation found within the proposed action location is found in Figures 3.5.1-3.5.7.



		<u>Vegetati</u>	on Cover in Unit 1 (%)			
Loblolly Pine Virginia Pine White-Black-NRO Yellow Poplar WO-					D-NRC	
	72%	0.2%		26%		29
		Vegetation	Cover in Unit 2 (%)			
Loblolly Pine		Virginia Pine	White-Black-NRO		Other	
	91%	5%		3	% 1%	i

Figure 3.5.1

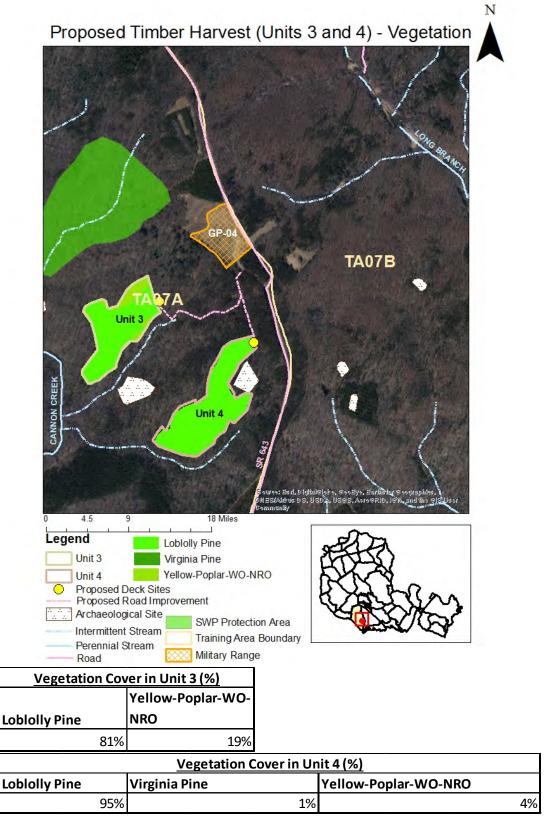
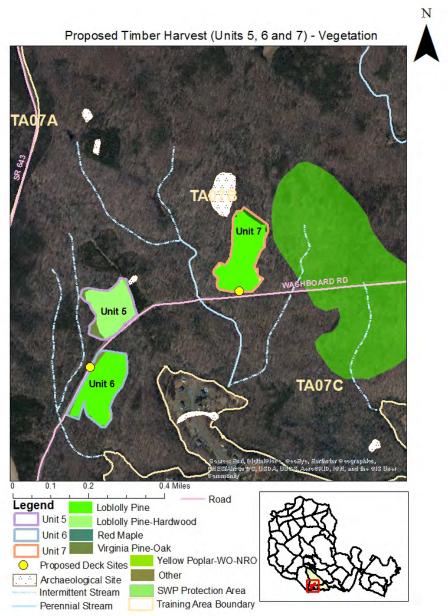


Figure 3.5.2

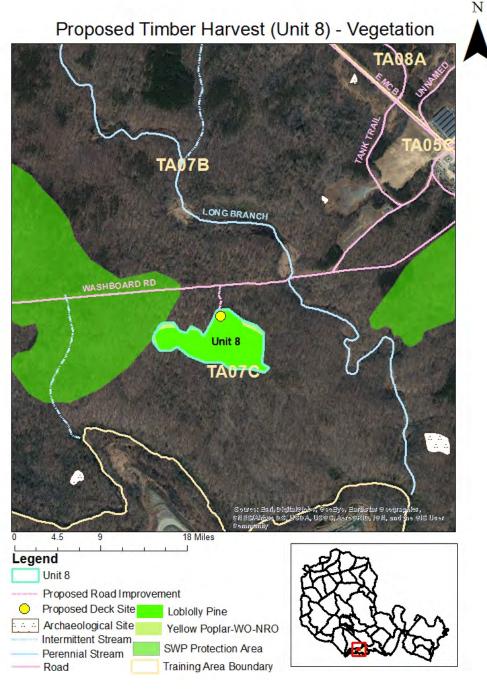


		Vegetation	on Cover in Unit 5	<u>(%)</u>		
Loblolly Pine		Loblolly Pine	Loblolly Pine - Hardwood Virginia Pine-Oak			
11%		11%	87%		2%	
			Vegetation Cover in U	nit 6 (%)		
Loblolly Pine		Other	Virginia Pine-Oak		White-Black-NRO	
	91%	6	%	Less than 1%		1
· · · · · · · · · · · · · · · · · · ·	Vegetat	ion Cover in Unit 7 (<u>%)</u>			
Loblolly Pine Yellow-Poplar-WO-NRO		Virginia Pine-Oal	4			

5%

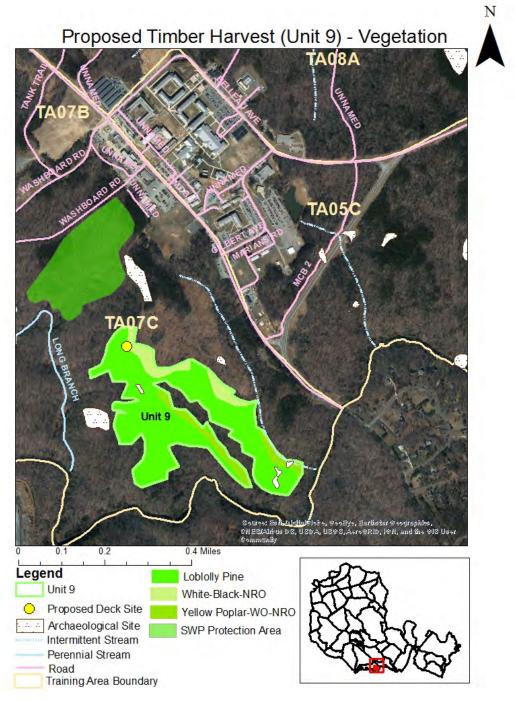
Figure 3.5.3

4%



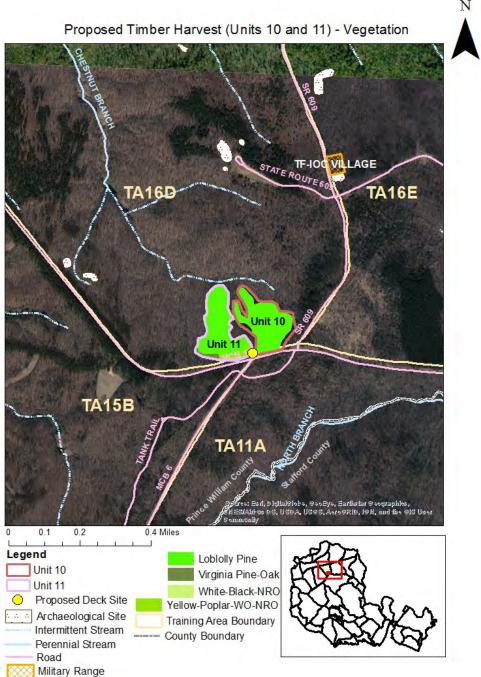
Vegetation Cover in Unit 8 (%)				
Loblolly Pine	Yellow-Poplar-WO-NRO			
93%	7%			

Figure 3.5.4



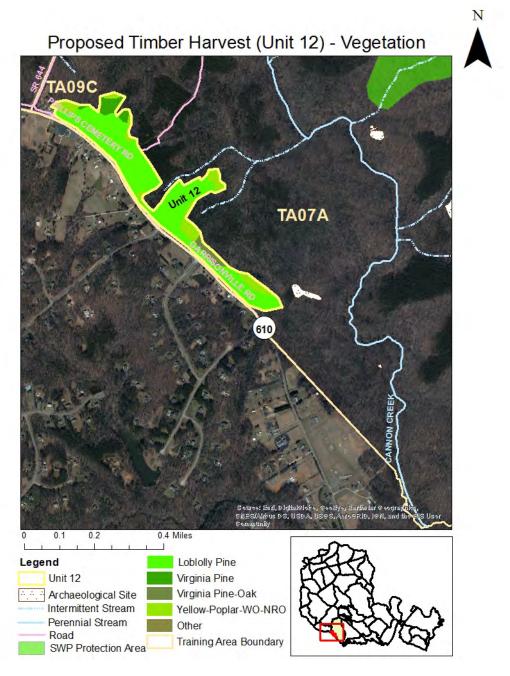
Vegetation Cover in Unit 9 (%)				
Loblolly Pine	White-Black-NRO	Yellow-Poplar-WO-NRO		
80%	10%	10%		

Figure 3.5.5



Minitary runge					
Vegetation Cover in Unit 10 (%)					
Loblolly Pine Virginia Pine-Oak White-Black-NRO Yellow-Poplar-WO-NR					Yellow-Poplar-WO-NRO
	88%		5%	Less than 1%	7%
	Vegetation Cover in Unit 11 (%)				
Loblolly Pine		Virginia Pine-Oak	Yellow-Po	pplar-WO-NRO	White-Black-NRO
,	82%	5%		12%	1%

Figure 3.5.6



Loblolly Pine	Virginia Pine	Virginia Pine-Oak	Yellow-Poplar-WO-NRO	Other
76%	3%	3%	16%	Less Than 1%

Figure 3.5.7

Three plant species on MCBQ are federally-listed as threatened or endangered species. These are harperella (*Ptilimnium nodosum*), the small whorled pogonia (*Isotria medeoloides*) and

the sensitive joint-vetch (Aeschynomene virginica).

Harperella is a federally-listed endangered plant species native to riverine habitats. This plant is only found in 13 areas ranging from Maryland to Georgia.

The small whorled pogonia (SWP) is a federally-listed threatened species. The SWP is a perennial plant that generally occurs on gentle to moderate slopes with eastern or northern exposures and prefers acidic sandy loam soils with low nutrient content. MCBQ has designated 19 locations across the base as SWP colonies/watershed protection areas. Four of these colonies occur near loblolly pine units that are involved with the proposed action (see Figures 2.1.1 - 2.1.8). Unit 8 borders the Washboard Rd. SWP colony (see Figure 2.1.5). These locations contain the loamy soils that are often found within SWP habitat (see Section 3.3.2.3 and Appendix B).

The sensitive joint-vetch is a federally-threatened annual legume that is native to the eastern U.S. The plant is usually reaches a height of about 3-6 feet in a growing season but may grow as tall as 8 feet. The flowers are usually yellow, streaked red and the fruit is a pod that becomes brown when ripe. The plant inhabits the outer portions of marshes or shorelines that flood twice a day.

3.5.2.2 Terrestrial Wildlife

The Indiana bat (Myotis sodalist) is a terrestrial species that is potentially found at MCBQ and is federally-listed as endangered. The Indiana bat can be found over most of the eastern half of the United States. The bat spends winter hibernating in caves and occasionally in abandoned mines (hibernacula). During summer, the bats prefer to roost under the peeling bark of dead and dying trees. The Indiana bat was detected at MCBQ in 2017 and was detected in TA5B and TA16D near Units 1,2,10 and 11. However, there were no detections within any of the proposed action footprints. There are no known Indiana bat maternity colonies, summer roosts or hibernacula on MCBQ.

The northern long-eared bat (Myotis septentrionalis) (NLEB) is also found on MCBQ. The NLEB is federally-listed as threatened. The bat spends winter hibernating in caves and mines (hibernacula). They prefer roosting sites with constant temperatures, high humidity, and no air currents. In summer,

they prefer roosts under tree bark, in cavities or in crevices of both live and dead trees, and rarely in man-made structures such as barns or sheds (50 C.F.R. part 17). The NLEB was detected at MCBQ in 2017 and was detected within Unit 11. The NLEB was also detected in Unit 12 in 2018. Additionally, one male NLEB was caught via mist netting in July 2018 at MCBQ. However, there are no known NLEB summer roosts, maternity roosts, or hibernacula on MCBQ.

The little brown bat (Myotis lucigus) and the tri-colored bat (Perymyotis subflavus) are listed as state-endangered. Both species were detected on base during 2017 and within TA5B as well as 16D. These bats were not detected within any of the proposed action locations. There is no known little brown bat or tri-colored bat winter hibernacula, summer roosts, or maternity colonies on MCBQ.

The bald eagle was removed from the Federal List of Endangered and Threatened Wildlife and Plants in 2007 due to population recovery. The BGEPA requires a buffer of 660 ft. around a nesting site. Additionally, removal of overstory trees may not occur within 300 ft. of a nest. There are no bald eagle nests within or near any of the proposed action locations.

3.5.2.3 Aquatic Wildlife

Invertebrates

The yellow lance (*Elliptio lanceolata*), is a freshwater mussel species that is federally-listed as threatened. The species is often found within clean, coarse and medium sand, but also occasionally within gravel substrates. The yellow lance can be found waterways ranging from medium-sized rivers to small streams and requires clean, moderately flowing water as part of its habitat. It has known populations within the Rappahannock, James, York and Chowan Rivers in Virginia. The species is believed to no longer populate the Potomac River.

The dwarf wedgemussel (Alasmidonta heterodon), historically found on portions of MCBQ, is federally-listed as endangered. It is a small bivalve that lives in freshwater streams and requires highly oxygenated and silt-free waters. According to the USFWS, the dwarf wedgemussel has historically been identified as potentially inhabiting riverine habitat adjacent to or within Units 6 and 9.

3.6 Land Use

This discussion of land use includes current and planned uses and the regulations, policies, or zoning that may control the proposed land use. The term "land use" refers to real property classifications that indicate either natural conditions or the types of human activity occurring on a parcel. Two main objectives of land use planning are to ensure orderly growth and compatible uses among adjacent property parcels or areas. However, there is no nationally recognized convention or uniform terminology for describing land use categories. As a result, the meanings of various land use descriptions, labels, and definitions vary among jurisdictions. Natural conditions of property can be described or categorized as unimproved, undeveloped, conservation or preservation area, and natural or scenic area. There is a wide variety of land use categories resulting from human activity. Descriptive terms often include residential, commercial, industrial, agricultural, institutional, and recreational.

3.6.1 Regulatory Setting

In many cases, land use descriptions are codified in installation master planning and local zoning laws. Marine Corps Order (MCO) 11010.16 provides guidance administering the Air Installation Compatible Use Zone (AICUZ) program, which recommends land uses that are compatible with noise levels, accident potential, and obstruction clearance criteria for military airfield operations. MCO 3550.11 provides guidance for a similar program, Range AICUZ (RAICUZ). This program includes range safety and noise analyses, and provides land use recommendations which will be compatible with Range Compatibility Zones and noise levels associated with military range operations.

3.6.2 Affected Environment

The following discussions provide a description of the existing conditions for each of the categories under land use resources at MCBO.

3.6.2.1 Current Land Use and Compatibility

MCBQ is divided into two areas; Mainside, 6,000 acres east of Interstate 95 and U.S. Route 1, and Westside (Guadalcanal),

53,200 acres west of the same highways. The proposed timber harvest is occurring within five TAs at MCBQ: 5B, 7A, 7B, 7C and 16D on the Westside of the base. Units 1 and 2 are located adjacent to an unnamed road within TA5B. TA5B comprises approximately 1,235 acres including 3.25 miles of roads, trails and firebreaks. The TA is located on the far eastern portion of MCBQ. The primary feature of the TA is Landing Zone(LZ)Hawk and it is primarily utilized for maneuver training. Units 3, 4 and 12 are situated within TA7A at the terminus of unimproved roads. TA7A is located on the southern boundary of MCBQ and comprises approximately 1,773 acres, including 6 total miles of roads, trails as well as firebreaks. The TA is located entirely within the non-dudded impact area of MCBQ. Like TA5B, the primary use of the TA is for maneuver training.

Units 5 and 7 are located adjacent to Washboard Rd. within TA7B. TA7B is roughly 1,628 acres in size with 8 miles of roads, trails and firebreaks. One of the most notable training facilities in this TA is Gun Position 4 (GP-04), a field artillery indirect firing range, located approximately 0.25 miles to the north of Units 3 and 4. The TA supports maneuver training and has two LZs; LZ Hen and LZ Dove. Two ranges, Range 3A and Range 3B lie within the TA. Range 3A serves as a nonstandard small arms range and Range 3B is utilized as a live hand grenade range. Both ranges are part of the Murphy Demolition Range (M-Demo) range complex. Units 6, 8, and 9 are located entirely within TA7C. This TA is primarily utilized as a maneuver training area and is roughly 771 acres in size including 2.6 miles of roads, trails and firebreaks. The major training feature in this TA is LZ-7. Units 10 and 11 are situated within TA 16D at the junction of MCB-1 and MCB-6. TA comprises 596 acres as well as 1.57 miles of roads and firebreaks. The primary training feature of TA16 is LZ Crane. Similar to TAs 5B, 7A and 7A, 16D supports primarily maneuver training.

TAs 5B, 7A, 7B, 7C and 16D do provide hunting, fishing as well as hiking opportunities during periods that these locations are not being utilized for intense military training. The proposed action will be implemented on the Westside of the base. MCBQ has designated a growth boundary the parallels Interstate 95. Any developments that is not compatible with training and range activity is discouraged west of the boundary.

3.7 Military Training and Airspace

3.7.2.1 Military Training

The proposed timber harvest will be implemented in loblolly pine units within TAs 5B, 7A, 7B, 7C and 16D. The majority of the training that is supported within this infrastructure is maneuver training as well as land navigation (LANDNAV) activity. GP-04, a field artillery indirect firing range, is located adjacent to SR-643 as well as TA7A, within TA7B. The range is designed to provide field artillery crews with the training to hit targets with indirect fire. It is approximately 0.25 miles from Units 3 and 4 and roughly 1 mile from Units 6, 7, and 8. Range 3A is a small arms range located within TA7B within the M-Demo Range Complex. The range is utilized for basic firing training which includes, individual rifles, machine guns and grenade launchers. It contains both a grenade launcher and rifle and machine qun firing lines. Units 3-8 are within 1.3 miles of Range 3A. An Infantry Officer's Course (IOC) Village is located 0.5 miles from Range 10 and 11. The IOC is designed to train newly selected ground and infantry intelligence officers.

Range 3B is a live hand grenade range also located within M-Demo. It is designed to familiarize Marines with the effects of live fragmentation grenades. The range is located within 1.6 miles of Units 3-8.

3.8 Noise

This discussion of noise includes the types or sources of noise and the associated sensitive receptors in the human environment. Noise in relation to biological resources and wildlife species is discussed in the biological resources section.

The major sources of noise at MCBQ include aircraft, artillery, small arms, explosives, vehicles, heavy equipment, and machinery. Noise is defined as unwanted or annoying sound that interferes with or disrupts normal human activities. Although continuous and extended exposure to high noise levels (e.g., through occupational exposure) can cause hearing loss, the principal human response to noise is annoyance. The response of different individuals to similar noise events is diverse and is influenced by the type of noise, perceived importance of the noise, its appropriateness in the setting, time of day, type of activity during which the noise occurs, and sensitivity of the individual.

3.8.1 Basics of Sound and A-Weighted Sound Level

The loudest sounds that can be detected comfortably by the human ear have intensities that are a trillion times higher than those of sounds that can barely be detected. This vast range means that using a linear scale to represent sound intensity is not feasible. The decibel (dB) is a logarithmic unit used to represent the intensity of a sound, also referred to as the sound level. All sounds have a spectral content, which means their magnitude or level changes with frequency, where frequency is measured in cycles per second or Hertz (Hz). To mimic the human ear's non-linear sensitivity and perception of different frequencies of sound, the spectral content is weighted. F or example, environmental noise measurements are usually on an "Aweighted" scale that filters out very low and very high frequencies in order to replicate human sensitivity. It is common to add the "A" to the measurement unit in order to identify that the measurement has been made with this filtering process (dBA). In this document, the dB unit refers to Aweighted sound levels. Table 3-5 provides a comparison of how the human ear perceives changes in loudness on the logarithmic scale.

Figure 3-2 (Cowan, 1994) provides a chart of A-weighted sound levels from typical noise sources. Some noise sources (e.g., air conditioner, vacuum cleaner) are continuous sounds that maintain a constant sound level for some period of time. Other sources (e.g., automobile, heavy truck) are the maximum sound produced during an event like a vehicle pass-by. Other sounds (e.g., urban daytime, urban nighttime) are averages taken over extended periods of time. A variety of noise metrics have been developed to describe noise over different time periods, as discussed below.

Noise levels from aircraft operations that exceed background noise levels at an airfield typically occur beneath main approach and departure corridors, in local air traffic patterns around the airfield, and in areas immediately adjacent to parking ramps and aircraft staging areas. As aircraft in flight gain altitude, their noise contributions drop to lower levels, often becoming indistinguishable from the background noise.

Table 3-5 Subjective Responses to Changes in A-Weighted

Change	Change in Perceived Loudness
3 dB	Barely perceptible
5 dB	Quite noticeable
10 dB	Dramatic - twice or half as loud
20 dB	Striking - fourfold change

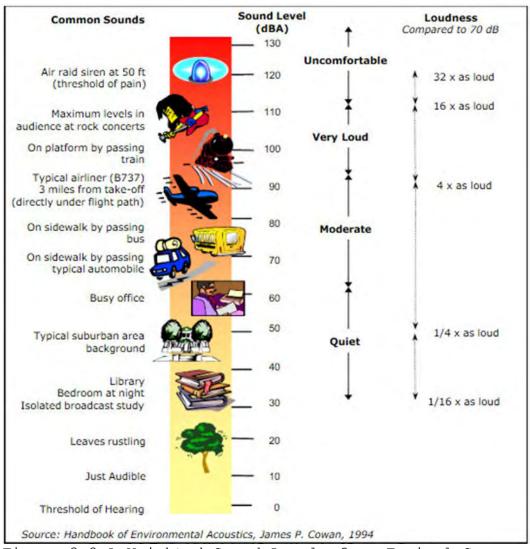


Figure 3-2 A-Weighted Sound Levels from Typical Sources

3.8.2 Regulatory Setting

Under the Noise Control Act of 1972, the Occupational Safety and Health Administration (OSHA) established workplace standards for noise. The minimum requirement states that constant noise exposure must not exceed 90 A-weighted decibels (dBA) over an 8-hour period. The highest allowable sound level to which workers can be constantly exposed is 115 dBA and exposure to this level must not exceed 15 minutes within an 8-hour period. The standards limit instantaneous exposure, such as impact noise, to 140 dBA. If noise levels exceed these standards, employers are required to provide hearing protection equipment that will reduce sound levels to acceptable limits.

The joint instruction, Chief of Naval Operations Instruction (OPNAVINST) 11010.36C and MCO 11010.16, Air Installations Compatible Use Zones (AICUZ) Program, provides guidance administering the AICUZ program which recommends land uses that are compatible with aircraft noise levels. MCO 3550.11 provides guidance for a similar program, RAICUZ. This program includes range safety and noise analyses, and provides land use recommendations which will be compatible with Range Compatibility Zones and noise levels associated with military range operations.

3.8.3 Affected Environment

Many components may generate noise and warrant analysis as contributors to the total noise impact. The predominant noise sources near the proposed action location consists of vehicle traffic, aircraft operations near active LZs and ranges. Other components such as construction produce noise, but such noise generally represents a transitory and negligible contribution to the average noise level environment. The federal government supports conditions free from noise that threaten human health and welfare and the environment. Response to noise varies, depending on the type and characteristics of the noise, distance between the noise source and whoever hears it (the receptor), receptor sensitivity, and time of day. A noise sensitive receptor is defined as a land use where people involved in indoor or outdoor activities may be subject to stress or considerable interference from noise. Such locations or facilities often include residential dwellings, hospitals, nursing homes, educational facilities, and libraries. Sensitive receptors may also include noise-sensitive cultural practices, some domestic animals, or certain wildlife species.

3.8.3.2 Installation Noise Environment

The major sources of noise near the proposed action are GP-04 as well as M-Demo (including Ranges 3A and 3B) and Range 5, an Automated Infantry Squad Battle Course, located in TA9C. Figures 3.8.1 - 3.8.7 summarize the proposed action sites and their locations within various noise contours. Units 1-4, 5, 6 and 9 are shown outside of the M-Demo Range noise zones. Unit 7 is within the 62-65 dB zone associated with noise emanating from M-Demo Range. Unit 8 is almost entirely within the 62 db zone. The far northern section of Unit 12 is within the 62-65 db noise zone for Range 5. Units 10 and 11 are not within noise zones associated with ranges.



Proposed Timber Harvest (Units 1 and 2) - Noise Area

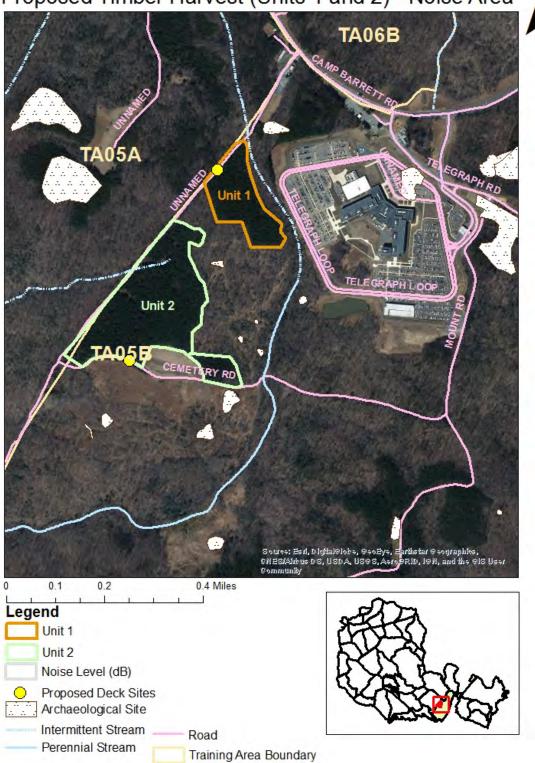


Figure 3.8.1

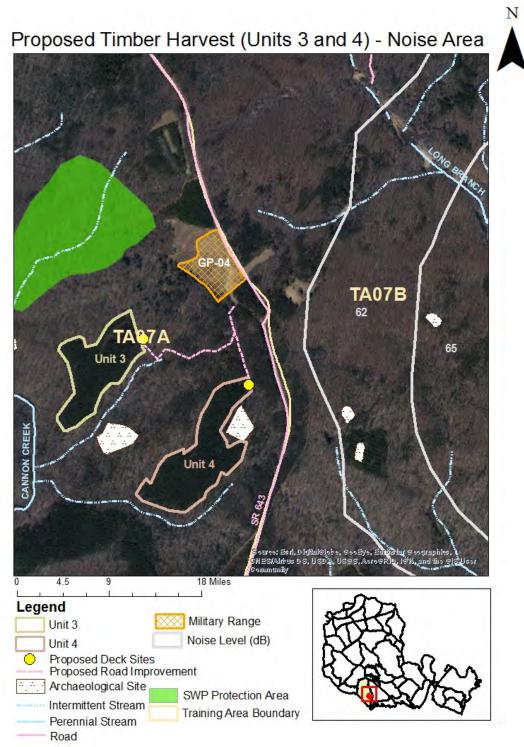


Figure 3.8.2

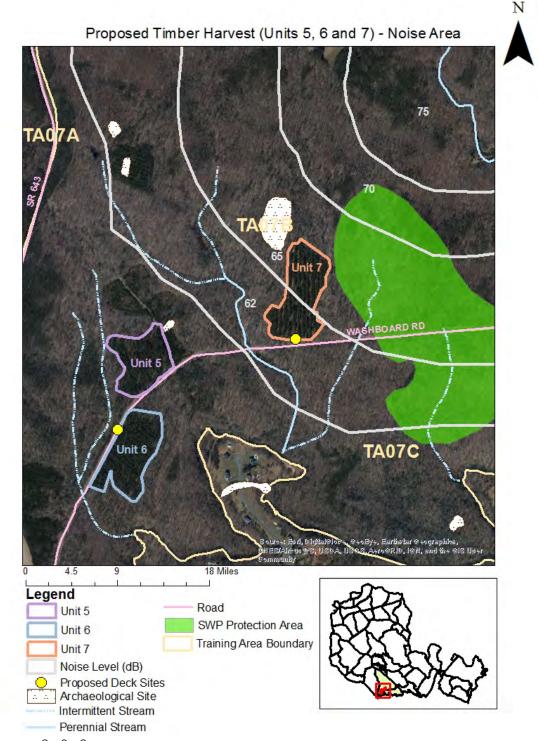


Figure 3.8.3

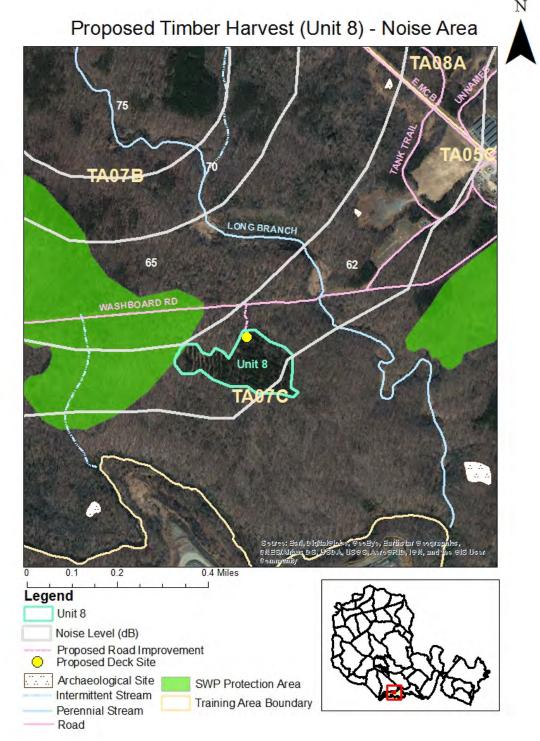


Figure 3.8.4

Proposed Timber Harvest (Unit 9) - Noise Area TA08A TA05C TAQ7C Soures: Estheligital Globe, George, Earlistor Geographics, CNESIAI due 68, USBA, USGS, AeroGRID, IGN, and the GIS User Community 0.4 Miles Legend Unit 9 SWP Protection Area Noise Level (dB) Training Area Boundary Proposed Deck Site :. :: Archaeological Site Intermittent Stream Perennial Stream Road

Figure 3.8.5

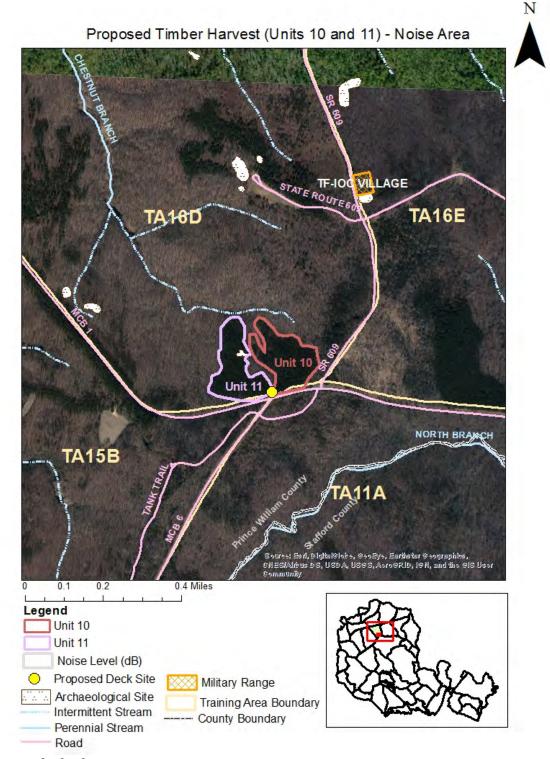


Figure 3.8.6





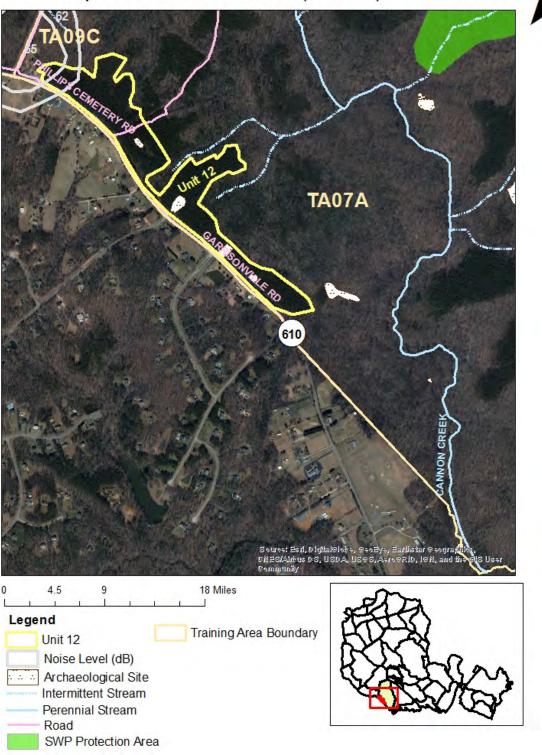


Figure 3.8.7

The 62-65 dB zones are noise levels commonly associated with office noise or vehicles. Other noise generated either within the proposed action footprints or nearby would consist of aircraft, human communication or vehicles on adjacent roads.

3.9 Infrastructure

This section discusses infrastructure such as utilities (including drinking water production, storage, and distribution; wastewater collection treatment and disposal; stormwater management, solid waste management, energy production, transmission, and distribution; and communications), and facilities (including airfields, buildings, ranges, training and testing areas, wharves, piers, housing, etc.).

3.9.1 Regulatory Setting

EO 13693, Planning for Federal Sustainability in the Next Decade, requires federal departments and agencies to enact specific actions and operations outlined within the EO to reduce agency direct greenhouse gas emissions by at least 40% over the next decade. Improved environmental performance and federal sustainability will be achieved by reducing energy use and cost. Pursuing clean sources of energy will improve energy and water security.

Antiterrorism Force Protection Standards have been adopted by the DoD through Instruction number 2000.16 of October 2006. The standards require all DoD components to adopt and adhere to common criteria and minimum construction standards to mitigate antiterrorism vulnerabilities and terrorist threats.

3.9.2 Affected Environment

3.9.2.1 Utilities

Potable Water. Drinking water is provided to the Westside of MCBQ by Stafford County via the Lake Mooney and Smith Lake Reservoirs.

Wastewater. Wastewater and sewage are processed at the wastewater treatment plant, located adjacent to the Potomac River on the Mainside of MCBQ. Wastewater and sewage generated on the Westside of MCBQ is treated at Stafford County wastewater treatment facilities.

Stormwater. The developed portion of the mainside of MCBQ is served by a network of stormwater and sanitary sewers.

Energy. Energy sources utilized by MCBQ include natural gas, geothermal, and solar. These each have their own specialized infrastructure.

Communications. Communications lines, including telephone and internet, are provided to MCBQ facilities via both buried and above-ground methods.

No major utility lines are located within or near any of the proposed action locations.

3.10 Transportation

This discussion of transportation includes all of the air, land, and sea routes with the means of moving passengers and goods. A transportation system can consist of any of the following: Roadways, bus routes, railways, subways, bikeways, trails, waterways, airports, and taxis, and can be looked at on a local or regional scale.

3.10.1 Regulatory Setting

EO 13693 encourages the coordination of federal real property discussions with local communities in an effort to encourage planned transportation investments that aim to support public transit access.

3.10.2 Affected Environment

Roads and trails are a significant component of the proposed action footprints. Units 1 and 2 are adjacent to an existing, un-named road near the Russell-Knox Building. Connectors from SR-643 to Units 3 and 4 as well as a roads from Washboard Rd. to Unit 8 are the locations that provide a link from main roads to the loblolly units. Unit 9 also has a trail that connects to MCB-3 near TBS. Units 5, 6, and 7 are located adjacent to Washboard Rd. Units 10 and 11, are located at the intersection of MCB-1 and MCB-6 in TA16D. Unit 12 is adjacent to Garrisonville Rd. (Virginia State Route 610) and SR-644.

3.11 Hazardous Materials and Wastes

This section discusses hazardous materials, hazardous waste, toxic substances, and contaminated sites.

3.11.1 Regulatory Setting

Hazardous materials are defined by 49 CFR section 171.8 as "hazardous substances, hazardous wastes, marine pollutants, elevated temperature materials, materials designated as hazardous in the Hazardous Materials Table, and materials that meet the defining criteria for hazard classes and divisions in 49 CFR part 173." Transportation of hazardous materials is regulated by the U.S. Department of Transportation regulations.

Hazardous wastes are defined by the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments, as: "a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may (A) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed." Certain types of hazardous wastes are subject to special management provisions intended to ease the management burden and facilitate the recycling of such materials. These are called universal wastes and their associated regulatory requirements are specified in 40 CFR part 273. Four types of waste are currently covered under the universal wastes regulations: Hazardous waste batteries, hazardous waste pesticides that are either recalled or collected in waste pesticide collection programs, hazardous waste thermostats, and hazardous waste lamps, such as fluorescent light bulbs.

Special hazards are those substances that might pose a risk to human health and are addressed separately from other hazardous substances. Special hazards include asbestos-containing material (ACM), polychlorinated biphenyls (PCBs), and lead-based paint (LBP). USEPA is given authority to regulate special hazard substances by the Toxic Substances Control Act (TSCA). Asbestos is also regulated by USEPA under the Clean Air Act, and the Comprehensive Environmental Response, Compensation, and Liability Act.

The DoD established the Defense Environmental Restoration Program (DERP) to facilitate thorough investigation and cleanup of contaminated sites on military installations (active installations, installations subject to Base Realignment and Closure, and formerly used defense sites). The Installation Restoration Program and the Military Munitions Response Program are components of the DERP. The Installation Restoration Program requires each DoD installation to identify, investigate, and clean up hazardous waste disposal or release sites. The Military Munitions Response Program addresses nonoperational rangelands that are suspected or known to contain unexploded ordnance, discarded military munitions, or munitions constituent contamination.

According to the Marine Corps Order P5090.2, Chapter 10, Section 2, Paragraph 10221:

"All efforts must be made to ensure that Marine Corps' projects are not constructed on contaminated sites. However, there may be times when the project is being planned or is underway and contamination is discovered.

- 1. If contamination is discovered during the planning stage, Naval Facilities Engineering Command (NAVFAC) can investigate and determine the need for clean up using Environmental Restoration Program, Navy (ER,N) funds and following environmental restoration (ER) procedures. However, the site investigation/clean-up must compete with other ER sites based on risk management. In most cases, this will take several years and the site may not be available in time for the project.
- 2. If contamination is discovered during construction and it is Defense Environmental Restoration Program (DERP) eligible, NAVFAC can carry out the site investigation/cleanup using ER,N funds. However, the site will compete with other ER sites based on risk management. If ER,N funding is not available in time to meet the construction schedule, the installation must use project funds to investigate/clean up the site. If neither ER,N nor project funding is available in time to meet the construction schedule, the installation must stop the project altogether or re-site it. An installation does not have an option to pay for any DERP-eligible work with installation Navy Operations and Maintenance (OM,N) funds except to accomplish DERP-eligible work within the scope of an OM,N funded construction project."

Reports of waste generated (including recycling) including material type (construction/demolition debris, concrete, scrap metal, used oil, etc.), tons, disposal destination, and disposal cost shall be reported on the attached Waste Management Plan and

submitted to the NREA Branch within 30 days of the close of the project, and no later than October 15 of the respective calendar year to be included in annual report submissions.

Executive Order 13514, Leadership in Environmental, Energy, and Economic Performance, 2009, calls for meeting or exceeding fifty percent diversion of non-hazardous solid waste and construction and materials and debris from landfills by fiscal year 2015.

3.11.2 Affected Environment

Many portions of MCBQ consist of historic munitions impact sites. TA7A which includes Units 3,4,5,7 as well as 12, are within the non-dudded impact area of MCBQ.

4.0 ENVIRONMENTAL CONSEQUENCES

The CEQ regulations implementing NEPA (40 C.F.R. part 1500) require discussion of the impacts in proportion to their significance within NEPA documentation. The affected environment under the proposed action alternative ranges from site-specific physical and natural resources to broader regional concerns (i.e., air quality variables, noise, infrastructure, socioeconomic conditions, community facilities and services, transportation and traffic).

This section describes the anticipated direct, indirect, and cumulative environmental impacts of the no action alternative.

Alternative A is no action and Alternative B is the proposed action.

4.1 Air Quality

Effects on air quality are based on estimated direct and indirect emissions associated with the action alternatives. The region of influence (ROI) for assessing air quality impacts is the air basin in which the project is located,

Estimated emissions from a proposed federal action are typically compared with the relevant national and state standards to assess the potential for increases in pollutant concentrations.

4.1.1 Alternative A - No Action

Under the no action alternative, emissions would remain the same and there would be no impacts to air quality.

4.1.2 Alternative B - Timber Harvest in TAs 5B, 7A, 7B, 7C and 16D - Units 1-12.

Alternative B would have minimal impact on air emissions at MCBQ.

4.1.2.1 Potential Impacts - All guidance listed below will be followed

General Conformity

The General Conformity Rule ensures that the actions taken by federal agencies in nonattainment and maintenance areas do not interfere with a state's plans to meet the NAAQS.

A federal agency must perform a General Conformity applicability analysis prior to initiating any non-exempt action that will cause emissions of criteria pollutants for which the area is designated nonattainment or maintenance. The analysis must include reasonable estimates of direct emissions (caused by the action; occur at the same time and place) and indirect emissions (caused by the action; may occur later in time or in a different location than the action). The analysis must be performed for each year of the action and one year of typical operations. If the analysis indicates that the emission levels are below de minimis thresholds for all years, then no further action is necessary.

General Conformity under the Clean Air Act, Section 1.76, has been evaluated for the proposed project according to the requirements of MCO 5090.2 and 40 CFR 93 Subpart B. The requirements of this rule are not applicable to this project because the total direct and indirect emissions from this project have been estimated at 2.63E+00 tons per year NOx, 2.61E-01 tons per year VOC. These levels are below the conformity threshold value of 50 tpy VOC and 100 tpy NOx, established by 40 CFR 93.153(b), for a Non-Attainment Area located in an Ozone Transportation Region. A Record of Non-Applicability (RONA) is located in Appendix E.

The proposed action is subject to the following Virginia regulations:

- •9 VAC 5-40, Article 1 Visible Emissions and Fugitive Dust/Emissions
- •9 VAC 5-130 Open Burning
- \bullet 9 VAC 5-40, Article 1 Visible Emissions and Fugitive Dust/Emissions

No owner or other person shall cause or permit any materials or property to be handled, transported, stored, used, constructed, altered, repaired or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions may include, but are not limited to, the following:

- 1. Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land.
- 2. Application of asphalt, water, or suitable chemicals on dirt roads, materials stockpiles and other surfaces which may create airborne dust; the paving of roadways and maintaining them in a clean condition.
- 3. Installation and use of hoods, fans and fabric filters to enclose and vent the handling of dusty materials. Adequate containment methods shall be employed during sandblasting or other similar operations.
- 4. Open equipment for conveying or transporting materials likely to create objectionable air pollution when airborne shall be covered or treated in an equally effective manner at all times when in motion.
- 5. The prompt removal of spilled or tracked dirt or other materials from paved streets and of dried sediments resulting from soil erosion.
- •9 VAC 5-130 Open Burning

Open burning is prohibited except for those exceptions allowed by 9 VAC 5-130, - Regulation of Open Burning. This exception includes some forestry operations; however, NREA should be consulted prior to any open burning. All forestry operations must comply with applicable Virginia Department of Forestry regulations and good operating procedures.

New Source Review Permitting

The proposed action as currently planned does not involve the construction of any new stationary source or any project (which includes any addition or replacement of an emissions unit, any modification to an emissions unit or any combination of these changes), or the reduction of any stack outlet elevation at any stationary source. Therefore, NSR permitting regulations do not apply.

Greenhouse Gases

Implementation of Alternative B would contribute directly to emissions of greenhouse gases (GHGs) from the combustion of fossil fuels. Tree removal activities within loblolly Units 1-12 would generate approximately 278 tons/year of CO_2e . These estimated annual GHG emissions fall below the CEQ threshold of 25,000 metric tons. This limited amount of emissions would not likely contribute to global temperature increase to any discernible extent. Therefore, implementation of Alternative B would not result in significant impacts to air quality.

Tree removal activities will not add new emission sources. This project will not encourage a use change, as the proposed project supports the current mission activities. Emissions associated with the proposed tree removal would be a year in duration, and are not covered by the Mandatory Reporting of Greenhouse Gases rule as the intent is to track and regulate stationary sources. This project would not have any long term changes in stationary or mobile emission sources or landfill operations. In compliance with the CEQ's and EPA's guidance, quantitative analysis of ${\rm CO_2}$ equivalents is not required for the proposed action.

4.2 Water Resources

In this EA, the analysis of water resources looks at the potential impacts on groundwater, surface water, wetlands, and floodplains. Groundwater analysis focuses on the potential for impacts to the quality, quantity, and accessibility of the

water. The analysis of surface water quality considers the potential for impacts that may change the water quality, including both improvements and degradation of current water quality. The impact assessment of wetlands considers the potential for impacts that may change the local hydrology, soils, or vegetation that support a wetland. The analysis of floodplains considers if any new construction is proposed within a floodplain or may impede the functions of floodplains in conveying floodwaters.

Potential impacts to the water resources were assessed based on the water quality, hydrology, surface water and wetlands, groundwater, and flooding potential in the project area.

4.2.1 Alternative A - No Action

It is expected that impacts to water resources would remain the same if no action is taken.

4.2.2 Alternative B - Timber Harvest in TAs 5B, 7A, 7B, 7C and 16D - Units 1-12.

The action alternative, Alternative B, would thin a total of 228 acres of loblolly pine and other timber. The stumps of the trees will be left in place. 4,500 feet of road would be smoothed and replaced with aggregate where necessary. Any ground disturbance would be negligible.

4.2.2.1 Potential Impacts

No wetlands or surface waters will be impacted by the proposed action. Any potential water quality impacts will be minimized through the implementation of Best Management Practices (BMPs) per the Virginia BMP Field Guide (2009), the Virginia BMPs For Water Quality Technical Manual (2011), the Virginia Erosion and Sediment Control Handbook (1992). A 50 ft. buffer will be maintained adjacent to all intermittent streams, perennial streams and wetlands during the implementation of the proposed action. Alternative B will require installation of proper E&SC measures (such as proper silt fence and storm drain inlets) prior to the onset of any land disturbing activities.

The proposed action alternative would require no fill within the 100-year floodplain, which is considered an RMA under the CBPA. None of the alternatives would adversely affect an RPA or RMA as defined under the CBPA.

4.3 Geological Resources

Geological resources are analyzed in terms of drainage, erosion, and prime farmland. The analysis of topography and soils focuses on the area of soils that would be disturbed, the potential for erosion of soils from construction areas, and the potential for eroded soils to become pollutants in downstream surface water during storm events. BMPs are identified to minimize soil impacts and prevent or control pollutant releases into stormwater. The potentially affected environment for geological resources is limited to lands that would be disturbed by the proposed action.

4.3.1 Alternative A - No Action

Under the No Action Alternative, Alternative B would not occur and there would be no change to baseline geology, topography, or soils. Therefore, no significant impacts to geological resources would occur with implementation of the No Action Alternative.

4.3.2 Alternative B - Timber Harvest in TAs 5B, 7A, 7B, 7C and 16D - Units 1-12.

The study area encompasses the proposed project area related to the preferred alternative.

4.3.2.1 Potential Impacts

Approximately 228 acres of timber would be thinned as a result of the proposed action however the tree stumps would remain in place and no land would be disturbed. Road improvements in three locations involve smoothing the roadbed and applying aggregate where necessary. With implementation of proper E&SC measures, the action alternative is not expected to significantly impact on-site soils. E&SC plans and stormwater pollution prevention plans (SWPPP) are required to be submitted to the Water Program Manager, NREA Branch, MCBQ at least 70 days prior to work starting on the project.

A geotechnical survey has not been completed for the proposed action. It is advised that a geotechnical engineer survey the underlying soil in the event that these areas should be redeveloped in the future. Soil maps and summaries are located in Appendix B.

4.4 Cultural Resources

Analysis of potential impacts to cultural resources considers both direct and indirect impacts. Direct impacts may be the result of physically altering, damaging, or destroying all or part of a resource, altering characteristics of the surrounding environment that contribute to the importance of the resource, introducing visual, atmospheric, or audible elements that are out of character for the period the resource represents (thereby altering the setting), or neglecting the resource to the extent that it deteriorates or is destroyed.

4.4.1 Alternative A - No Action

This alternative would have no adverse effects upon the NRHP-eligible QMCBHD or impact other Archeological resources on MCBQ.

4.4.2 Alternative B

Potential Impacts

Under NHPA 36 C.F.R. part 800 (Section 106), a federal agency is required to account for the effects of the proposed action on any district, site, building, structure, or object that is included or eligible for inclusion in the NRHP, prior to the expenditure of funds on the action. Under NHPA 54 U.S.C. §§306101(a) and 306102 (Section 110), the identification and evaluation of any cultural resources on federal property that meet the eligibility criteria of the NRHP is required. In 2017, MCBQ and the Virginia State Historic Preservation Office (SHPO) signed a Programmatic Agreement for a streamlined review process allowing the MCBQ Cultural Resources Manager (CRM) to expedite reviews for projects where impacts are deemed to be minor or non-existent in scope. The MCBQ CRM has reviewed the proposed action per the Programmatic Agreement between the United States Marine Corps and the SHPO and has determined pursuant to the streamlined review process that the project as planned would have no effect on archaeological or historic resources. proposed action does involve thinning approximately 228 acres of loblolly pine units and improving 4,500 feet of roadway. Cultural resource sites are located within Units 9, 11 and 12. However, none of the stumps of the trees will be removed and as a result, no ground disturbance will occur. All road improvements will involve smoothing and the addition of aggregate. No ground disturbance outside of the existing right of way will occur. These factors qualified the proposed action for an expedited review under the 2017 Programmatic Agreement.

The review by the MCBQ CRO determined that there will be no impacts to any cultural resources sites either within these three units or any of the other proposed action locations APE.

For activities permitted where there are no known archaeological sites or cemeteries, caution must still be used by contractors. Some areas are urban terrain and have been significantly modified or disturbed. However, there may be undisturbed soil zones encountered adjacent to or under previous disturbances/fill.

The forestry contractor should contact the base Archaeologist, NEPA Section (703-432-6781/0519) immediately if artifacts (e.g., metal tools, arrowheads, etc.) appearing to pre-date the 20th century or unusual soil zones are encountered during excavation.

In the event there are any unexpected discoveries of potential human remains (e.g., bones or bone fragments), work must be halted or diverted to other areas until appropriate measures are taken. Contract Project Managers must be informed that any human remains encountered are protected by state and federal law. The following procedures must be followed:

- Halt work at the location leaving remains in place and any associated features and objects
- Notify base Archaeologist/NEPA Section per Section 7.0 of this EA
- Redesign project to avoid remains, if possible
- The base Archaeologist/NEPA Section will contact the SHPO, and if remains are Native American will contact tribe(s)

Removal of remains requires a permit from the SHPO, including the participation of a skeletal biologist or physical anthropologist, and plans to make appropriate notifications to possible descendants/relatives and other measures in accordance with state law and Advisory Council on Historic Preservation (ACHP) guidelines.

4.5 Biological Resources

This analysis focuses on wildlife or vegetation types that are important to the function of the ecosystem or are protected under federal or state law or statute.

4.5.1 Alternative A - No Action

Under Alternative A, the proposed project would not occur and there would be no change to biological resources. Therefore, no significant impacts to biological resources would occur with implementation of the No Action Alternative.

4.5.2 Alternative B

The study area for the analysis of effects to biological resources associated with Alternative B includes loblolly pine Units 1-12.

4.5.2.1 Potential Impacts

Initial consultation with the USFWS was submitted through their Information for Planning and Consultation (IPaC) online system.

There are SWP colonies/protection areas that are located near the proposed action areas. Unit 8 borders the Washboard Rd. Colony (see Figure 2.1.5). However, there are no SWP colonies or potential habitat within the boundaries of any of the 12 loblolly pine units, and none of the units are considered suitable habitat for the SWP. As a result, there will be no effect on the federally-threatened SWP as a consequence of the proposed action.

The dwarf wedgemussel, sensitive joint-vetch, yellow lance and harperella are not found in areas that would be affected by the implementation of Alternative B.

To mitigate any impacts to the federally-endangered Indiana bat as well as the federally-threatened NLEB, MCBQ will adhere to the more stringent Indiana bat time of year restriction (TOYR) from 15 April - 15 September inclusive. This corresponds with both species active pup season. During this time, no tree removal will occur. All tree removal will be performed outside of the TOYR. The little brown and tri-colored bats were not detected within any of the proposed action locations. If a maternity colony for any state or federally listed bat species is encountered during timber removal activities, the project proponent must cease all timber removal activities and contact their contracting representative and NREA. The state-endangered Virginia piedmont waterboatman and brook floater are not found in areas that will be impacted by the proposed action.

4.6 Land Use

The location and extent of a proposed action needs to be evaluated for its potential effects on a project site and adjacent land uses. Factors affecting a proposed action in terms of land use include its compatibility with on-site and adjacent land uses, restrictions on public access to land, or change in an existing land use that is valued by the community. Other considerations are given to proximity to a proposed action, the duration of a proposed activity, and its permanence.

4.6.1 Recreation

4.6.2.1 Potential Impacts

Any disruption of hunting and hiking activities would be temporary. Additionally, there is sufficient hunting and hiking activities on the base that may be utilize throughout the duration of the implementation of Alternative B. Once the proposed action is completed, these locations can again be utilized for recreational activities. Alternative B would not have an adverse effect on hunting, fishing, or hiking opportunities aboard MCBQ.

4.7 Military Training and Airspace

The analysis or airspace management and use involves consideration of many factors including the types, locations, frequency of aerial and other military or training operations, the presence or absence of already designated (controlled) airspace or ranges, and the amount of air traffic or military personnel transiting through a given area.

4.7.1 Alternative A - No Action

The no action alternative would not cause any impacts to training.

4.7.2 Alternative B

4.7.2.1 Potential Impacts

During the implementation of the proposed action, there is a possibility that Marine training at GP-04 will be disrupted. To eliminate the possibility of conflicts, MCBQ-NREA Forestry will

contact and coordinate with MCBQ Range Management Branch before performing any tree removal or other activities. Currently, TBS has an excess amount of gun points so if any conflicts do arise, training will be temporarily re-located to the other gun point locations. The proposed action will not cause any additional impacts to Marine Corps training and readiness.

4.8 Noise

Analysis of potential noise impacts includes estimating likely noise levels from the Proposed Action and determining potential effects to sensitive receptor sites.

4.8.1 Alternative A - No Action

The no action alternative would not impact existing noise levels on the base or the surrounding area.

4.8.2 Alternative B

4.9.2.1 Potential Impacts

Existing noise at and around the project area is largely attributed to activities associated with activity at the M-Demo complex, GP-04, Range 5, and other activities associated with training.

Implementation of the proposed action would generate short-term, temporary noise from logging operations (i.e., noise from logging equipment and trucks as well as worker vehicles). The proposed action alternative would not have a permanent increase on noise levels.

Noise associated with timber removal activities under Alternative B would be temporary. There are homes located near the southern boundary on arterial roads feeding Garrisonville Rd. (Virginia State Route-610) near the location of Unit 12 and there is a residential subdivision near the southern boundary near Units 5-7. However, these locations are mostly outside of the noise levels generated by nearby ranges. Any new activity would be generated by human, timber removal, vehicles, or other activities that are considered normal. There are no hospitals, schools or other sensitive noise receptors near any of the proposed action locations. All noise generated by the timber removal activities would be temporary and would end after the proposed action implementation has concluded. The proposed

action is not expected to result in any significant noise impacts.

4.9 Transportation

Impacts to ground traffic and transportation are analyzed by considering the possible changes to existing traffic conditions and the capacity of area roadways from proposed increases in commuter and construction traffic.

4.9.1 Alternative A - No Action

Under the no action alternative, the current conditions will remain the same. The conditions of road segments leading from SR-643 to Units 3 and 4 will remain the same and not be upgraded. Road segments from Washboard Rd. terminating at Units 8 and 9 will also remain in the same condition.

4.9.2 Alternative B

4.9.2.1 Potential Impacts

A component of the proposed action involves repairing road segments that terminate at Units 3, 4, 8, and 9. The roads will be smoothed and have aggregate placed where necessary as well as have shoulder corrections. All work performed will be within the existing right of way and no vegetation removal will occur. The will be no adverse impacts due to the road improvement component of the proposed action.

4.10 Public Health and Safety

The safety and environmental health analysis contained in the respective sections addresses issues related to the health and well-being of military personnel and civilians living and/or working on or in the vicinity of MCBQ. Additionally, this section addresses the environmental health and safety risks to children.

4.10.1 Alternative A - No Action

This alternative would maintain the status quo and would not have additional effects on health and safety.

4.10.2 Alternative B

Potential Impacts

MCBQ includes active and former ranges and there is always the potential to encounter unexploded military munitions, discarded military munitions, and/or munitions and explosives of concern during excavating activities and earth disturbing activities. Potential land disturbances associated with this project would include tree removal but would not include the removal of the tree stumps. Other potential ground disturbance activities would include road improvements but no vegetation removal will occur.

The proposed action locations are not near or within a UXO or Munitions Response Site. Units, 3, 4, 5, 7, and 12 are within the non-dudded impact area of MCBQ. The guidance outlined below must be followed:

According to the MCO 5090.2. Volume 10, Chapter 3, Paragraph 031702, if contamination is discovered during construction and it is Defense Environmental Restoration Program (DERP) eligible, NAVFACENGCOM can carry out the site investigation/cleanup using ER,N funds. However, the site will compete with other ER sites based on risk management. If ER,N funding is not available in time to meet the construction schedule, the installation must use project funds to investigate/clean up the site.

5.0 Cumulative Impacts

This section (1) defines cumulative impacts, (2) describes past, present, and reasonably foreseeable future actions relevant to cumulative impacts, (3) analyzes the incremental interaction the proposed action may have with other actions, and (4) evaluates cumulative impacts potentially resulting from these interactions.

5.1 Definition of Cumulative Impacts

The approach taken in the analysis of cumulative impacts follows the objectives of the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations, and CEQ guidance. Cumulative impacts are defined in 40 CFR section 1508.7 as "the impact on the environment that results from the incremental impact of the action when added to the other past,

present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time."

To determine the scope of environmental impact analyses, agencies shall consider cumulative actions, which when viewed with other proposed actions have cumulatively significant impacts and should therefore be discussed in the same impact analysis document.

In addition, CEQ and USEPA have published guidance addressing implementation of cumulative impact analyses—Guidance on the Consideration of Past Actions in Cumulative Effects Analysis (CEQ 2005) and Consideration of Cumulative Impacts in EPA Review of NEPA Documents (USEPA 1999). CEQ guidance entitled Considering Cumulative Impacts Under NEPA (1997) states that cumulative impact analyses should

"...determine the magnitude and significance of the environmental consequences of the proposed action in the context of the cumulative impacts of other past, present, and future actions...identify significant cumulative impacts...[and]...focus on truly meaningful impacts."

Cumulative impacts are most likely to arise when a relationship or synergism exists between a proposed action and other actions expected to occur in a similar location or during a similar time period. Actions overlapping with or in close proximity to the proposed action would be expected to have more potential for a relationship than those more geographically separated. Similarly, relatively concurrent actions would tend to offer a higher potential for cumulative impacts. To identify cumulative impacts, the analysis needs to address the following three fundamental questions.

- Does a relationship exist such that affected resource areas of the proposed action might interact with the affected resource areas of past, present, or reasonably foreseeable actions?
- If one or more of the affected resource areas of the proposed action and another action could be expected to interact, would the proposed action affect or be affected by impacts of the other action?
- If such a relationship exists, then does an assessment reveal any potentially significant impacts not identified when the proposed action is considered alone?

5.2 Scope of Cumulative Impacts Analysis

The scope of the cumulative impacts analysis involves both the geographic extent of the effects and the time frame in which the effects could be expected to occur. For this EA, the study area delimits the geographic extent of the cumulative impacts analysis. In general, the study area will include those areas previously identified in Chapter 4 for the respective resource areas. The time frame for cumulative impacts centers on the timing of the proposed action.

Another factor influencing the scope of cumulative impacts analysis involves identifying other actions to consider. Beyond determining that the geographic scope and time frame for the actions interrelate to the proposed action, the analysis employs the measure of "reasonably foreseeable" to include or exclude other actions. For the purposes of this analysis, public documents prepared by federal, state, and local government agencies form the primary sources of information regarding reasonably foreseeable actions. Documents used to identify other actions include notices of intent for EISs and EAs, management plans, land use plans, and other planning related studies.

5.3 Past, Present, and Reasonably Foreseeable Actions

This section will focus on past, present, and reasonably foreseeable future projects at and near the proposed project location. In determining which projects to include in the cumulative impacts analysis, a preliminary determination was made regarding the past, present, or reasonably foreseeable action. Specifically, using the first fundamental question included in Section 5.1, it was determined if a relationship exists such that the affected resource areas of the Proposed Action (included in this EA) might interact with the affected resource area of a past, present, or reasonably foreseeable action. If no such potential relationship exists, the project was not carried forward into the cumulative impacts analysis. In accordance with CEQ guidance (CEQ 2005), these actions considered but excluded from further cumulative effects analysis are not catalogued here as the intent is to focus the analysis on the meaningful actions relevant to informed decision-making.

5.3.1 Past Actions

- Construction of Marine Corps Information Operations Center (MCIOC).
- Construction of Addition to Building 27410 for Marine Corps Network Operations Center (MCNOC).
- Demolition of Building 27220, Target Warehouse.
- P644 Dining Facility.

5.3.2 Present and Reasonably Foreseeable Actions

- Establishment of a Crossing at Cannon Creek and Reestablishment of a Perimeter Trail in TA7A and 9C.
- Construction of the Range 5 Staging Area.
- Construction of a Mini Mart near intersection of MCB-1 and Hotpatch Rd.
- Ammunition Supply Point (ASP) expansion.
- Timber Harvest in TA10A, TA10C and TA11A.
- Platoon Attack Range in TA10A, TA10C and TA15B.

5.3.3 Future projects

- Construction of Two COCO Retail Fuel Service Facilities.
- The TA12B Boundary Adjustment.
- Improve the intersection of MCB-1 and MCB-2 with the addition of a traffic circle.
- Construct new TBS fire station.
- Construction of three large warehouses to create consolidated storage area.
- P-656 Visitor Control Center along Russell Rd. prior to existing gate house.
- Construct new Game Check Station to the west of ASP along MCB-1.
- Demolition of old Game Check Station on Telegraph Loop.

5.4 Cumulative Impact Analysis

Where feasible, the cumulative impacts were assessed using quantifiable data; however, for many of the resources included for analysis, quantifiable data is not available and a qualitative analysis was undertaken. In addition, where an analysis of potential environmental effects for future actions has not been completed, assumptions were made regarding

cumulative impacts related to this EA where possible. The analytical methodology presented in Chapter 4, which was used to determine potential impacts to the various resources analyzed in this document, was also used to determine cumulative impacts.

Figure 5.4.1 summarizes the overall impacts of Alternative B. Figure 5.4.2 displays the impact of forest cover based on several similar actions that are currently being implemented or will be implemented in the near future at MCBQ.

Environmental Impact Evaluation Matrix			
Resource			
	Action	TA's 5B, 7A, 7B, 7C and 16D - Units 1-	
		12.	
Air Quality	No effect	No effect	
_			
		No effect: A 50 foot buffer will be	
		maintained around all perennial,	
Water Resources	No effect	intermittent streams and wetlands.	
		No effect: Best Management Practices	
		(BMPs) will eliminate any impacts to	
Geological Resources	No effect	soils.	
		No effect; implementation of the	
		proposed action would either involve	
		no ground disturbance or very limited	
Cultural Resources	No effect	ground disturbance.	
		5	
		Not likely to adversely affect:	
		USFWS TOYR will be implemented from	
		15 April - 15 September to reduce	
		impacts to the NLEB and Indiana bat.	
		No tree removal will occur during the	
		_	
		USFWS TOYR. Action proponent will	
		contact the contracting	
		representative and NREA if a	
		maternity colony, summer roost or	
		winter hibernacula for any federally-	
		listed or state-listed species is	
		encountered during implementation of	
Biological Resources	No effect	the proposed action.	
Noise	No effect	No effect	
		No effect; all road segment repairs	
		will occur within the existing right	
		of way and will not involve and	
		vegetation removal or other impacts	
Manage and a total and	No officet		
Transportation	No effect	to natural or cultural resources.	
		No effect; existing training will not	
		be impacted. NREA Forestry will	
		coordinate all activities with MCBQ	
Military Training	No effect	RMB.	
Dublic Hoolth and			
Public Health and			
Safety/Munitions			
Response	No effect	No effect	

Figure 5.4.1

Forest Cover Remaining at MCBQ after				
implementation of the Timber Harvest in TA's				
5B, 7A, 7B, 7C and 16D - Units	1-12.			
Current	52,090.00			
MCIOC	52,089.90			
New Fire Station	52,089.60			
Mini Mart	52,089.50			
Westside COCO Facility	52,084.70			
Range 5 Staging Area	52,071.00			
TA12B Adjustment	52,068.10			
ASP Expansion	52 , 068.08			
Establishment of a Perimeter Trail in TA7A and TA9C	52,051.08			
Establishment of a Platoon Attack Range in TA10A, 10C and				
11A	52 , 021.47			
Timber Harvest in TA10A, TA10C	52 , 021.47			
Timber Harvest in TA's 5B, 7A,				
7C, and 16D - Units 1-12.	52,021.47			

Figure 5.4.2

The proposed action will involve thinning or selectively removing timber within 12 loblolly pine units totaling approximately 228 acres. There will be either limited ground disturbance or no ground disturbance as the tree stumps will remain. Road segments that terminate at Units 3, 4, 8 and 9 will be improved however no vegetation will be removed as the improvements will occur within the existing rights of way. Although less dense, the twelve loblolly pine units will still remain significantly forested and wildlife habitat will be enhanced. Approximately 52,021.47 acres of forest cover will remain at MCBQ.

Water resources, such as streams and wetlands as well as cultural resources, will be avoided by the proposed action while not contributing to any impacts on MCBQ that occurred in the past or contribute to any impacts as a result of projects that

are currently being implemented on MCBQ that may occur in the future.

6.0 Other Considerations Required By NEPA

6.1 Consistency with Other Federal, State, and Local Laws, Plans, Policies, and Regulations

In accordance with 40 Code of Federal Regulations (CFR) section 1502.16(c), analysis of environmental consequences shall include discussion of possible conflicts between the Proposed Action and the objectives of federal, regional, state and local land use plans, policies, and controls. Table 6-1 identifies the principal federal and state laws and regulations that are applicable to the Proposed Action, and describes briefly how compliance with these laws and regulations would be accomplished.

• Table 6-1 Principal Federal and State Laws Applicable to the Proposed Action

Federal, State, Local, and	
Regional Land Use Plans,	Status of Compliance
Policies, and Controls	
National Environmental	EA
Policy Act (NEPA); CEQ	
NEPA implementing	
regulations; Navy/USMC	
procedures for	
Implementing NEPA; Sikes	
Act; DoD Directive 4700.4	
	Compliant - Eligible for RONA. All
Clean Air Act	guidance pertaining to open burning
	and fugitive dust emissions/visible
	emissions will be followed.
Clean Water Act; 11990,	Compliant - Will maintain a 50 ft.
Protection of Wetlands	buffer round all streams and
	wetlands. No fill or discharge
	will occur into streams, wetlands
	or other designated waters of the
	U.S.
	Compliant - Proposed action will
National Historic	not involve significant ground
Preservation Act	disturbance. Tree stumps will be
	left in place.

• Table 6-1 Principal Federal and State Laws Applicable to the Proposed Action

Federal, State, Local, and	
Regional Land Use Plans,	Status of Compliance
	Status of Compilance
Policies, and Controls	
Endangered Species Act	Compliant - None of the loblolly pine units are located within actual or potential habitats for the federally-threatened SWP. The federally-threatened sensitive joint-vetch will not be impacted by the proposed action. The federally-endangered harperalla will not be impacted by the proposed action. The federally-threatened yellow lance and federally-endangered dwarf wedgemussel will not be impacted by the proposed action. Proposed action is not likely to adversely affect the federally-threatened NLEB or federally-endangered Indiana bat. MCBQ will be implementing USFWS TOYR to prevent any impacts to the NLEB or the Indiana bat.
Migratory Bird Treaty Act	Compliant - Tree removal activities will occur outside of the nesting season.
Bald and Golden Eagle Protection	Compliant - Proposed action does not involve the removal of overstory trees within 330 ft. of a bald eagle nest. Proposed action is not within 660 ft. of a bald eagle nest or a bald eagle concentration area.
Resource Conservation and Recovery Act Executive Order 12088, Federal Compliance with	Compliant - Proposed action locations are not within former munitions sites, do not contain contamination, and are not a hazardous waste storage locations. Compliant - Proposed action locations are not former munitions
Pollution Control Standards; Toxic Substances Control Act (15 U.S.C. sections 2601-2629)	sites, do not contain UXOs and are not hazardous waste locations.

• Table 6-1 Principal Federal and State Laws Applicable to the Proposed Action

Federal, State, Local, and Regional Land Use Plans, Policies, and Controls	Status of Compliance	
Executive Order 11988, Floodplain Management	Compliant - Proposed action locations all occur outside of a 100-year floodplains and within areas of minimal risk.	
Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations	Compliant - Proposed action will not negatively impact minority communities. Any impacts would be temporary in nature and would be confined within the boundaries of MCBQ.	
Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks	Compliant - Proposed action will not negatively impact children. Any impacts would be temporary in nature and would be confined within the boundaries of MCBQ.	

6.2 Irreversible or Irretrievable Commitments of Resources

Resources that are irreversibly or irretrievably committed to a project are those that are used on a long-term or permanent basis. This includes the use of non-renewable resources such as metal and fuel, and natural or cultural resources. These resources are irretrievable in that they would be used for this project when they could have been used for other purposes. Human labor is also considered an irretrievable resource. Another impact that falls under this category is the unavoidable destruction of natural resources that could limit the range of potential uses of that particular environment.

Implementation of the proposed action would involve human labor; the consumption of fuel, oil, and lubricants for equipment as well as vehicles. Implementing the proposed action would not result in significant irreversible or irretrievable commitment of resources.

6.3 Relationship Between Short-Term Use of the Environment and Long-Term Productivity

NEPA requires an analysis of the relationship between a project's short-term impacts on the environment and the effects

that these impacts may have on the maintenance and enhancement of the long-term productivity of the affected environment. Impacts that narrow the range of beneficial uses of the environment are of particular concern.

In the short-term, effects to the human environment with implementation of the proposed action would primarily relate to the tree removal and road improvement activities themselves. The proposed action will cause minor impacts to noise, geology and recreational opportunities in the short-term. Any potential impacts to threatened and endangered species will be mitigated by implementing USFWS TOYR restrictions as well as BMPs to protect or reduce any impacts of the proposed action on those species. As a result, the proposed action will either not likely adversely affect or have no effect on threatened or endangered species.

The timber harvest would remove one-third of the trees within each of the loblolly pine units in TAs 5B, 7A, 7B, 7C and 16D, impacting a total of 228 acres. However, the majority of the trees that will be removed in Loblolly Pine Units 1-12 will be diseased, infested, damaged, dying, undesirable and/or fire producing tree species. Well over 52,000 acres of forest cover will remain at MCBQ. The less dense, spaced locations will allow healthier trees to grow therefore promoting a healthier forest, wildlife habitat, as well as better, long-term training areas for Marines. The improved roads will allow better travel to and from the units as well as to nearby areas. The proposed action would not significantly impact the long-term natural resource productivity of the area. The proposed action also would not result in any impacts that would significantly reduce environmental productivity or permanently narrow the range of beneficial uses of the environment.

7.0 Conclusions

Two alternatives were evaluated for the proposed action: The No Action Alternative, Alternative A and the Action Alternative, Alternative B - Timber Harvest in TAs 5B, 7A, 7B, 7C, and 16D - Units 1-12. It has been determined after thorough analysis, if guidance in Section 4.0 all BMPs and mitigations are followed, Alternative B will have no significant impact to human health and the environment.

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Appendix A Acronyms

The following list of abbreviations and acronyms are commonly used in Navy and USMC environmental planning documents and are presented to ensure they are applied in a consistent manner throughout all Navy and USMC environmental planning documents.

μPa - micropascal

AAQS - Ambient Air Quality Standard

ACM - Asbestos Containing Materials

Ae - Alluvial Land Wet

AGL - above ground level

AICUZ - Air Installation Compatible Use Zone

AlB - Appling Fine Sandy Loam, 2-6% Slopes

AlC2 - Appling Fine Sandy Loam, 6-15% Slopes, Eroded

AO - Area of Operations

AOR - Area of Responsibility

ApC3 - Appling Clay Loam, 6-15% Slopes, Severely Eroded

APE - Area of Potential Effect

APZ - Accident Potential Zone

ARPA - Archaeological Resources Protection Act

AsD - Ashlar Fine Sandy Loam, 6-15% Slopes, Severely Eroded

AsE - Ashlar Fine Sandy Loam, 15-25% Slopes

ASP - Ammunition Supply Point

ATC - air traffic control

ATFP - Antiterrorism Force Protection

AvD2 - Aura Gravelly Fine Sandy Loam, 10-18% Slopes Eroded

BA - Biological Assessment

BACT - Best Available Control Technology

BASH - bird/aircraft strike hazard

Bb - Bibb Fine Sandy Loam, 0-4% Slopes

BCC - Birds of Conservation Concern

BE - Biological Evaluation

BEQ - bachelor enlisted quarters

BMP - best management practice

BO - Biological Opinion

BOQ - bachelor officers quarters

CAA - Clean Air Act

CBPA - Cheaspeake Bay Preservation Act

CDD - Construction Demolition Debris

Ce - Cartecay Fine Sandy Loam

CEQ - Council on Environmental Quality

CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act

CH₄ - Methane

CfB2 - Cecil Fine Sandy Loam, 2-6% Slopes, Eroded

CfC2 - Cecil Fine Sandy Loam, 6-15% Slopes, Eroded

CFR - Code of Federal Regulations

ChC3 - Cecil Clay Loam, 6-15% Slopes, Severely Eroded

CgB2 - Cecil Gravelly Fine Sandy Loam, 2-6% Slopes, Eroded

CHPPM - Center for Health Promotion and Preventive Medicine

ClB - Colfax Fine Sandy Loam, 2-6% Slopes

Cmb - Colfax Fine Sandy Loam, Gravelly Subsoil Variant, 2-6% Slopes.

Cn - Congaree Loam

CNIC - Commander Navy Installations Command

CO - carbon monoxide

CO₂ - carbon dioxide

CO2e - carbon dioxide equivalent

CRM - Cultural Resources Manager

CWA - Clean Water Act

CZMA - Coastal Zone Management Act

dB - decibel

dBA - A-weighted sound level

dBC - C-weighted sound level

dbh - Diameter Breast Height

dBP - peak decibel

DEIS - Draft Environmental Impact Statement

DERP - Defense Environmental Restoration Program

DNL - day-night average sound level

DoA - Dogue Loam, 0-2% slopes.

DoD - United States Department of Defense

DON - United States Department of the Navy

DZ - Drop Zone

EA - Environmental Assessment

EAP - Encroachment Action Plan

ECPSOP - Environmental Compliance and Protection Standard Operating Procedures

EFH - Essential Fish Habitat

EIS - Environmental Impact Statement

EmC3 - Eiolak Silty Clay Loam, 6-15% Slopes, Severely Eroded

EO - Executive Order

EOD - explosive ordnance disposal

EPP - Environmental Protection Plan

ESA - Endangered Species Act

EPCRA - Emergency Planning and Community Right-to-Know Act

ESQD - explosive safety quantity distance

E & SC - Erosion and Sediment Control Plans

FaB - Fairfax, 2-6% Slopes

FAA - Federal Aviation Administration

FEIS - Final Environmental Impact Statement

FEMA - Federal Emergency Management Agency

FIFRA - Federal Insecticide, Fungicide, and Rodenticide Act

FIRM - Flood Insurance Rate Maps

FONSI - Finding of No Significant Impact

FPPA - Farmland Protection Policy Act

FY - fiscal year

GHG - greenhouse gas

GIS - geographic information system

GP-04 - Gun Position 4

HAP - hazardous air pollutant

HAPC - habitat areas of particular concern

HE - high explosive

HVAC - heat, ventilation and air conditioning

Hz - Hertz

ICRMP - Integrated Cultural Resources Management Plan

INRMP - Integrated Natural Resources Management Plan

IOC - Infantry Officer's Course

IRP - Installation Restoration Program

Iu - Iuka Fine Sandy Loam, Local Alluvium 0-4% Slopes

kHz - kilohertz

KO - Commanding Officer

LBP - lead based paint

LZ - Landing Zone

MaD - Manor Silt Loam, 6-15% Slopes

MBTA - Migratory Bird Treaty Act

MCIOC - Marine Corps Information Operations Center

MCAF - Marine Corps Air Facility

MCB - Marine Corps Base

MCBQ - Marine Corps Base Quantico

MCCS - Marine Corps Community Services

MCO - Marine Corps Order

MEC - Munitions and Explosives of Concern

MEM - military expended material

MILCON - military construction

MLLW - mean lower low water

MMRP - Military Munitions Response Program

MMBtu/hr - Thousand, Thousand, British Thermal Units per hour

MNOC - Marine Corps Network Operations Center

MOA - Military Operations Area

MOU - Memorandum of Understanding

MSFCMA - Magnuson-Stevens Fishery Conservation and Management Act

MSL - mean sea level

MTR - military training route

NAAQS - National Ambient Air Quality Standards

NaC2 - Nason Silt Loam, 6-15% Slopes, Eroded

NAGPRA - Native American Graves Protection and Reparation Act

NAVFAC - Naval Facilities Engineering Command

NEPA - National Environmental Policy Act

NEW - net explosive weight

NFPA - National Fire Protection Association

NHPA - National Historic Preservation Act

 NO_x - nitrogen oxides

NOA - notice of availability

NOI - Notice of Intent

NPDES - National Pollutant Discharge Elimination System

NPS - National Park Service

NREA - Natural Resources and Environmental Affairs

NRHP - National Register of Historic Places

NRO - Northern Red Oak

NSR - New Source Review

ODS - Ozone Depleting Substances

OPNAV - Office of the Chief of Naval Operations

OPNAVINST - Office of the Chief of Naval Operations Instruction

OSHA - Occupational Safety and Health Administration

PAH - polynuclear aromatic hydrocarbon

PCB - polychlorinated biphenyl

PM10 - particulate matter less than or equal to 10 microns in diameter

 $PM_{2.5}$ - particulate matter less than or equal to 2.5 microns in diameter

Ppb - parts per billion

Ppm - parts per million

Ppt - parts per thousand

PPV - public/private venture

PTS - permanent threshold shift

QMCBHD - Quantico Marine Corps Base

RAICUZ - Range Air Installation Compatible Use Zone

RCMP - Range Complex Management Plan

RCRA - Resource Conservation and Recovery Act

ROD - Record of Decision

ROI - Region of Influence

RONA - Record of Non-Applicability

RMA - Resource Management Areas

RPA - Resource Protection Areas

SAV - submerged aquatic vegetation

SDS - Safety Data Sheets

SEL - sound exposure level

SfB - Sassafras Fine Sandy Loam, 2-6% Slopes

SfC2 - Sassafras Fine Sandy Loam, 6-10% Slopes eroded

SHPO - State Historic Preservation Officer

SIP - State Implementation Plan

Sn - State Fine Sandy Loam, Local Alluvium

SO2 - sulfur dioxide

SOW - Statement of Work

SPL - sound pressure level

SR - State Route

SuC - Susquehanna Soils, 2-10 % Slopes

SWPP - Stormwater Pollution Prevention Plans

TA - Training Area

TeB - Tetotum Fine Sandy Loam, 2-6% Slopes

TBS - The Basic School

TMDL - Total Maximum Daily Load

TOYR - USFWS Time of Year Restriction

Tpy - tons per year

TSCA - Toxic Substances Control Act

TTS - temporary threshold shift

U.S.C. - United States Code

UAV - unmanned aerial vehicle

USACE - U.S. Army Corps of Engineers

USCERL - U.S. Army Corps of Engineer Research Laboratory

USEPA - U.S. Environmental Protection Agency

USFWS - U.S. Fish and Wildlife Service

USGS - U.S. Geological Survey

USMC - U.S. Marine Corps

UXO - unexploded ordnance

VDEQ - Virginia Department of Environmental Quality

VOCs - Volatile Organic Compounds

Wh - Wehadkee Very Fine Sandy Loam, 0-2% Slopes

WmC2 - Wickham Fine Sandy Loam, 6-12% Slopes Eroded.

WnB - Wickham Sandy Loam, Thin Solum, Variant, 2-6% Slopes

WO - White Oak

APPENDIX B Soil Maps



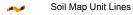
MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons



Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Candfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

OLIVE

Spoil Area

Stony Spot

Wery Stony Spot

Wet Spot

Other

Special Line Features

Water Features

Δ

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15.800.

Warning: Soil Map may not be valid at this scale.

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Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Stafford and King George Counties, Virginia Survey Area Data: Version 13, Oct 5, 2017

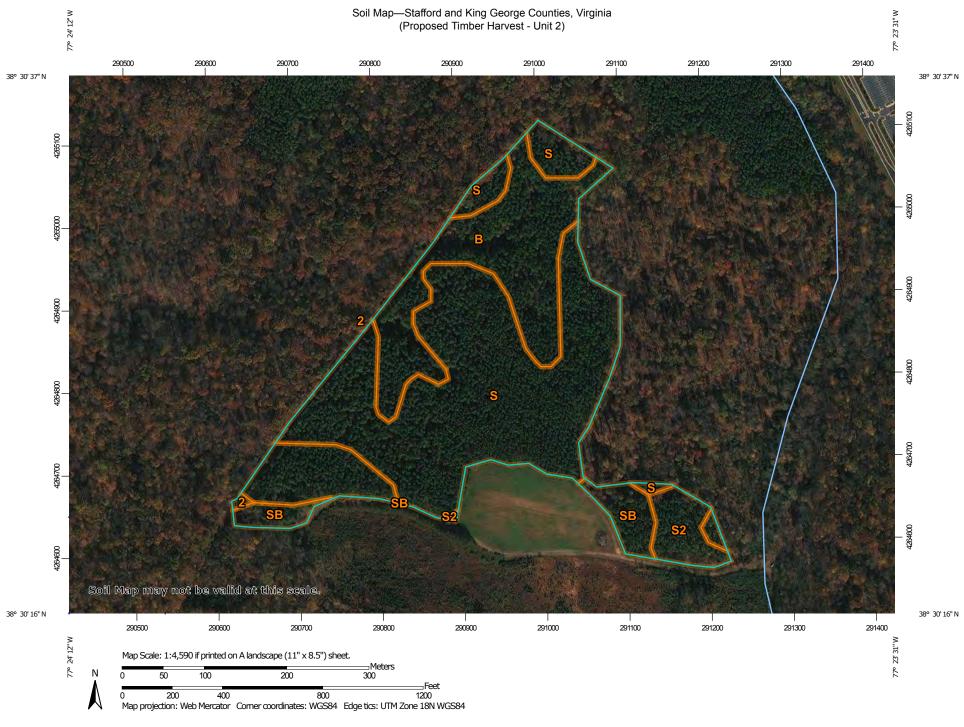
Soil map units are labeled (as space allows) for map scales 1:50.000 or larger.

Date(s) aerial images were photographed: Sep 25, 2014—Mar 10, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Bb	Bibb fine sandy loam, 0 to 4 percent slopes	0.5	4.8%
SuC	Susquehanna soils, 2 to 10 percent slopes	6.4	58.1%
ТеВ	Tetotum fine sandy loam, 2 to 6 percent slopes	4.1	37.1%
Totals for Area of Interest	'	11.0	100.0%



MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons



Soil Map Unit Lines



Soil Map Unit Points

Special Point Features

Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow Marsh or swamp





Mine or Quarry Miscellaneous Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot 0



Sinkhole



Slide or Slip



Sodic Spot

Spoil Area



Stony Spot



Very Stony Spot



Wet Spot Other



Special Line Features

Water Features

Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

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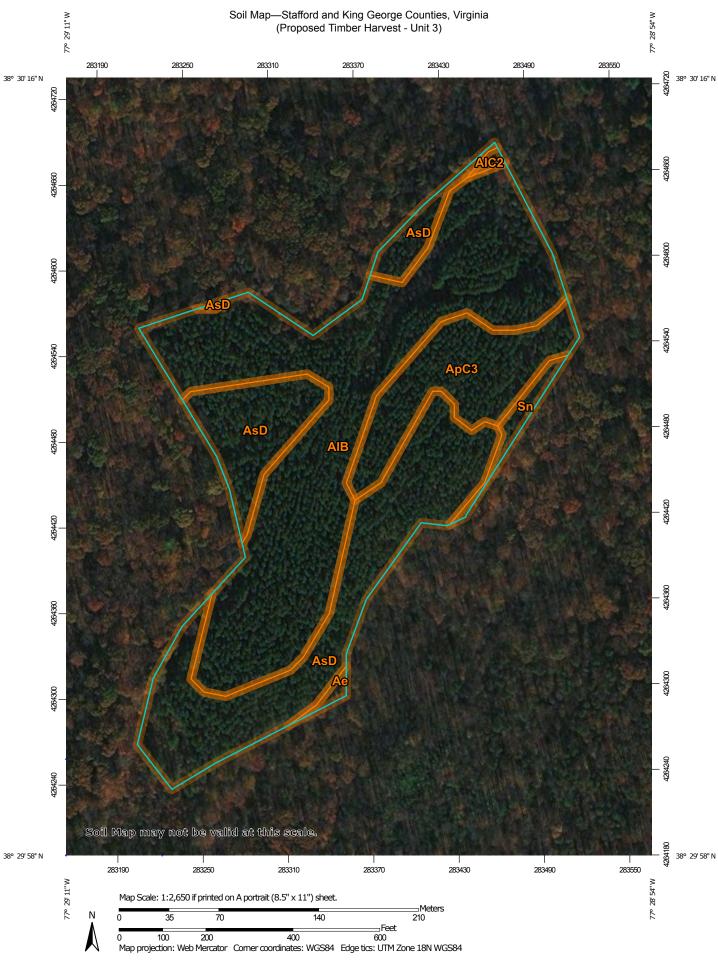
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Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AvD2	Aura gravelly fine sandy loam, 10 to 18 percent slopes, eroded	0.1	0.2%
lu	luka fine sandy loam, local alluvium, 0 to 4 percent slopes	2.7	8.2%
NaC2	Nason silt loam, 6 to 15 percent slopes, eroded	0.0	0.0%
SfB	Sassafras fine sandy loam, 2 to 6 percent slopes	1.8	5.6%
SfC2	Sassafras fine sandy loam, 6 to 10 percent slopes, eroded	1.5	4.8%
SuC	Susquehanna soils, 2 to 10 percent slopes	18.3	56.8%
ТеВ	Tetotum fine sandy loam, 2 to 6 percent slopes	7.8	24.3%
Totals for Area of Interest	'	32.2	100.0%



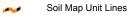
MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons



Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

* Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill ۵

Lava Flow Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot 0

Sinkhole

Slide or Slip

Sodic Spot

Spoil Area

â Stony Spot

0 Very Stony Spot

Wet Spot Other

Special Line Features

Water Features

Δ

Streams and Canals

Transportation

Rails ---

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

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Source of Map: Natural Resources Conservation Service Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

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Soil Survey Area: Stafford and King George Counties, Virginia Survey Area Data: Version 13, Oct 5, 2017

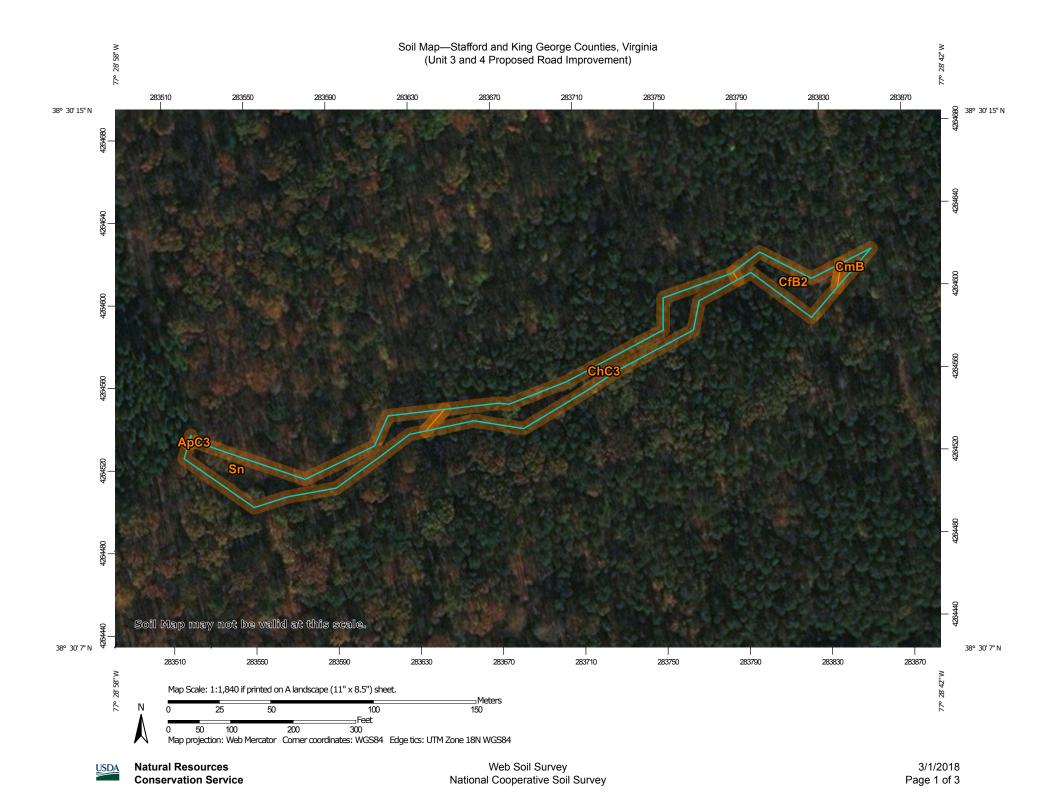
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Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ae	Alluvial land, wet	0.1	0.5%
AIB	Appling fine sandy loam, 2 to 6 percent slopes	8.0	49.7%
AIC2	Appling fine sandy loam, 6 to 15 percent slopes, eroded	0.1	0.3%
ApC3	Appling clay loam, 6 to 15 percent slopes, severely eroded	2.0	12.7%
AsD	Ashlar fine sandy loam, 6 to 15 percent slopes	5.7	35.2%
Sn	State fine sandy loam, local alluvium	0.3	1.7%
Totals for Area of Interest		16.1	100.0%

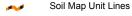


Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons



Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

Stony Spot

Very Stony Spot

Spoil Area

Wet Spot
Other

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

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Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
ApC3	Appling clay loam, 6 to 15 percent slopes, severely eroded	0.0	0.1%
CfB2	Cecil fine sandy loam, 2 to 6 percent slopes, eroded	0.2	17.9%
ChC3	Cecil clay loam, 6 to 15 percent slopes, severely eroded	0.4	39.9%
CmB	Colfax fine sandy loam, gravelly subsoil variant, 2 to 6 percent slopes	0.0	2.0%
Sn	State fine sandy loam, local alluvium	0.4	40.1%
Totals for Area of Interest		1.0	100.0%

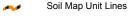


Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons



Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Saline Spot
Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

-

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Water Features

Streams and Canals

Transportation

+++ Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

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Date(s) aerial images were photographed: Sep 25, 2014—Mar 10, 2017

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI	
AIB	Appling fine sandy loam, 2 to 6 percent slopes	0.0	2.0%	
CfB2	Cecil fine sandy loam, 2 to 6 percent slopes, eroded	0.2	18.4%	
ChC3	Cecil clay loam, 6 to 15 percent slopes, severely eroded	0.2	24.4%	
CmB	Colfax fine sandy loam, gravelly subsoil variant, 2 to 6 percent slopes	0.2	20.4%	
Sn	State fine sandy loam, local alluvium	0.3	34.7%	
Totals for Area of Interest	·	0.8	100.0%	

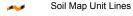


Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons



Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

* Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill ۵

Lava Flow

Marsh or swamp

Mine or Quarry Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot 0

Sinkhole

Slide or Slip

Sodic Spot

â Stony Spot

0 Very Stony Spot

Spoil Area

Wet Spot Other

Special Line Features

Water Features

Δ

Streams and Canals

Transportation

Rails ---

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

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Date(s) aerial images were photographed: Sep 25, 2014—Mar 10. 2017

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ae	Alluvial land, wet	0.2	1.1%
CfB2	Cecil fine sandy loam, 2 to 6 percent slopes, eroded	4.6	23.6%
ChC3	Cecil clay loam, 6 to 15 percent slopes, severely eroded	11.5	58.9%
Sn	State fine sandy loam, local alluvium	3.0	15.5%
Wh	Wehadkee very fine sandy loam, 0 to 2 percent slopes	0.2	0.9%
Totals for Area of Interest	,	19.4	100.0%



Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons



Soil Map Unit Lines



Soil Map Unit Points

Special Point Features

Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow Marsh or swamp





Mine or Quarry Miscellaneous Water

Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot 0



Sinkhole



Slide or Slip



Sodic Spot

Spoil Area



Stony Spot



Very Stony Spot



Wet Spot Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15.800.

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Date(s) aerial images were photographed: Sep 25, 2014—Mar 10. 2017

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AsD	Ashlar fine sandy loam, 6 to 15 percent slopes	2.8	29.2%
CfB2	Cecil fine sandy loam, 2 to 6 percent slopes, eroded	4.0	41.6%
ChC3	Cecil clay loam, 6 to 15 percent slopes, severely eroded	0.8	7.9%
Sn	State fine sandy loam, local alluvium	2.0	21.3%
Totals for Area of Interest		9.6	100.0%



Area of Interest (AOI) Area of Interest (AOI)

Soils

Soil Map Unit Polygons



Soil Map Unit Lines



Soil Map Unit Points

Special Point Features

Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot

Spoil Area



Stony Spot



Very Stony Spot



Wet Spot Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

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Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ae	Alluvial land, wet	0.0	0.4%
AsD	Ashlar fine sandy loam, 6 to 15 percent slopes	2.3	18.8%
CfB2	Cecil fine sandy loam, 2 to 6 percent slopes, eroded	2.5	20.4%
CfC2	Cecil fine sandy loam, 6 to 15 percent slopes, eroded	5.9	49.1%
ChC3	Cecil clay loam, 6 to 15 percent slopes, severely eroded	1.3	11.2%
Sn	State fine sandy loam, local alluvium	0.0	0.2%
Totals for Area of Interest	'	12.1	100.0%



Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons



Soil Map Unit Lines



Soil Map Unit Points

Special Point Features

Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow Marsh or swamp





Mine or Quarry Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot

Spoil Area



Stony Spot



Very Stony Spot



Wet Spot Other



Special Line Features

Water Features

Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

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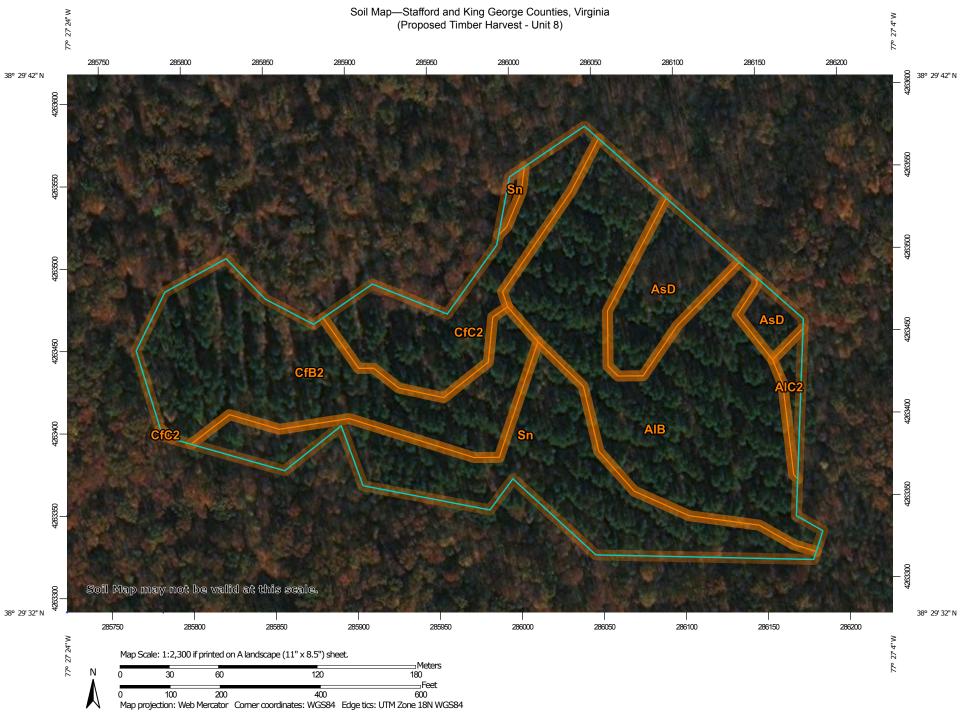
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Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AsD	Ashlar fine sandy loam, 6 to 15 percent slopes	0.3	2.1%
AsE	Ashlar fine sandy loam, 15 to 25 percent slopes	0.6	4.6%
CfB2	Cecil fine sandy loam, 2 to 6 percent slopes, eroded	8.1	64.4%
CfC2	Cecil fine sandy loam, 6 to 15 percent slopes, eroded	2.7	21.5%
Sn	State fine sandy loam, local alluvium	0.9	7.4%
Totals for Area of Interest		12.6	100.0%



Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons



Soil Map Unit Lines



Soil Map Unit Points

Special Point Features

Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow Marsh or swamp





Mine or Quarry Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot





Slide or Slip

Sinkhole



Sodic Spot

Spoil Area



Stony Spot



Very Stony Spot



Wet Spot Other



Special Line Features

Water Features

Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

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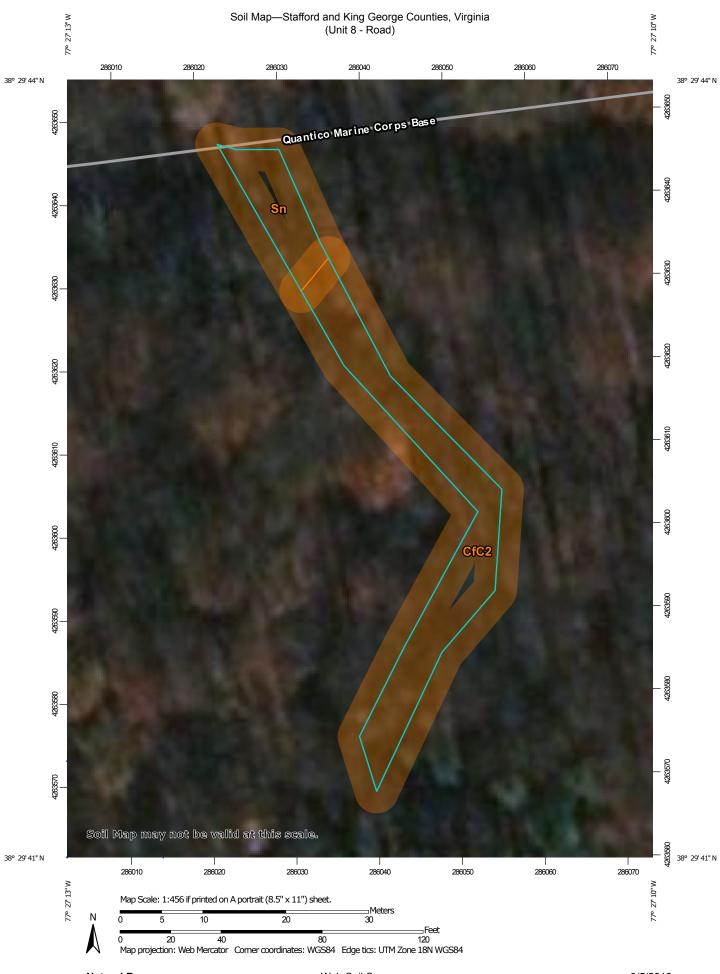
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Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AIB	Appling fine sandy loam, 2 to 6 percent slopes	5.0	32.8%
AIC2	Appling fine sandy loam, 6 to 15 percent slopes, eroded	0.2	1.3%
AsD	Ashlar fine sandy loam, 6 to 15 percent slopes	1.3	8.8%
CfB2	Cecil fine sandy loam, 2 to 6 percent slopes, eroded	3.6	23.5%
CfC2	Cecil fine sandy loam, 6 to 15 percent slopes, eroded	1.8	12.1%
Sn	State fine sandy loam, local alluvium	3.3	21.6%
Totals for Area of Interest		15.1	100.0%

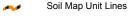


Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons



Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

→ Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

8

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Other

Special Line Features

Water Features

Δ

Streams and Canals

Transportation

+++ Rails

Interstate Highways

~

US Routes

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Major Roads Local Roads

\sim

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15.800.

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Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

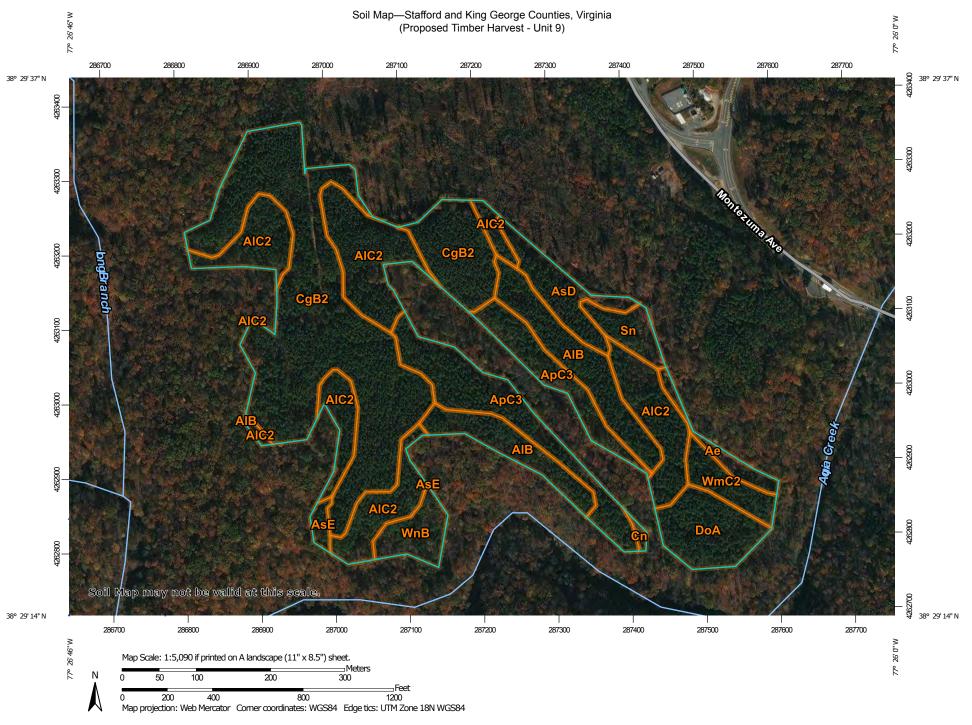
This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Stafford and King George Counties, Virginia Survey Area Data: Version 13, Oct 5, 2017

Soil map units are labeled (as space allows) for map scales 1:50.000 or larger.

Date(s) aerial images were photographed: Sep 25, 2014—Mar 10, 2017

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CfC2	Cecil fine sandy loam, 6 to 15 percent slopes, eroded	0.1	76.3%
Sn	State fine sandy loam, local alluvium	0.0	23.7%
Totals for Area of Interest		0.1	100.0%



Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons



Soil Map Unit Lines



Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Candfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

OLIVE

Spoil Area

Stony Spot

Very Stony Spot

y Wet Spot

△ Other

Special Line Features

Water Features

Streams and Canals

Transportation

+++ Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15.800.

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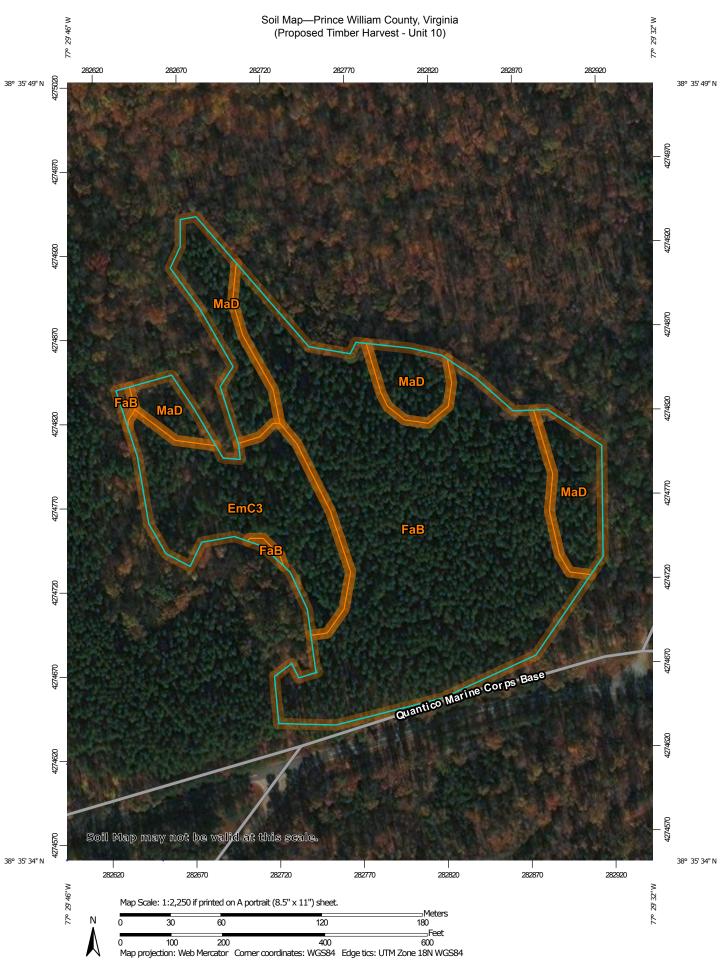
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Soil map units are labeled (as space allows) for map scales 1:50.000 or larger.

Date(s) aerial images were photographed: Sep 25, 2014—Mar 10, 2017

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ae	Alluvial land, wet	0.8	1.5%
AIB	Appling fine sandy loam, 2 to 6 percent slopes	5.6	10.5%
AIC2	Appling fine sandy loam, 6 to 15 percent slopes, eroded	11.7	22.1%
ApC3	Appling clay loam, 6 to 15 percent slopes, severely eroded	6.5	12.3%
AsD	Ashlar fine sandy loam, 6 to 15 percent slopes	2.1	4.0%
AsE	Ashlar fine sandy loam, 15 to 25 percent slopes	0.4	0.7%
CgB2	Cecil gravelly fine sandy loam, 2 to 6 percent slopes, eroded	19.0	35.8%
Cn	Congaree loam	0.1	0.3%
DoA	Dogue loam, 0 to 2 percent slopes	2.8	5.2%
Sn	State fine sandy loam, local alluvium	1.2	2.2%
WmC2	Wickham fine sandy loam, 6 to 12 percent slopes, eroded	1.4	2.6%
WnB	Wickham sandy loam, thin solum, variant, 2 to 6 percent slopes	1.5	2.8%
Totals for Area of Interest		53.0	100.0%



Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons



Soil Map Unit Lines



Soil Map Unit Points

Special Point Features

Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow Marsh or swamp





Mine or Quarry Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot

Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot

Spoil Area



Stony Spot



Very Stony Spot



Wet Spot Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15.800.

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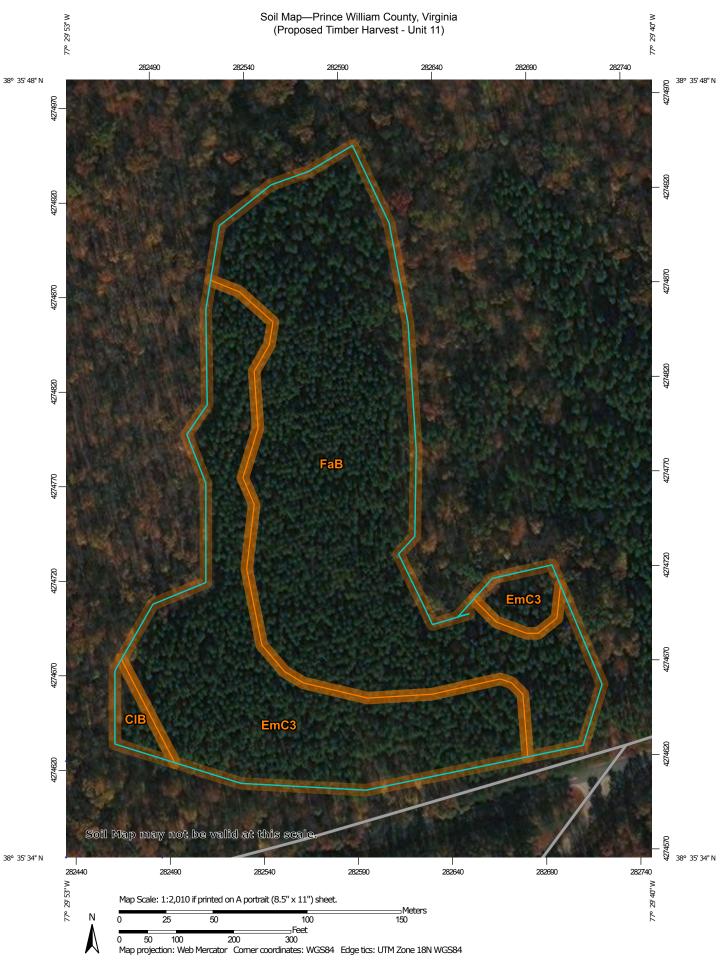
This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Prince William County, Virginia Survey Area Data: Version 14, Oct 5, 2017

Soil map units are labeled (as space allows) for map scales 1:50.000 or larger.

Date(s) aerial images were photographed: Sep 25, 2014—Mar 10. 2017

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
EmC3	Elioak silty clay loam, 6 to 15 percent slopes, severely eroded	2.1	18.4%
FaB	Fairfax loam, 2 to 6 percent slopes	7.0	62.6%
MaD	Manor silt loam, 6 to 15 percent slopes	2.1	19.0%
Totals for Area of Interest		11.2	100.0%



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0

Δ

Water Features

Transportation

Background

Spoil Area

Stony Spot

Wet Spot

Other

Rails

US Routes

Major Roads

Local Roads

Very Stony Spot

Special Line Features

Streams and Canals

Interstate Highways

Aerial Photography

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons



Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

+ Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

MAP INFORMATION

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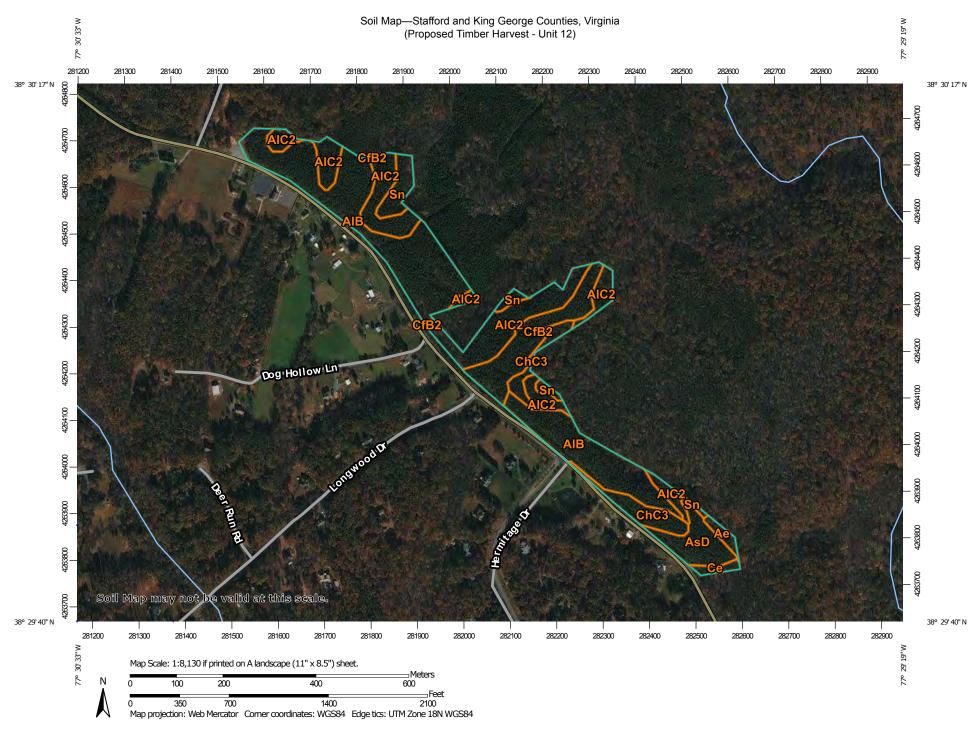
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Date(s) aerial images were photographed: Sep 25, 2014—Mar 10, 2017

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CIB	Colfax fine sandy loam, 2 to 6 percent slopes	0.2	1.7%
EmC3	Elioak silty clay loam, 6 to 15 percent slopes, severely eroded	4.5	39.2%
FaB	Fairfax loam, 2 to 6 percent slopes	6.8	59.1%
Totals for Area of Interest		11.5	100.0%

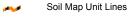


Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons



Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Sandy Spot

Severely Eroded Spot

Saline Spot

Sinkhole

Slide or Slip

Sodic Spot

8

0

Spoil Area



Very Stony Spot



△ Other

Special Line Features

Water Features

Streams and Canals

Transportation

+++ Rails

Interstate Highways

~

US Routes

Major Roads

Local Roads

Background

100

Aerial Photography

MAP INFORMATION

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Date(s) aerial images were photographed: Sep 25, 2014—Mar 10, 2017

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ae	Alluvial land, wet	0.5	1.2%
AIB	Appling fine sandy loam, 2 to 6 percent slopes	18.3	42.1%
AIC2	Appling fine sandy loam, 6 to 15 percent slopes, eroded	11.5	26.5%
AsD	Ashlar fine sandy loam, 6 to 15 percent slopes	2.8	6.4%
Се	Cartecay fine sandy loam	0.4	1.0%
CfB2	Cecil fine sandy loam, 2 to 6 percent slopes, eroded	4.8	11.1%
ChC3	Cecil clay loam, 6 to 15 percent slopes, severely eroded	3.0	6.8%
Sn	State fine sandy loam, local alluvium	2.1	4.9%
Totals for Area of Interest		43.4	100.0%

Appendix C National Historical Preservation Act Documentation

From: Roberts CIV Catherine E

To: Siddall CIV Darien G

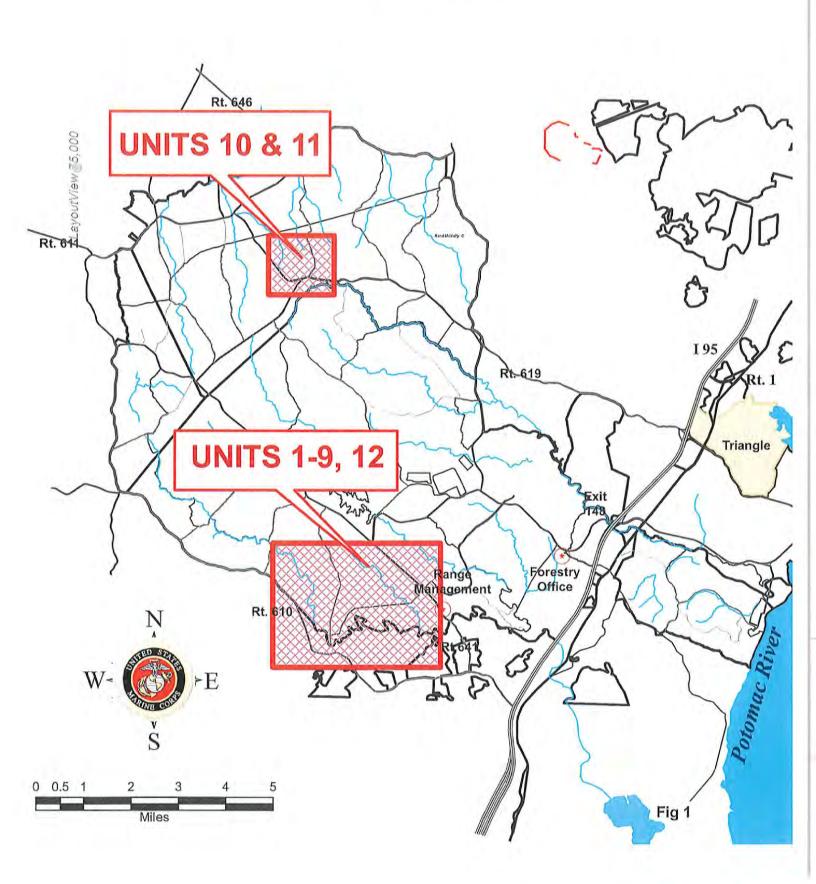
Date: Monday, December 17, 2018 1:58:38 PM

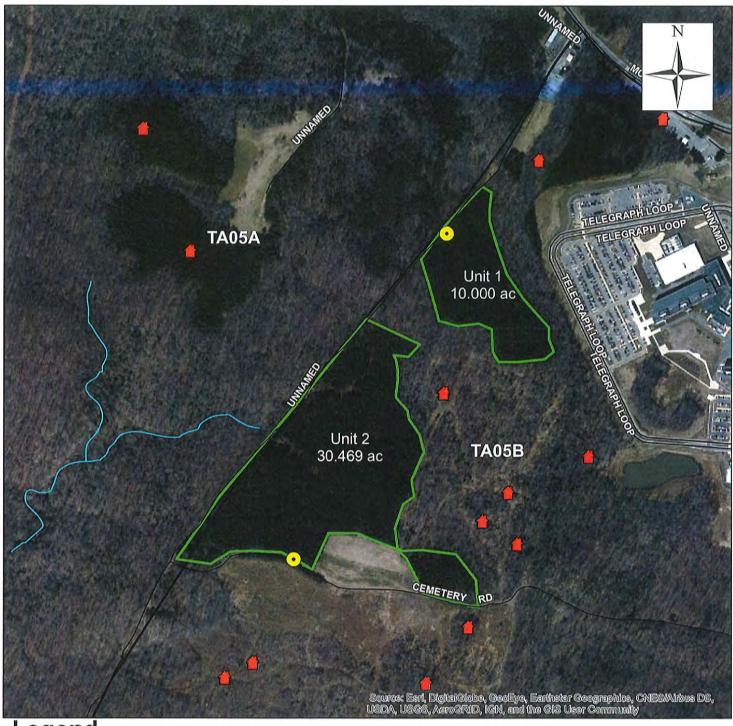
FY 20 Timber Harvest in TA 5B, 7A, 7B, 7C, and 16D -With Units 1-12 were reviewed under the Programmatic Agreement and were found by the CRM of MCBQ that there will be no adverse effects to cultural resources in these areas.

Kate Roberts Marine Corps Base Quantico Archaeologist 703 432 6781

Appendix D Endangered Species Consultation

General Area Map Loblolly Pine Stands

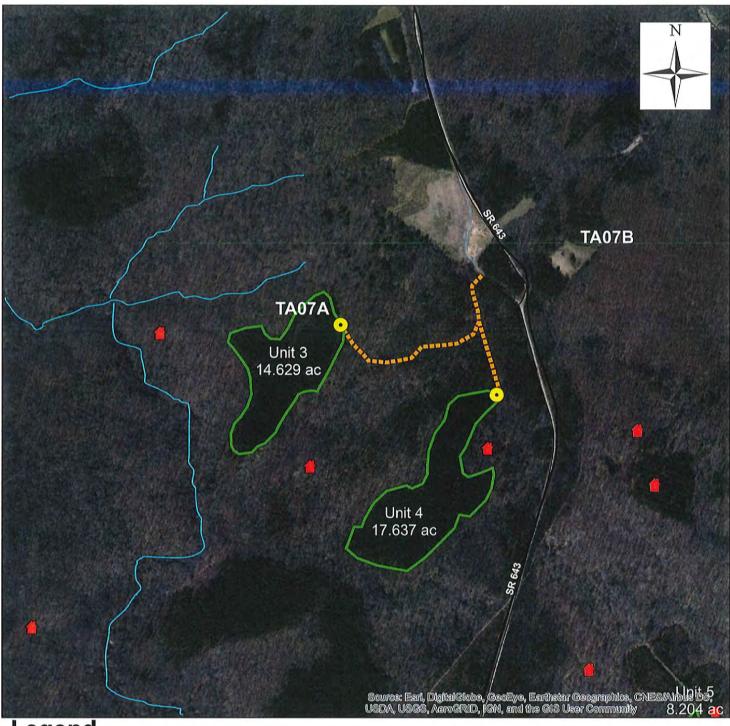




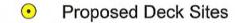
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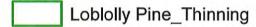
- Proposed Deck Sites
- Loblolly Pine_Thinning
 - Home Sites
- ---- Streams
- Rd Improvement

Number of Units: 12



Legend



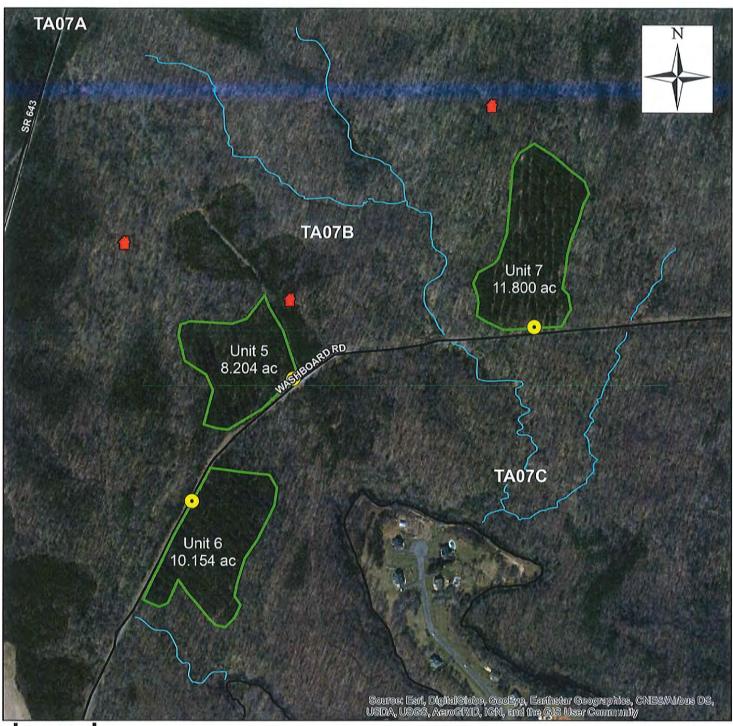


Home Sites

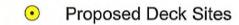
Streams

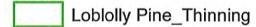
Rd Improvement

Number of Units: 12



Legend



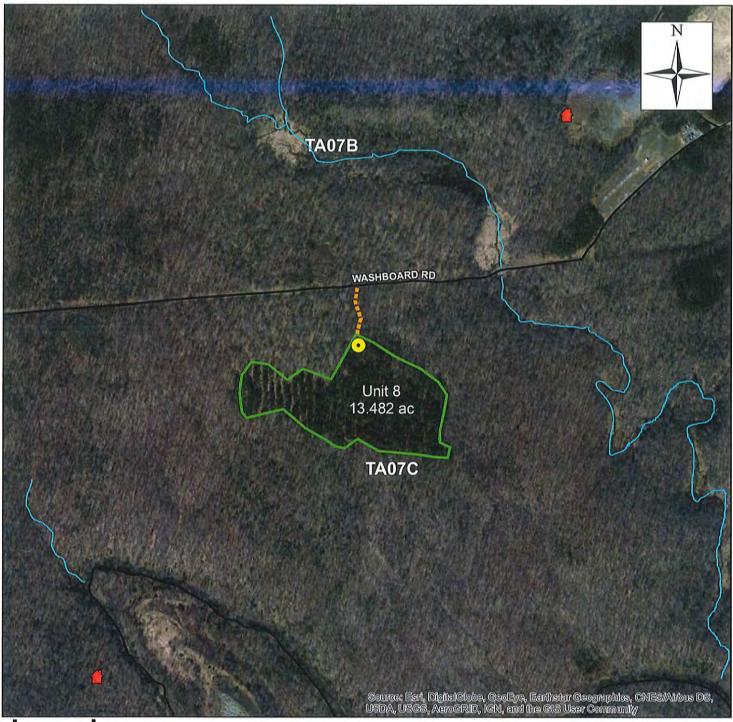


Home Sites

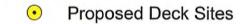
---- Streams

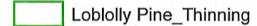
Rd Improvement

Number of Units: 12



Legend



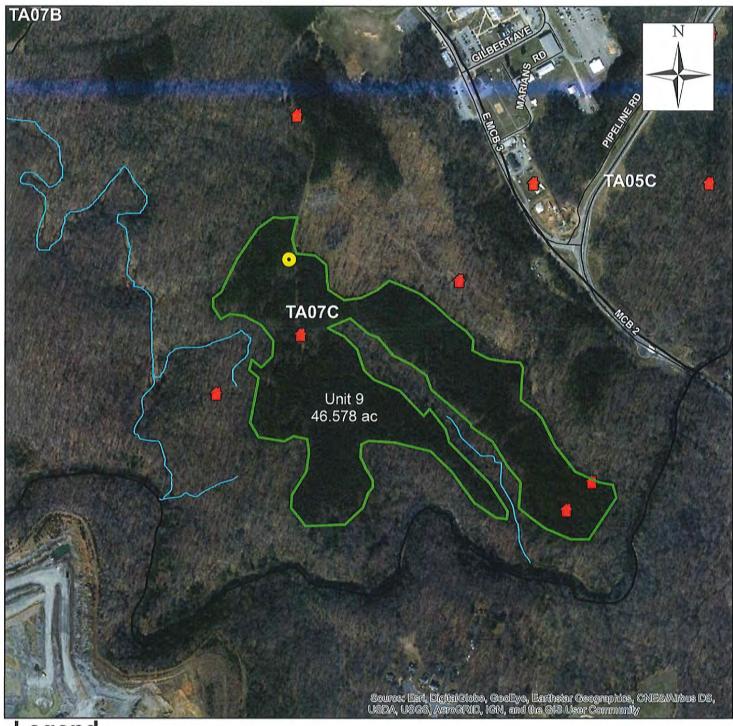




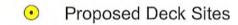
---- Streams

Rd Improvement

Number of Units: 12



Legend



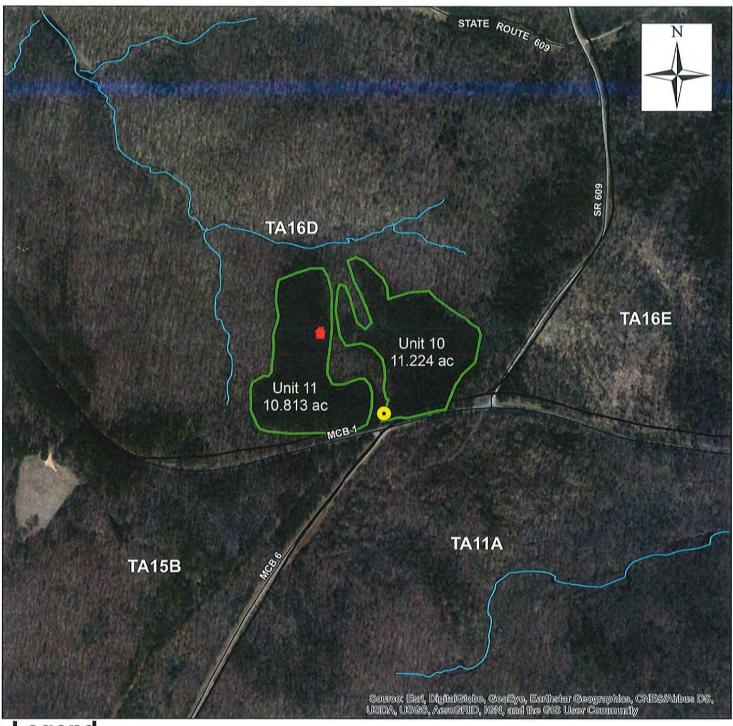


Home Sites

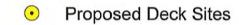
---- Streams

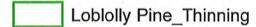
Rd Improvement

Number of Units: 12



Legend



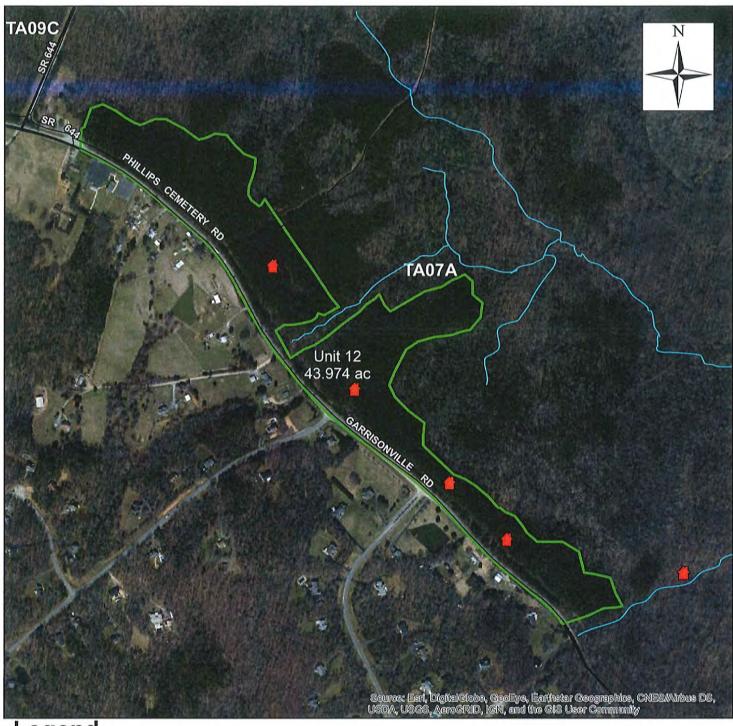


Home Sites

---- Streams

Rd Improvement

Number of Units: 12



Legend



Loblolly Pine_Thinning

Home Sites

---- Streams

Rd Improvement

Number of Units: 12



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Virginia Ecological Services Field Office 6669 Short Lane Gloucester, VA 23061-4410

Phone: (804) 693-6694 Fax: (804) 693-9032 http://www.fws.gov/northeast/virginiafield/



In Reply Refer To: October 02, 2018

Consultation Code: 05E2VA00-2018-SLI-3500

Event Code: 05E2VA00-2019-E-00066

Project Name: Loblolly Timber Harvest in Unit 1

Subject: Updated list of threatened and endangered species that may occur in your proposed

project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered

species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Virginia Ecological Services Field Office 6669 Short Lane Gloucester, VA 23061-4410 (804) 693-6694

Project Summary

Consultation Code: 05E2VA00-2018-SLI-3500

Event Code: 05E2VA00-2019-E-00066

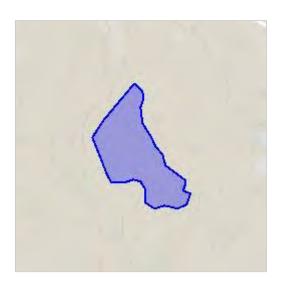
Project Name: Loblolly Timber Harvest in Unit 1

Project Type: FORESTRY

Project Description: Thinning of Timber in Loblolly Pine Unit 1

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/38.51066528410645N77.39493103999648W



Counties: Stafford, VA

STATUS

Endangered Species Act Species

Species profile: https://ecos.fws.gov/ecp/species/1890

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. <u>NOAA Fisheries</u>, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME

Indiana Bat Myotis sodalis	Endangered
There is final critical habitat for this species. Your location is outside the critical habitat.	
Species profile: https://ecos.fws.gov/ecp/species/5949	
Northern Long-eared Bat Myotis septentrionalis	Threatened
No critical habitat has been designated for this species.	
Species profile: https://ecos.fws.gov/ecp/species/9045	
Flowering Plants	
NAME	STATUS
Harperella Ptilimnium nodosum	Endangered
No critical habitat has been designated for this species.	
Species profile: https://ecos.fws.gov/ecp/species/3739	
Small Whorled Pogonia <i>Isotria medeoloides</i>	Threatened
No critical habitat has been designated for this species.	

Critical habitats

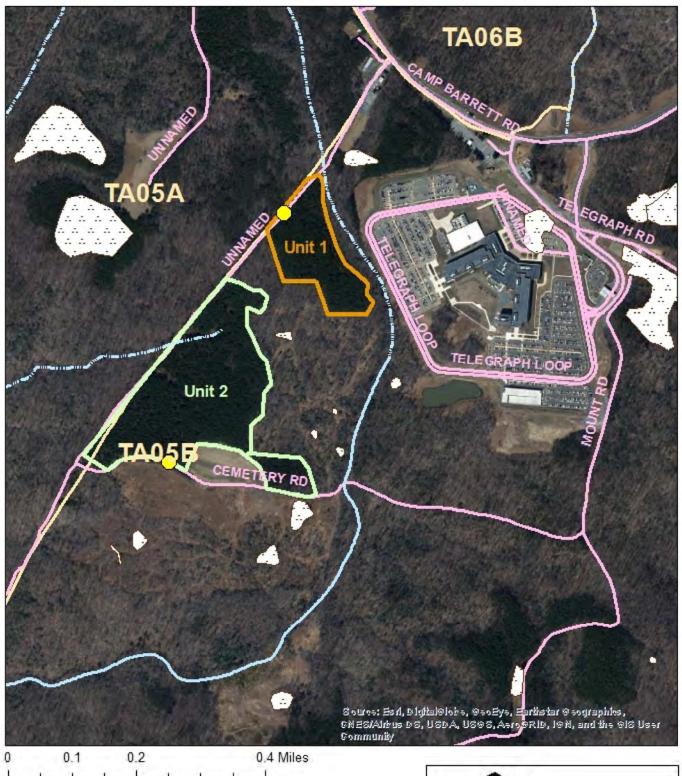
THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

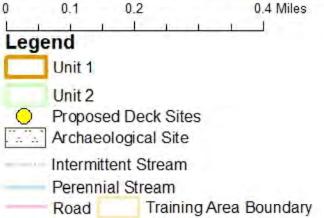
USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the <u>National Wildlife Refuge</u> system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Proposed Timber Harvest (Units 1 and 2)







UNITED STATES MARINE CORPS

MARINE CORPS INSTALLATIONS NATIONAL CAPITAL REGION MARINE CORPS BASE 3250 CATLIN AVENUE QUANTICO, VIRGINIA 22134 5001

IN REPLY REFER TO: 11015/1 B 046 02 OCT 18

MEMORANDUM FOR THE RECORD

From: Head, Fish, Wildlife, & Agronomy Program, Natural Resources

and Environmental Affairs Branch

To: File

Subj: SMALL WHORLED POGONIA SURVEY FOR FY2020 LOBLOLLY PINE

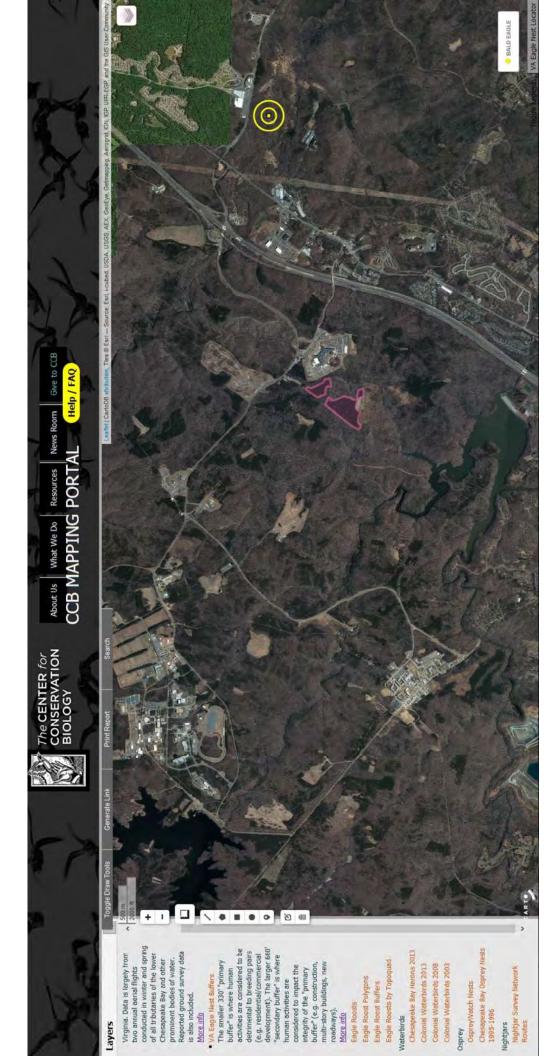
THINNING

Encl: (1) Location maps of timber units 1-12

- 1. MCINCR-MCBQ, G-F, Natural Resources and Environmental Affairs Branch, Forestry Program has proposed a loblolly pine thinning within an approximately 228-acre area in a total of twelve timber units (units 1-12) in TA 5B, 7A, 7B, 7C, and 16D) during FY2020.
- 2. Enclosure 1 provides site locations of timber units 1-12.
- 3. Habitat within the proposed thinning area consists of thick loblolly pine (*Pinus taeda*) with little understory growth.
- 4. There is no potentially suitable habitat for the small whorled pogonia within the proposed timber management project area. The proposed loblolly pine thinning within timber units 1-12 will not affect this federally listed species.

Christa Nye

Copy to:
Head, NEPA Program





Siddall CIV Darien G

From: Reynolds, Rick (DGIF) <Rick.Reynolds@dgif.virginia.gov>

Sent: Thursday, May 4, 2017 11:01 AM

To: Siddall CIV Darien G

Subject: [Non-DoD Source] RE: Hell Rick, this is Darien Siddall...this is concerning the Little Brown

Bat and Tri-Colored Bat.

According to DGIF records we are not aware of summer roosts or winter hibernacula for either tri-colored or little brown bat on the Quantico Base.

Rick Reynolds Wildlife Biologist

Virginia Department of Game and Inland Fisheries P.O. Box 996 Verona, VA 24482

540-248-9360

----Original Message-----

From: Siddall CIV Darien G [mailto:darien.siddall@usmc.mil]

Sent: Thursday, May 04, 2017 10:52 AM

To: Reynolds, Rick (DGIF)

Subject: Hell Rick, this is Darien Siddall...this is concerning the Little Brown Bat and Tri-Colored Bat.

Importance: High

Hello Rick,

We spoke at today concerning the State Endangered Little Brown Bat and Tri-Colored Bat. Per our conversation and use of your system, you stated that there were no known colonies of either of these species.

They have been detected on our base though. Please send me your concurrence/non-concurrence on this issue. I have attached the map to this e-mail Thanks!

Darien Siddall

Natural Resource Specialist

NEPA Section

Natural Resources and Environmental Affairs (NREA) Environmental Planning Section

3049 Bordelon St.

Marine Corps Base (MCB) - Quantico, VA 22134

Phone: 703-432-6770 Fax: 703-784-4953 DSN: 278-4030

E-mail: darien.siddall@usmc.mil

Species Conclusions Table

Project Name: Timber Harvest in Training Areas 5B, 7A, 7B, 7C and 16D - Unit 1 at Marine Corps Base Quantico, Virginia.

Date: 3 October 2018

Species / Resource Name	Conclusion	ESA Section 7 / Eagle Act Determination	Notes / Documentation
Bald Eagle	Unlikely to disturb nesting Bald Eagles.	No Eagle Act Permit Required.	Proposed action does not involve the removal of overstory trees with 330 ft. of a Bald Eagle nest. Proposed action is not within 660 feet of a Bald Eagle nest or a Bald Eagle concentration area.
Harperella	No effect	No effect	A 50 ft. buffer will be maintained around all perennial and intermittent streams as well as wetlands. This will be done in accordance with the Virginia BMP Field Guide (2009) and Virginia BMPs for For Water Quality Technical Manual (2011).
Small Whorled Pogonia	No effect	No effect	No habitat or potential habitat for Small Whorled Pogonia is present.
Northern Long-eared Bat	Suitable habitat is present, the species is not present.	Not likely to adversely affect.	Will be implementing USFWS TOYR. No trees will be removed from 15 April to 15 September.
Indiana Bat	Suitable habitat is present, the species is not present.	Not likely to adversely affect.	Will be implementing USFWS TOYR. No trees will be removed from 15 April to 15 September.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Virginia Field Office 6669 Short Lane Gloucester, VA 23061

Date: 3 October 2018

Self-Certification Letter

Project Name: Timber Harvest in Training Areas 5B, 7A, 7B, 7C, 16D -Unit 1.

Dear Applicant:

Thank you for using the U.S. Fish and Wildlife Service (Service) Virginia Ecological Services online project review process. By printing this letter in conjunction with your project review package, you are certifying that you have completed the online project review process for the project named above in accordance with all instructions provided, using the best available information to reach your conclusions. This letter, and the enclosed project review package, completes the review of your project in accordance with the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as amended (ESA), and the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c, 54 Stat. 250), as amended (Eagle Act). This letter also provides information for your project review under the National Environmental Policy Act of 1969 (P.L. 91-190, 42 U.S.C. 4321-4347, 83 Stat. 852), as amended. A copy of this letter and the project review package must be submitted to this office for this certification to be valid. This letter and the project review package will be maintained in our records.

The species conclusions table in the enclosed project review package summarizes your ESA and Eagle Act conclusions. These conclusions resulted in:

- "no effect" determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- "may affect, not likely to adversely affect" determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- "may affect, likely to adversely affect" determination for the Northern long-eared bat (*Myotis septentrionalis*) and relying on the findings of the January 5, 2016 Programmatic Biological Opinion for the Final 4(d) Rule on the Northern long-eared bat; and/or
- "no Eagle Act permit required" determinations for eagles.

Applicant Page 2

We certify that use of the online project review process in strict accordance with the instructions provided as documented in the enclosed project review package results in reaching the appropriate determinations. Therefore, we concur with the "no effect" or "not likely to adversely affect" determinations for proposed and listed species and proposed and designated critical habitat; the "may affect" determination for Northern long-eared bat; and/or the "no Eagle Act permit required" determinations for eagles. Additional coordination with this office is not needed.

Candidate species are not legally protected pursuant to the ESA. However, the Service encourages consideration of these species by avoiding adverse impacts to them. Please contact this office for additional coordination if your project action area contains candidate species.

Should project plans change or if additional information on the distribution of proposed or listed species, proposed or designated critical habitat, or bald eagles becomes available, this determination may be reconsidered. This certification letter is valid for 1 year.

Information about the online project review process including instructions and use, species information, and other information regarding project reviews within Virginia is available at our website http://www.fws.gov/northeast/virginiafield/endspecies/project_reviews.html. If you have any questions, please contact Troy Andersen of this office at (804) 824-2428.

Sincerely,

Cindy Schulz Field Supervisor

Virginia Ecological Services

Cynthia a Schuly

Enclosures - project review package



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Virginia Ecological Services Field Office 6669 Short Lane Gloucester, VA 23061-4410

Phone: (804) 693-6694 Fax: (804) 693-9032 http://www.fws.gov/northeast/virginiafield/



In Reply Refer To: October 02, 2018

Consultation Code: 05E2VA00-2018-SLI-3503

Event Code: 05E2VA00-2019-E-00067 Project Name: Timber Harvest - Unit 2

Subject: Updated list of threatened and endangered species that may occur in your proposed

project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered

species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Virginia Ecological Services Field Office 6669 Short Lane Gloucester, VA 23061-4410 (804) 693-6694

Project Summary

Consultation Code: 05E2VA00-2018-SLI-3503

Event Code: 05E2VA00-2019-E-00067

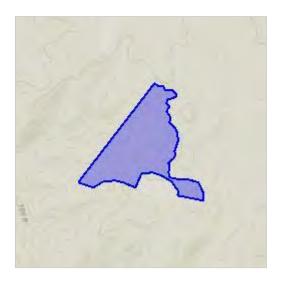
Project Name: Timber Harvest - Unit 2

Project Type: FORESTRY

Project Description: Thinning of Timber in Loblolly Unit 2.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/38.507428824975406N77.39769181268325W



Counties: Stafford, VA

STATUS

Endangered Species Act Species

Species profile: https://ecos.fws.gov/ecp/species/1890

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. <u>NOAA Fisheries</u>, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME

Indiana Bat Myotis sodalis	Endangered
There is final critical habitat for this species. Your location is outside the critical habitat.	
Species profile: https://ecos.fws.gov/ecp/species/5949	
Northern Long-eared Bat Myotis septentrionalis	Threatened
No critical habitat has been designated for this species.	
Species profile: https://ecos.fws.gov/ecp/species/9045	
Flowering Plants	
NAME	STATUS
Harperella Ptilimnium nodosum	Endangered
No critical habitat has been designated for this species.	
Species profile: https://ecos.fws.gov/ecp/species/3739	
Small Whorled Pogonia Isotria medeoloides	Threatened
No critical habitat has been designated for this species.	

Critical habitats

10/02/2018

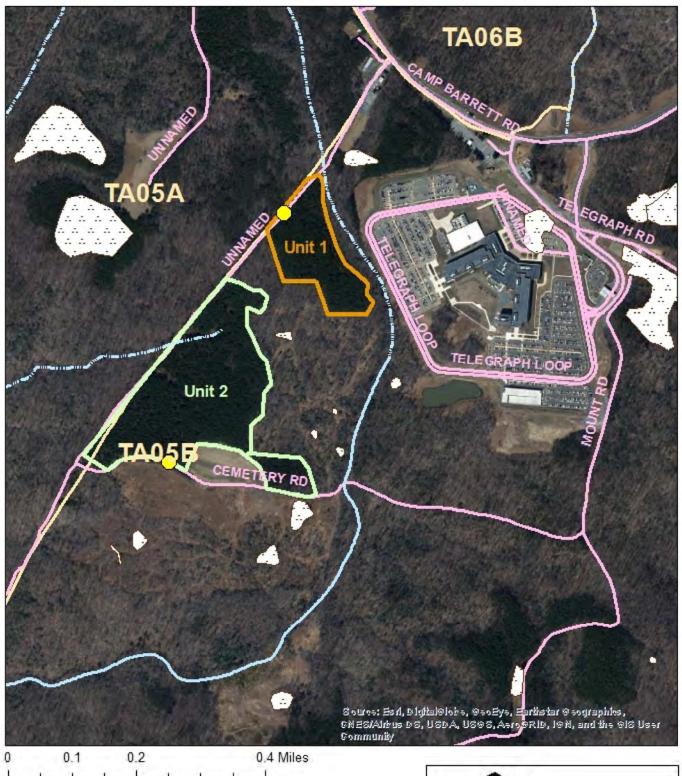
THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

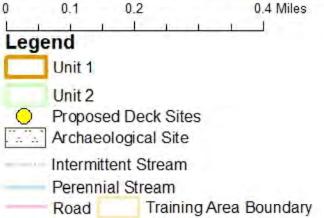
USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the <u>National Wildlife Refuge</u> system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Proposed Timber Harvest (Units 1 and 2)







Siddall CIV Darien G

From: Reynolds, Rick (DGIF) <Rick.Reynolds@dgif.virginia.gov>

Sent: Thursday, May 4, 2017 11:01 AM

To: Siddall CIV Darien G

Subject: [Non-DoD Source] RE: Hell Rick, this is Darien Siddall...this is concerning the Little Brown

Bat and Tri-Colored Bat.

According to DGIF records we are not aware of summer roosts or winter hibernacula for either tri-colored or little brown bat on the Quantico Base.

Rick Reynolds Wildlife Biologist

Virginia Department of Game and Inland Fisheries P.O. Box 996 Verona, VA 24482

540-248-9360

----Original Message-----

From: Siddall CIV Darien G [mailto:darien.siddall@usmc.mil]

Sent: Thursday, May 04, 2017 10:52 AM

To: Reynolds, Rick (DGIF)

Subject: Hell Rick, this is Darien Siddall...this is concerning the Little Brown Bat and Tri-Colored Bat.

Importance: High

Hello Rick,

We spoke at today concerning the State Endangered Little Brown Bat and Tri-Colored Bat. Per our conversation and use of your system, you stated that there were no known colonies of either of these species.

They have been detected on our base though. Please send me your concurrence/non-concurrence on this issue. I have attached the map to this e-mail Thanks!

Darien Siddall

Natural Resource Specialist

NEPA Section

Natural Resources and Environmental Affairs (NREA) Environmental Planning Section

3049 Bordelon St.

Marine Corps Base (MCB) - Quantico, VA 22134

Phone: 703-432-6770 Fax: 703-784-4953 DSN: 278-4030

E-mail: darien.siddall@usmc.mil

UNITED STATES MARINE CORPS

MARINE CORPS INSTALLATIONS NATIONAL CAPITAL REGION MARINE CORPS BASE 3250 CATLIN AVENUE QUANTICO, VIRGINIA 22134 5001

IN REPLY REFER TO: 11015/1 B 046 02 OCT 18

MEMORANDUM FOR THE RECORD

From: Head, Fish, Wildlife, & Agronomy Program, Natural Resources

and Environmental Affairs Branch

To: File

Subj: SMALL WHORLED POGONIA SURVEY FOR FY2020 LOBLOLLY PINE

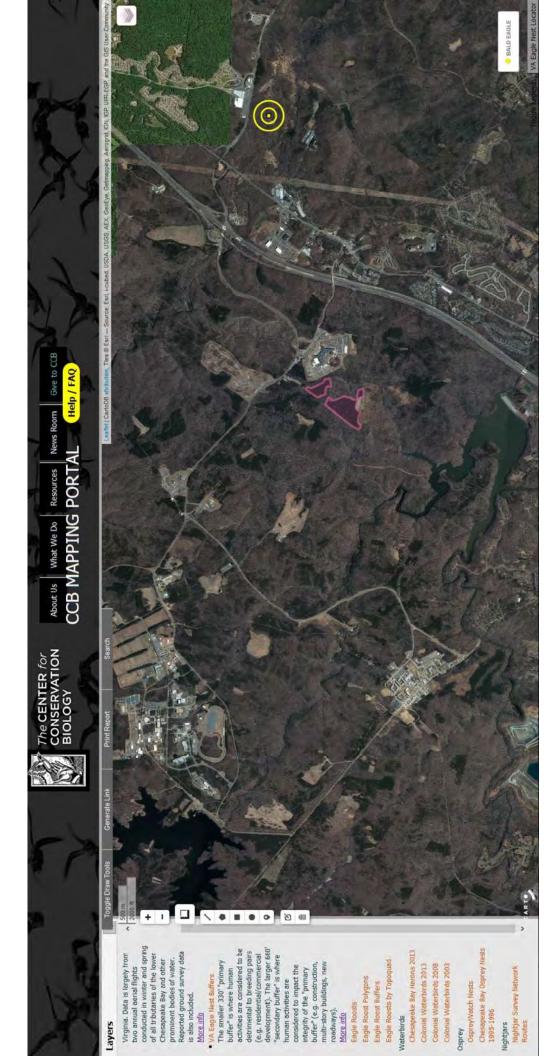
THINNING

Encl: (1) Location maps of timber units 1-12

- 1. MCINCR-MCBQ, G-F, Natural Resources and Environmental Affairs Branch, Forestry Program has proposed a loblolly pine thinning within an approximately 228-acre area in a total of twelve timber units (units 1-12) in TA 5B, 7A, 7B, 7C, and 16D) during FY2020.
- 2. Enclosure 1 provides site locations of timber units 1-12.
- 3. Habitat within the proposed thinning area consists of thick loblolly pine (*Pinus taeda*) with little understory growth.
- 4. There is no potentially suitable habitat for the small whorled pogonia within the proposed timber management project area. The proposed loblolly pine thinning within timber units 1-12 will not affect this federally listed species.

Christa Nye

Copy to:
Head, NEPA Program





Species Conclusions Table

Project Name: Timber Harvest in Training Areas 5B, 7A, 7B, 7C and 16D - Unit 2 at Marine Corps Base Quantico, Virginia.

Date: 3 October 2018

Species / Resource Name	Conclusion	ESA Section 7 / Eagle Act Determination	Notes / Documentation
Bald Eagle	Unlikely to disturb nesting Bald Eagles.	No Eagle Act Permit Required.	Proposed action does not involve the removal of overstory trees with 330 ft. of a Bald Eagle nest. Proposed action is not within 660 feet of a Bald Eagle nest or a Bald Eagle concentration area.
Harperella	No effect	No effect	A 50 ft. buffer will be maintained around all perennial and intermittent streams as well as wetlands. This will be done in accordance with the Virginia BMP Field Guide (2009) and Virginia BMPs for For Water Quality Technical Manual (2011).
Small Whorled Pogonia	No effect	No effect	No habitat or potential habitat for Small Whorled Pogonia is present.
Northern Long-eared Bat	Suitable habitat is present, the species is not present.	Not likely to adversely affect.	Will be implementing USFWS TOYR. No trees will be removed from 15 April to 15 September.
Indiana Bat	Suitable habitat is present, the species is not present.	Not likely to adversely affect.	Will be implementing USFWS TOYR. No trees will be removed from 15 April to 15 September.



FISH AND WILDLIFE SERVICE

Virginia Field Office 6669 Short Lane Gloucester, VA 23061

Date: 3 October 2018

Self-Certification Letter

Project Name: Timber Harvest in Training Areas 5B, 7A, 7B, 7C, 16D -Unit 2.

Dear Applicant:

Thank you for using the U.S. Fish and Wildlife Service (Service) Virginia Ecological Services online project review process. By printing this letter in conjunction with your project review package, you are certifying that you have completed the online project review process for the project named above in accordance with all instructions provided, using the best available information to reach your conclusions. This letter, and the enclosed project review package, completes the review of your project in accordance with the Endangered Species Act of 1973 (16 U.S.C. . 1531-1544, 87 Stat. 884), as amended (ESA), and the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c, 54 Stat. 250), as amended (Eagle Act). This letter also provides information for your project review under the National Environmental Policy Act of 1969 (P.L. 91-190, 42 U.S.C. 4321-4347, 83 Stat. 852), as amended. A copy of this letter and the project review package must be submitted to this office for this certification to be valid. This letter and the project review package will be maintained in our records.

The species conclusions table in the enclosed project review package summarizes your ESA and Eagle Act conclusions. These conclusions resulted in:

- "no effect" determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- "may affect, not likely to adversely affect" determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- "may affect, likely to adversely affect" determination for the Northern long-eared bat (*Myotis septentrionalis*) and relying on the findings of the January 5, 2016 Programmatic Biological Opinion for the Final 4(d) Rule on the Northern long-eared bat; and/or
- "no Eagle Act permit required" determinations for eagles.

Applicant Page 2

We certify that use of the online project review process in strict accordance with the instructions provided as documented in the enclosed project review package results in reaching the appropriate determinations. Therefore, we concur with the "no effect" or "not likely to adversely affect" determinations for proposed and listed species and proposed and designated critical habitat; the "may affect" determination for Northern long-eared bat; and/or the "no Eagle Act permit required" determinations for eagles. Additional coordination with this office is not needed.

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Information about the online project review process including instructions and use, species information, and other information regarding project reviews within Virginia is available at our website http://www.fws.gov/northeast/virginiafield/endspecies/project_reviews.html. If you have any questions, please contact Troy Andersen of this office at (804) 824-2428.

Sincerely,

Cindy Schulz Field Supervisor

Virginia Ecological Services

Cynthia a Schuly

Enclosures - project review package



FISH AND WILDLIFE SERVICE

Virginia Ecological Services Field Office 6669 Short Lane Gloucester, VA 23061-4410

Phone: (804) 693-6694 Fax: (804) 693-9032 http://www.fws.gov/northeast/virginiafield/



In Reply Refer To: October 02, 2018

Consultation Code: 05E2VA00-2018-SLI-3506

Event Code: 05E2VA00-2019-E-00073 Project Name: Unit 3 - Timber Harvest

Subject: Updated list of threatened and endangered species that may occur in your proposed

project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered

species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Virginia Ecological Services Field Office 6669 Short Lane Gloucester, VA 23061-4410 (804) 693-6694

Project Summary

Consultation Code: 05E2VA00-2018-SLI-3506

Event Code: 05E2VA00-2019-E-00073

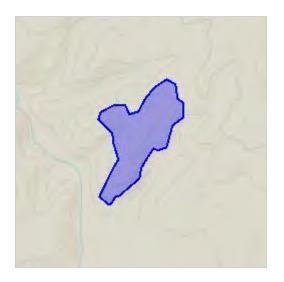
Project Name: Unit 3 - Timber Harvest

Project Type: FORESTRY

Project Description: Thinning of Timber in Unit 3.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/38.502147806884004N77.48438301678917W



Counties: Stafford, VA

STATUS

Endangered Species Act Species

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. <u>NOAA Fisheries</u>, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME

Indiana Bat <i>Myotis sodalis</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened
Flowering Plants	
NAME	STATUS
Harperella <i>Ptilimnium nodosum</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3739	Endangered
Small Whorled Pogonia <i>Isotria medeoloides</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1890	Threatened

Critical habitats

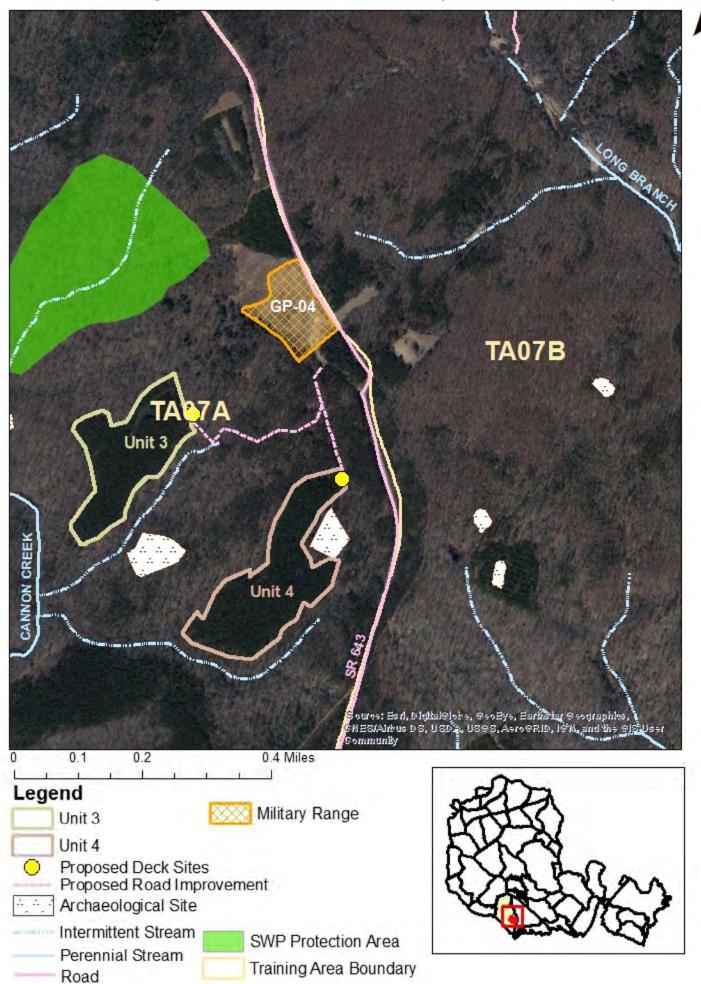
THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the <u>National Wildlife Refuge</u> system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Proposed Timber Harvest (Units 3 and 4)



Siddall CIV Darien G

From: Reynolds, Rick (DGIF) <Rick.Reynolds@dgif.virginia.gov>

Sent: Thursday, May 4, 2017 11:01 AM

To: Siddall CIV Darien G

Subject: [Non-DoD Source] RE: Hell Rick, this is Darien Siddall...this is concerning the Little Brown

Bat and Tri-Colored Bat.

According to DGIF records we are not aware of summer roosts or winter hibernacula for either tri-colored or little brown bat on the Quantico Base.

Rick Reynolds Wildlife Biologist

Virginia Department of Game and Inland Fisheries P.O. Box 996 Verona, VA 24482

540-248-9360

----Original Message-----

From: Siddall CIV Darien G [mailto:darien.siddall@usmc.mil]

Sent: Thursday, May 04, 2017 10:52 AM

To: Reynolds, Rick (DGIF)

Subject: Hell Rick, this is Darien Siddall...this is concerning the Little Brown Bat and Tri-Colored Bat.

Importance: High

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Darien Siddall

Natural Resource Specialist

NEPA Section

Natural Resources and Environmental Affairs (NREA) Environmental Planning Section

3049 Bordelon St.

Marine Corps Base (MCB) - Quantico, VA 22134

Phone: 703-432-6770 Fax: 703-784-4953 DSN: 278-4030

E-mail: darien.siddall@usmc.mil

UNITED STATES MARINE CORPS

MARINE CORPS INSTALLATIONS NATIONAL CAPITAL REGION MARINE CORPS BASE 3250 CATLIN AVENUE QUANTICO, VIRGINIA 22134 5001

IN REPLY REFER TO: 11015/1 B 046 02 OCT 18

MEMORANDUM FOR THE RECORD

From: Head, Fish, Wildlife, & Agronomy Program, Natural Resources

and Environmental Affairs Branch

To: File

Subj: SMALL WHORLED POGONIA SURVEY FOR FY2020 LOBLOLLY PINE

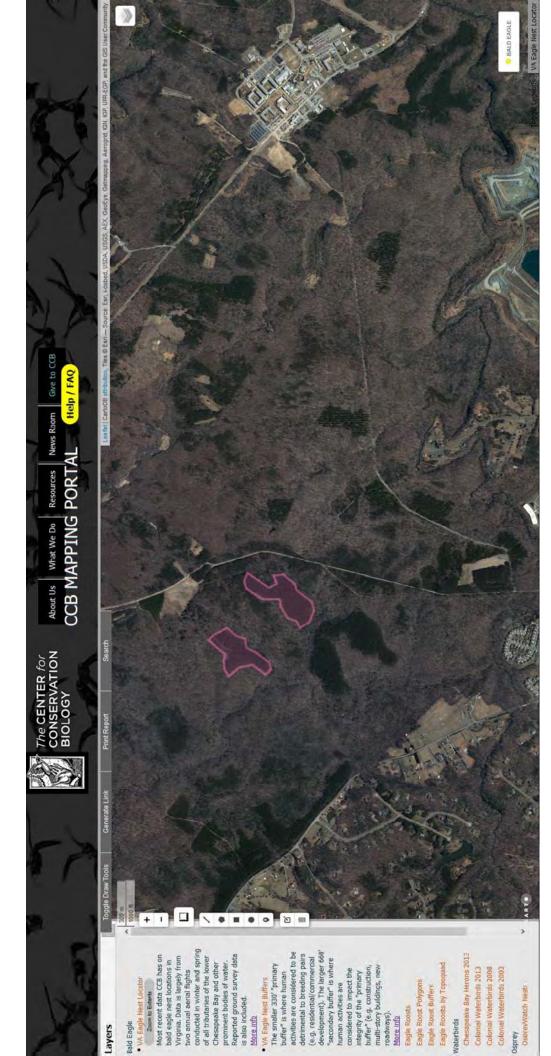
THINNING

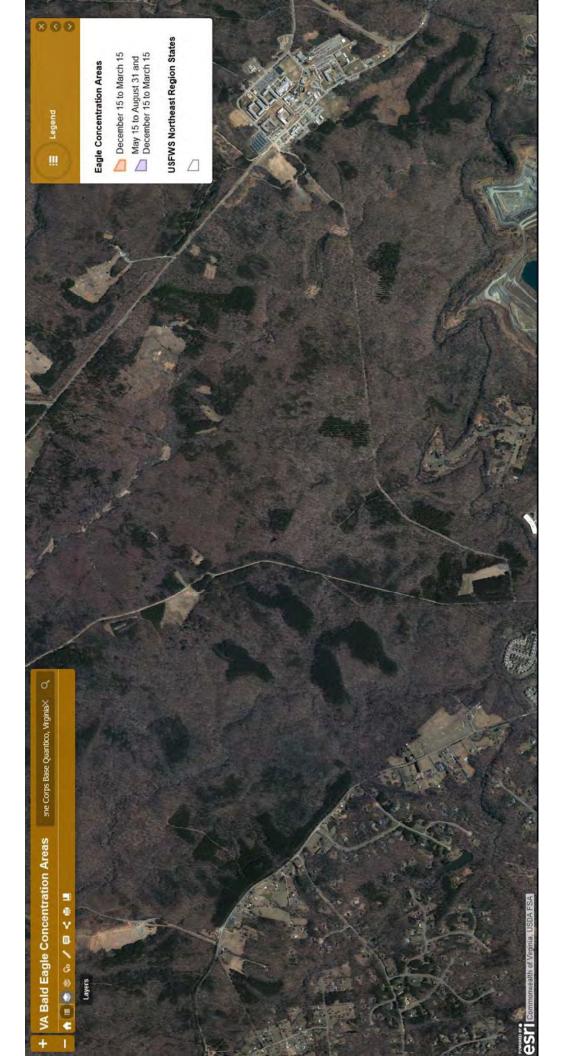
Encl: (1) Location maps of timber units 1-12

- 1. MCINCR-MCBQ, G-F, Natural Resources and Environmental Affairs Branch, Forestry Program has proposed a loblolly pine thinning within an approximately 228-acre area in a total of twelve timber units (units 1-12) in TA 5B, 7A, 7B, 7C, and 16D) during FY2020.
- 2. Enclosure 1 provides site locations of timber units 1-12.
- 3. Habitat within the proposed thinning area consists of thick loblolly pine (*Pinus taeda*) with little understory growth.
- 4. There is no potentially suitable habitat for the small whorled pogonia within the proposed timber management project area. The proposed loblolly pine thinning within timber units 1-12 will not affect this federally listed species.

Christa Nye

Copy to:
Head, NEPA Program





Species Conclusions Table

Project Name: Timber Harvest in Training Areas 5B, 7A, 7B, 7C and 16D - Unit 3 at Marine Corps Base Quantico, Virginia.

Date: 3 October 2018

Species / Resource Name	Conclusion	ESA Section 7 / Eagle Act Determination	Notes / Documentation
Bald Eagle	Unlikely to disturb nesting Bald Eagles.	No Eagle Act Permit Required.	Proposed action does not involve the removal of overstory trees with 330 ft. of a Bald Eagle nest. Proposed action is not within 660 feet of a Bald Eagle nest or a Bald Eagle concentration area.
Harperella	No effect	No effect	A 50 ft. buffer will be maintained around all perennial and intermittent streams as well as wetlands. This will be done in accordance with the Virginia BMP Field Guide (2009) and Virginia BMPs for For Water Quality Technical Manual (2011).
Small Whorled Pogonia	No effect	No effect	No habitat or potential habitat for Small Whorled Pogonia is present.
Northern Long-eared Bat	Suitable habitat is present, the species is not present.	Not likely to adversely affect.	Will be implementing USFWS TOYR. No trees will be removed from 15 April to 15 September.
Indiana Bat	Suitable habitat is present, the species is not present.	Not likely to adversely affect.	Will be implementing USFWS TOYR. No trees will be removed from 15 April to 15 September.



FISH AND WILDLIFE SERVICE

Virginia Field Office 6669 Short Lane Gloucester, VA 23061

Date: 3 October 2018

Self-Certification Letter

Project Name: Timber Harvest in Training Areas 5B, 7A, 7B, 7C, 16D -Unit 3.

Dear Applicant:

Thank you for using the U.S. Fish and Wildlife Service (Service) Virginia Ecological Services online project review process. By printing this letter in conjunction with your project review package, you are certifying that you have completed the online project review process for the project named above in accordance with all instructions provided, using the best available information to reach your conclusions. This letter, and the enclosed project review package, completes the review of your project in accordance with the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as amended (ESA), and the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c, 54 Stat. 250), as amended (Eagle Act). This letter also provides information for your project review under the National Environmental Policy Act of 1969 (P.L. 91-190, 42 U.S.C. 4321-4347, 83 Stat. 852), as amended. A copy of this letter and the project review package must be submitted to this office for this certification to be valid. This letter and the project review package will be maintained in our records.

The species conclusions table in the enclosed project review package summarizes your ESA and Eagle Act conclusions. These conclusions resulted in:

- "no effect" determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- "may affect, not likely to adversely affect" determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- "may affect, likely to adversely affect" determination for the Northern long-eared bat (*Myotis septentrionalis*) and relying on the findings of the January 5, 2016 Programmatic Biological Opinion for the Final 4(d) Rule on the Northern long-eared bat; and/or
- "no Eagle Act permit required" determinations for eagles.

Applicant Page 2

We certify that use of the online project review process in strict accordance with the instructions provided as documented in the enclosed project review package results in reaching the appropriate determinations. Therefore, we concur with the "no effect" or "not likely to adversely affect" determinations for proposed and listed species and proposed and designated critical habitat; the "may affect" determination for Northern long-eared bat; and/or the "no Eagle Act permit required" determinations for eagles. Additional coordination with this office is not needed.

Candidate species are not legally protected pursuant to the ESA. However, the Service encourages consideration of these species by avoiding adverse impacts to them. Please contact this office for additional coordination if your project action area contains candidate species.

Should project plans change or if additional information on the distribution of proposed or listed species, proposed or designated critical habitat, or bald eagles becomes available, this determination may be reconsidered. This certification letter is valid for 1 year.

Information about the online project review process including instructions and use, species information, and other information regarding project reviews within Virginia is available at our website http://www.fws.gov/northeast/virginiafield/endspecies/project_reviews.html. If you have any questions, please contact Troy Andersen of this office at (804) 824-2428.

Sincerely,

Cindy Schulz Field Supervisor

Virginia Ecological Services

Cynthia a Schuly

Enclosures - project review package



FISH AND WILDLIFE SERVICE

Virginia Ecological Services Field Office 6669 Short Lane Gloucester, VA 23061-4410

Phone: (804) 693-6694 Fax: (804) 693-9032 http://www.fws.gov/northeast/virginiafield/



In Reply Refer To: October 02, 2018

Consultation Code: 05E2VA00-2018-SLI-3508

Event Code: 05E2VA00-2019-E-00074 Project Name: Unit 4 - Timber Harvest

Subject: Updated list of threatened and endangered species that may occur in your proposed

project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered

species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Virginia Ecological Services Field Office 6669 Short Lane Gloucester, VA 23061-4410 (804) 693-6694

Project Summary

Consultation Code: 05E2VA00-2018-SLI-3508

Event Code: 05E2VA00-2019-E-00074

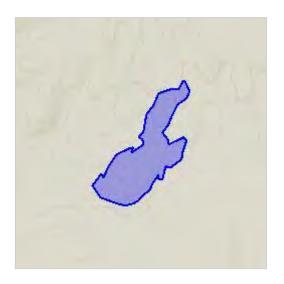
Project Name: Unit 4 - Timber Harvest

Project Type: FORESTRY

Project Description: Timber thinning in Unit 4.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/38.50003611786908N77.47963340432383W



Counties: Stafford, VA

STATUS

Endangered Species Act Species

Species profile: https://ecos.fws.gov/ecp/species/1890

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. <u>NOAA Fisheries</u>, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME

Indiana Bat Myotis sodalis	Endangered
There is final critical habitat for this species. Your location is outside the critical habitat.	
Species profile: https://ecos.fws.gov/ecp/species/5949	
Northern Long-eared Bat Myotis septentrionalis	Threatened
No critical habitat has been designated for this species.	
Species profile: https://ecos.fws.gov/ecp/species/9045	
Flowering Plants	
NAME	STATUS
Harperella Ptilimnium nodosum	Endangered
No critical habitat has been designated for this species.	C
Species profile: https://ecos.fws.gov/ecp/species/3739	
Small Whorled Pogonia Isotria medeoloides	Threatened
No critical habitat has been designated for this species.	

Critical habitats

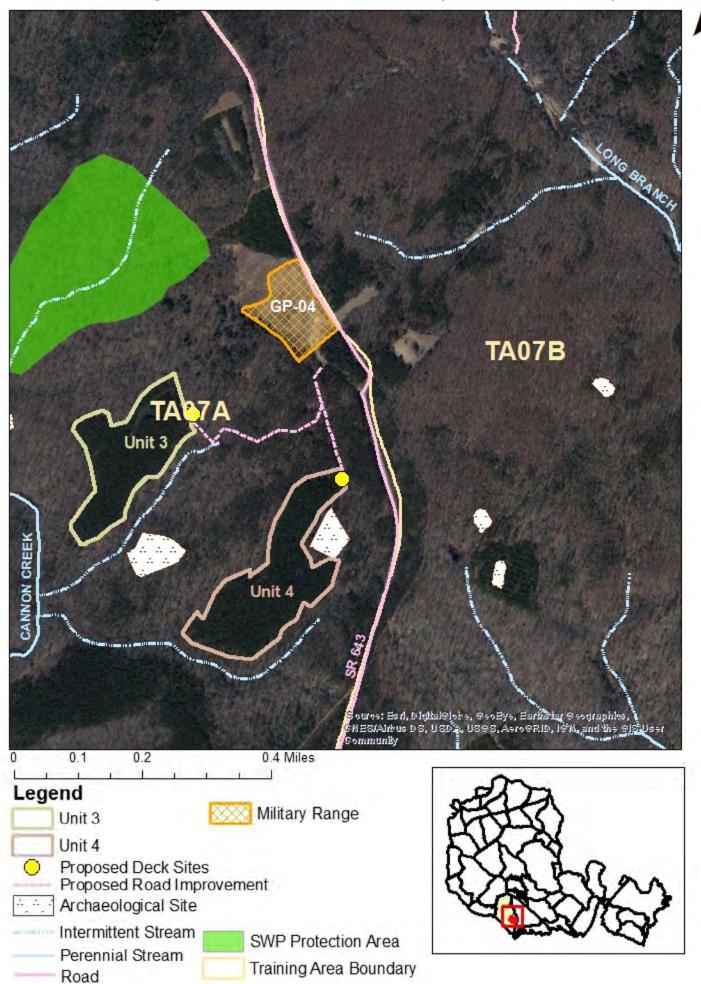
THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the <u>National Wildlife Refuge</u> system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

REFUGE INFORMATION WAS NOT AVAILABLE WHEN THIS SPECIES LIST WAS GENERATED. PLEASE CONTACT THE FIELD OFFICE FOR FURTHER INFORMATION.

Proposed Timber Harvest (Units 3 and 4)



Siddall CIV Darien G

From: Reynolds, Rick (DGIF) <Rick.Reynolds@dgif.virginia.gov>

Sent: Thursday, May 4, 2017 11:01 AM

To: Siddall CIV Darien G

Subject: [Non-DoD Source] RE: Hell Rick, this is Darien Siddall...this is concerning the Little Brown

Bat and Tri-Colored Bat.

According to DGIF records we are not aware of summer roosts or winter hibernacula for either tri-colored or little brown bat on the Quantico Base.

Rick Reynolds Wildlife Biologist

Virginia Department of Game and Inland Fisheries P.O. Box 996 Verona, VA 24482

540-248-9360

----Original Message-----

From: Siddall CIV Darien G [mailto:darien.siddall@usmc.mil]

Sent: Thursday, May 04, 2017 10:52 AM

To: Reynolds, Rick (DGIF)

Subject: Hell Rick, this is Darien Siddall...this is concerning the Little Brown Bat and Tri-Colored Bat.

Importance: High

Hello Rick,

We spoke at today concerning the State Endangered Little Brown Bat and Tri-Colored Bat. Per our conversation and use of your system, you stated that there were no known colonies of either of these species.

They have been detected on our base though. Please send me your concurrence/non-concurrence on this issue. I have attached the map to this e-mail Thanks!

Darien Siddall

Natural Resource Specialist

NEPA Section

Natural Resources and Environmental Affairs (NREA) Environmental Planning Section

3049 Bordelon St.

Marine Corps Base (MCB) - Quantico, VA 22134

Phone: 703-432-6770 Fax: 703-784-4953 DSN: 278-4030

E-mail: darien.siddall@usmc.mil

UNITED STATES MARINE CORPS

MARINE CORPS INSTALLATIONS NATIONAL CAPITAL REGION MARINE CORPS BASE 3250 CATLIN AVENUE QUANTICO, VIRGINIA 22134 5001

IN REPLY REFER TO: 11015/1 B 046 02 OCT 18

MEMORANDUM FOR THE RECORD

From: Head, Fish, Wildlife, & Agronomy Program, Natural Resources

and Environmental Affairs Branch

To: File

Subj: SMALL WHORLED POGONIA SURVEY FOR FY2020 LOBLOLLY PINE

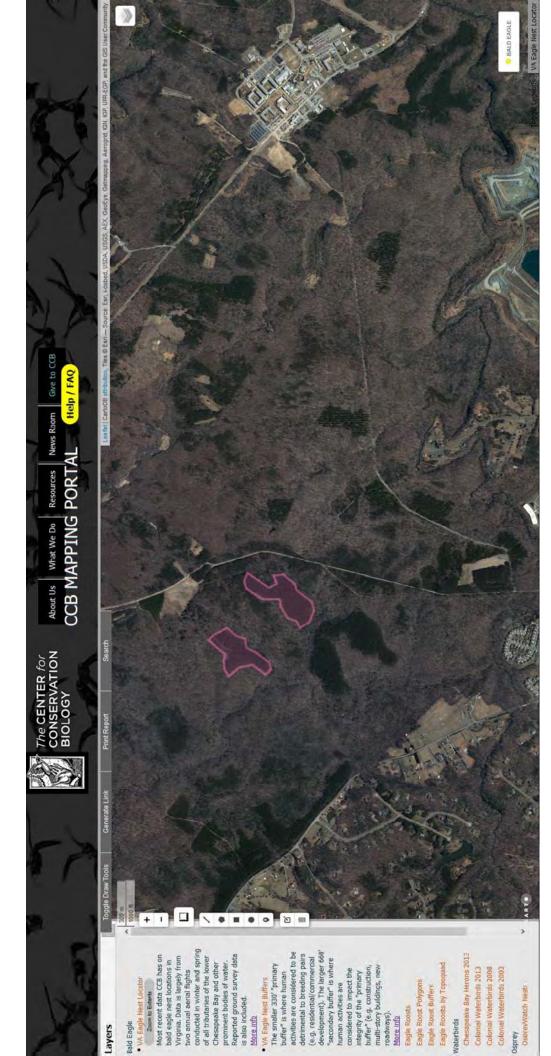
THINNING

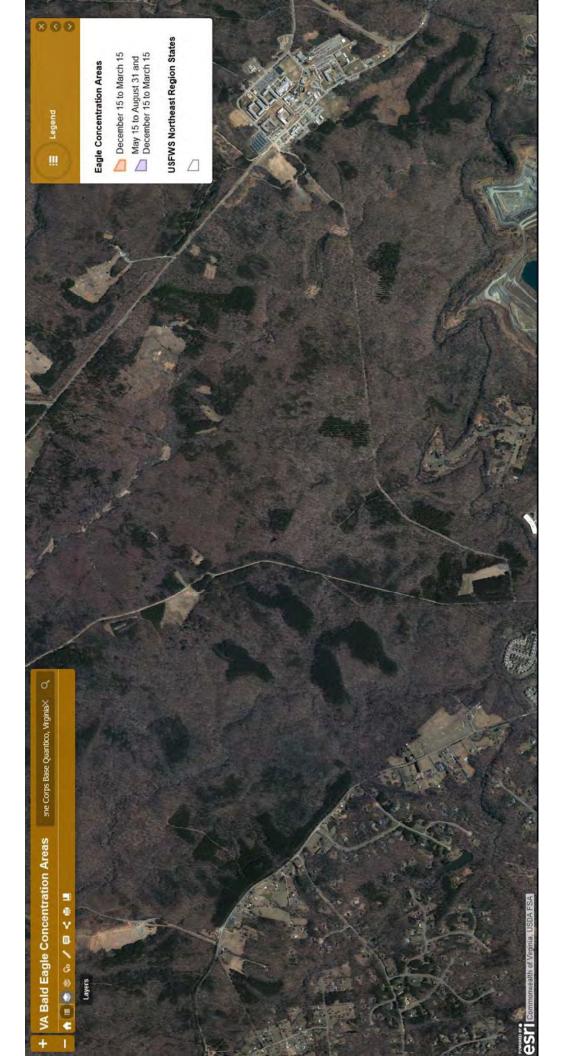
Encl: (1) Location maps of timber units 1-12

- 1. MCINCR-MCBQ, G-F, Natural Resources and Environmental Affairs Branch, Forestry Program has proposed a loblolly pine thinning within an approximately 228-acre area in a total of twelve timber units (units 1-12) in TA 5B, 7A, 7B, 7C, and 16D) during FY2020.
- 2. Enclosure 1 provides site locations of timber units 1-12.
- 3. Habitat within the proposed thinning area consists of thick loblolly pine (*Pinus taeda*) with little understory growth.
- 4. There is no potentially suitable habitat for the small whorled pogonia within the proposed timber management project area. The proposed loblolly pine thinning within timber units 1-12 will not affect this federally listed species.

Christa Nye

Copy to:
Head, NEPA Program





Species Conclusions Table

Project Name: Timber Harvest in Training Areas 5B, 7A, 7B, 7C and 16D - Unit 4 at Marine Corps Base Quantico, Virginia.

Date: 3 October 2018

Species / Resource Name	Conclusion	ESA Section 7 / Eagle Act Determination	Notes / Documentation
Bald Eagle	Unlikely to disturb nesting Bald Eagles.	No Eagle Act Permit Required.	Proposed action does not involve the removal of overstory trees with 330 ft. of a Bald Eagle nest. Proposed action is not within 660 feet of a Bald Eagle nest or a Bald Eagle concentration area.
Harperella	No effect	No effect	A 50 ft. buffer will be maintained around all perennial and intermittent streams as well as wetlands. This will be done in accordance with the Virginia BMP Field Guide (2009) and Virginia BMPs for For Water Quality Technical Manual (2011).
Small Whorled Pogonia	No effect	No effect	No habitat or potential habitat for Small Whorled Pogonia is present.
Northern Long-eared Bat	Suitable habitat is present, the species is not present.	Not likely to adversely affect.	Will be implementing USFWS TOYR. No trees will be removed from 15 April to 15 September.
Indiana Bat	Suitable habitat is present, the species is not present.	Not likely to adversely affect.	Will be implementing USFWS TOYR. No trees will be removed from 15 April to 15 September.



FISH AND WILDLIFE SERVICE

Virginia Field Office 6669 Short Lane Gloucester, VA 23061

Date: 3 October 2018

Self-Certification Letter

Project Name: Timber Harvest in Training Areas 5B, 7A, 7B, 7C, 16D -Unit 4.

Dear Applicant:

Thank you for using the U.S. Fish and Wildlife Service (Service) Virginia Ecological Services online project review process. By printing this letter in conjunction with your project review package, you are certifying that you have completed the online project review process for the project named above in accordance with all instructions provided, using the best available information to reach your conclusions. This letter, and the enclosed project review package, completes the review of your project in accordance with the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as amended (ESA), and the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c, 54 Stat. 250), as amended (Eagle Act). This letter also provides information for your project review under the National Environmental Policy Act of 1969 (P.L. 91-190, 42 U.S.C. 4321-4347, 83 Stat. 852), as amended. A copy of this letter and the project review package must be submitted to this office for this certification to be valid. This letter and the project review package will be maintained in our records.

The species conclusions table in the enclosed project review package summarizes your ESA and Eagle Act conclusions. These conclusions resulted in:

- "no effect" determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- "may affect, not likely to adversely affect" determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- "may affect, likely to adversely affect" determination for the Northern long-eared bat (*Myotis septentrionalis*) and relying on the findings of the January 5, 2016 Programmatic Biological Opinion for the Final 4(d) Rule on the Northern long-eared bat; and/or
- "no Eagle Act permit required" determinations for eagles.

Applicant Page 2

We certify that use of the online project review process in strict accordance with the instructions provided as documented in the enclosed project review package results in reaching the appropriate determinations. Therefore, we concur with the "no effect" or "not likely to adversely affect" determinations for proposed and listed species and proposed and designated critical habitat; the "may affect" determination for Northern long-eared bat; and/or the "no Eagle Act permit required" determinations for eagles. Additional coordination with this office is not needed.

Candidate species are not legally protected pursuant to the ESA. However, the Service encourages consideration of these species by avoiding adverse impacts to them. Please contact this office for additional coordination if your project action area contains candidate species.

Should project plans change or if additional information on the distribution of proposed or listed species, proposed or designated critical habitat, or bald eagles becomes available, this determination may be reconsidered. This certification letter is valid for 1 year.

Information about the online project review process including instructions and use, species information, and other information regarding project reviews within Virginia is available at our website http://www.fws.gov/northeast/virginiafield/endspecies/project_reviews.html. If you have any questions, please contact Troy Andersen of this office at (804) 824-2428.

Sincerely,

Cindy Schulz Field Supervisor

Virginia Ecological Services

Cynthia a Schuly

Enclosures - project review package



FISH AND WILDLIFE SERVICE

Virginia Ecological Services Field Office 6669 Short Lane Gloucester, VA 23061-4410

Phone: (804) 693-6694 Fax: (804) 693-9032 http://www.fws.gov/northeast/virginiafield/



In Reply Refer To: October 02, 2018

Consultation Code: 05E2VA00-2018-SLI-3510

Event Code: 05E2VA00-2019-E-00075 Project Name: Unit 5 - Timber Harvest

Subject: Updated list of threatened and endangered species that may occur in your proposed

project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered

species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Virginia Ecological Services Field Office 6669 Short Lane Gloucester, VA 23061-4410 (804) 693-6694

Project Summary

Consultation Code: 05E2VA00-2018-SLI-3510

Event Code: 05E2VA00-2019-E-00075

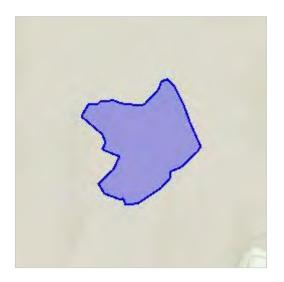
Project Name: Unit 5 - Timber Harvest

Project Type: FORESTRY

Project Description: Thinning of timber in Unit 5.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/38.49371752277199N77.47260035025164W



Counties: Stafford, VA

STATUS

Endangered Species Act Species

Species profile: https://ecos.fws.gov/ecp/species/1890

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. <u>NOAA Fisheries</u>, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME

Indiana Bat <i>Myotis sodalis</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened
Flowering Plants	
NAME	STATUS
Harperella <i>Ptilimnium nodosum</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3739	Endangered
Small Whorled Pogonia <i>Isotria medeoloides</i> No critical habitat has been designated for this species.	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the <u>National Wildlife Refuge</u> system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

REFUGE INFORMATION WAS NOT AVAILABLE WHEN THIS SPECIES LIST WAS GENERATED. PLEASE CONTACT THE FIELD OFFICE FOR FURTHER INFORMATION.

Siddall CIV Darien G

From: Reynolds, Rick (DGIF) <Rick.Reynolds@dgif.virginia.gov>

Sent: Thursday, May 4, 2017 11:01 AM

To: Siddall CIV Darien G

Subject: [Non-DoD Source] RE: Hell Rick, this is Darien Siddall...this is concerning the Little Brown

Bat and Tri-Colored Bat.

According to DGIF records we are not aware of summer roosts or winter hibernacula for either tri-colored or little brown bat on the Quantico Base.

Rick Reynolds Wildlife Biologist

Virginia Department of Game and Inland Fisheries P.O. Box 996 Verona, VA 24482

540-248-9360

----Original Message-----

From: Siddall CIV Darien G [mailto:darien.siddall@usmc.mil]

Sent: Thursday, May 04, 2017 10:52 AM

To: Reynolds, Rick (DGIF)

Subject: Hell Rick, this is Darien Siddall...this is concerning the Little Brown Bat and Tri-Colored Bat.

Importance: High

Hello Rick,

We spoke at today concerning the State Endangered Little Brown Bat and Tri-Colored Bat. Per our conversation and use of your system, you stated that there were no known colonies of either of these species.

They have been detected on our base though. Please send me your concurrence/non-concurrence on this issue. I have attached the map to this e-mail Thanks!

Darien Siddall

Natural Resource Specialist

NEPA Section

Natural Resources and Environmental Affairs (NREA) Environmental Planning Section

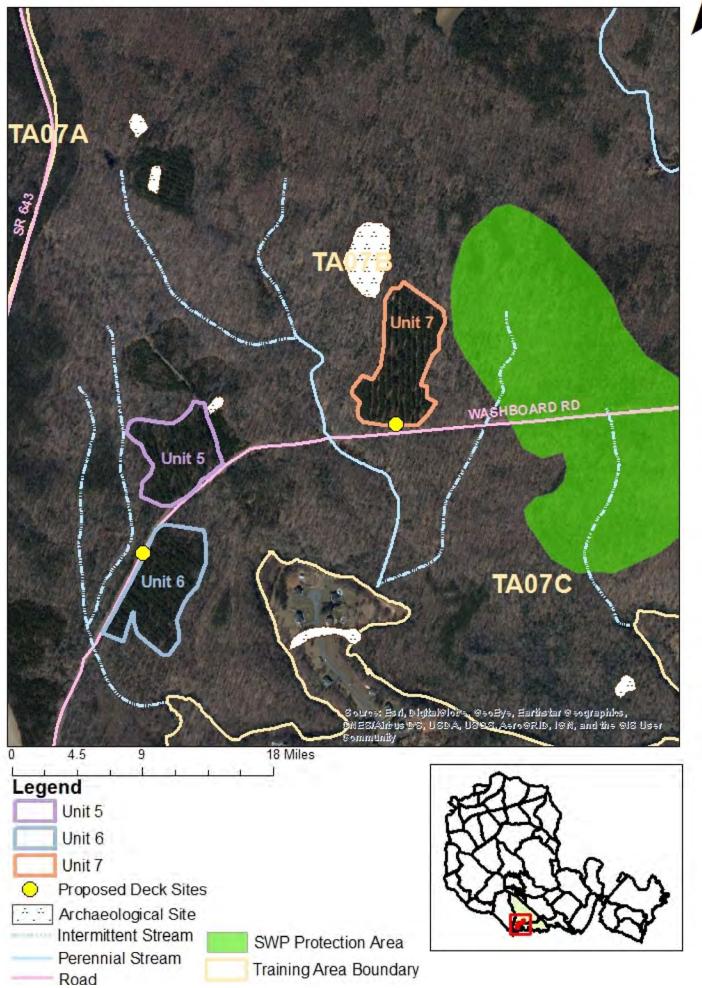
3049 Bordelon St.

Marine Corps Base (MCB) - Quantico, VA 22134

Phone: 703-432-6770 Fax: 703-784-4953 DSN: 278-4030

E-mail: darien.siddall@usmc.mil

Proposed Timber Harvest (Units 5, 6 and 7)



UNITED STATES MARINE CORPS

MARINE CORPS INSTALLATIONS NATIONAL CAPITAL REGION MARINE CORPS BASE 3250 CATLIN AVENUE QUANTICO, VIRGINIA 22134 5001

IN REPLY REFER TO: 11015/1 B 046 02 OCT 18

MEMORANDUM FOR THE RECORD

From: Head, Fish, Wildlife, & Agronomy Program, Natural Resources

and Environmental Affairs Branch

To: File

Subj: SMALL WHORLED POGONIA SURVEY FOR FY2020 LOBLOLLY PINE

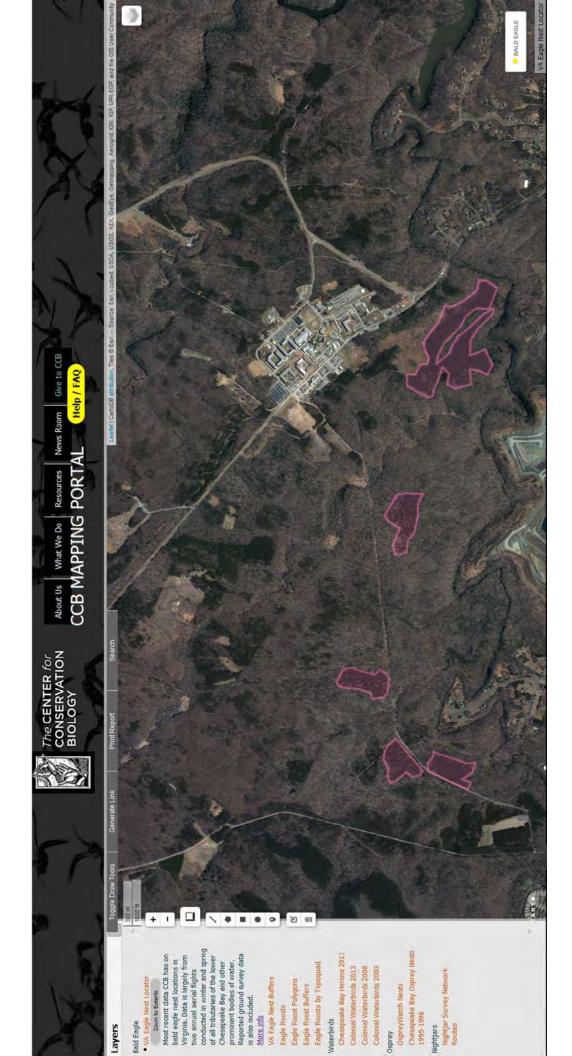
THINNING

Encl: (1) Location maps of timber units 1-12

- 1. MCINCR-MCBQ, G-F, Natural Resources and Environmental Affairs Branch, Forestry Program has proposed a loblolly pine thinning within an approximately 228-acre area in a total of twelve timber units (units 1-12) in TA 5B, 7A, 7B, 7C, and 16D) during FY2020.
- 2. Enclosure 1 provides site locations of timber units 1-12.
- 3. Habitat within the proposed thinning area consists of thick loblolly pine (*Pinus taeda*) with little understory growth.
- 4. There is no potentially suitable habitat for the small whorled pogonia within the proposed timber management project area. The proposed loblolly pine thinning within timber units 1-12 will not affect this federally listed species.

Christa Nye

Copy to:
Head, NEPA Program





Species Conclusions Table

Project Name: Timber Harvest in Training Areas 5B, 7A, 7B, 7C and 16D - Unit 5 at Marine Corps Base Quantico, Virginia.

Date: 3 October 2018

Species / Resource Name	Conclusion	ESA Section 7 / Eagle Act Determination	Notes / Documentation
Bald Eagle	Unlikely to disturb nesting Bald Eagles.	No Eagle Act Permit Required.	Proposed action does not involve the removal of overstory trees with 330 ft. of a Bald Eagle nest. Proposed action is not within 660 feet of a Bald Eagle nest or a Bald Eagle concentration area.
Harperella	No effect	No effect	A 50 ft. buffer will be maintained around all perennial and intermittent streams as well as wetlands. This will be done in accordance with the Virginia BMP Field Guide (2009) and Virginia BMPs for For Water Quality Technical Manual (2011).
Small Whorled Pogonia	No effect	No effect	No habitat or potential habitat for Small Whorled Pogonia is present.
Northern Long-eared Bat	Suitable habitat is present, the species is not present.	Not likely to adversely affect.	Will be implementing USFWS TOYR. No trees will be removed from 15 April to 15 September.
Indiana Bat	Suitable habitat is present, the species is not present.	Not likely to adversely affect.	Will be implementing USFWS TOYR. No trees will be removed from 15 April to 15 September.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Virginia Field Office 6669 Short Lane Gloucester, VA 23061

Date: 3 October 2018

Self-Certification Letter

Project Name: Timber Harvest in Training Areas 5B, 7A, 7B, 7C, 16D -Unit 5.

Dear Applicant:

Thank you for using the U.S. Fish and Wildlife Service (Service) Virginia Ecological Services online project review process. By printing this letter in conjunction with your project review package, you are certifying that you have completed the online project review process for the project named above in accordance with all instructions provided, using the best available information to reach your conclusions. This letter, and the enclosed project review package, completes the review of your project in accordance with the Endangered Species Act of 1973 (16 U.S.C. . 1531-1544, 87 Stat. 884), as amended (ESA), and the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c, 54 Stat. 250), as amended (Eagle Act). This letter also provides information for your project review under the National Environmental Policy Act of 1969 (P.L. 91-190, 42 U.S.C. 4321-4347, 83 Stat. 852), as amended. A copy of this letter and the project review package must be submitted to this office for this certification to be valid. This letter and the project review package will be maintained in our records.

The species conclusions table in the enclosed project review package summarizes your ESA and Eagle Act conclusions. These conclusions resulted in:

- "no effect" determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- "may affect, not likely to adversely affect" determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- "may affect, likely to adversely affect" determination for the Northern long-eared bat (*Myotis septentrionalis*) and relying on the findings of the January 5, 2016 Programmatic Biological Opinion for the Final 4(d) Rule on the Northern long-eared bat; and/or
- "no Eagle Act permit required" determinations for eagles.

Applicant Page 2

We certify that use of the online project review process in strict accordance with the instructions provided as documented in the enclosed project review package results in reaching the appropriate determinations. Therefore, we concur with the "no effect" or "not likely to adversely affect" determinations for proposed and listed species and proposed and designated critical habitat; the "may affect" determination for Northern long-eared bat; and/or the "no Eagle Act permit required" determinations for eagles. Additional coordination with this office is not needed.

Candidate species are not legally protected pursuant to the ESA. However, the Service encourages consideration of these species by avoiding adverse impacts to them. Please contact this office for additional coordination if your project action area contains candidate species.

Should project plans change or if additional information on the distribution of proposed or listed species, proposed or designated critical habitat, or bald eagles becomes available, this determination may be reconsidered. This certification letter is valid for 1 year.

Information about the online project review process including instructions and use, species information, and other information regarding project reviews within Virginia is available at our website http://www.fws.gov/northeast/virginiafield/endspecies/project_reviews.html. If you have any questions, please contact Troy Andersen of this office at (804) 824-2428.

Sincerely,

Cindy Schulz Field Supervisor

Virginia Ecological Services

Cynthia a Schuly

Enclosures - project review package



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Virginia Ecological Services Field Office 6669 Short Lane Gloucester, VA 23061-4410

Phone: (804) 693-6694 Fax: (804) 693-9032 http://www.fws.gov/northeast/virginiafield/



In Reply Refer To: October 02, 2018

Consultation Code: 05E2VA00-2018-SLI-3512

Event Code: 05E2VA00-2019-E-00076 Project Name: Unit 6 - Timber Harvest

Subject: Updated list of threatened and endangered species that may occur in your proposed

project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered

species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Virginia Ecological Services Field Office 6669 Short Lane Gloucester, VA 23061-4410 (804) 693-6694

Project Summary

Consultation Code: 05E2VA00-2018-SLI-3512

Event Code: 05E2VA00-2019-E-00076

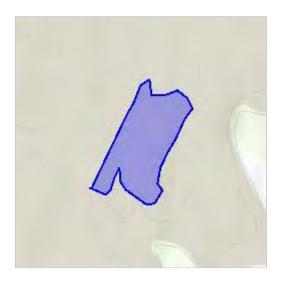
Project Name: Unit 6 - Timber Harvest

Project Type: FORESTRY

Project Description: Timber thinning in Unit 6.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/38.49075324200007N77.47311885719158W



Counties: Stafford, VA

Endangered

Endangered Species Act Species

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. <u>NOAA Fisheries</u>, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Indiana Bat <i>Myotis sodalis</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened
Clams	
NAME	STATUS

No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/784

Dwarf Wedgemussel Alasmidonta heterodon

10/02/2018 Event Code: 05E2VA00-2019-E-00076 4

Flowering Plants

NAME

Harperella *Ptilimnium nodosum*

Endangered

No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3739

Small Whorled Pogonia Isotria medeoloides

Threatened

No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1890

Critical habitats

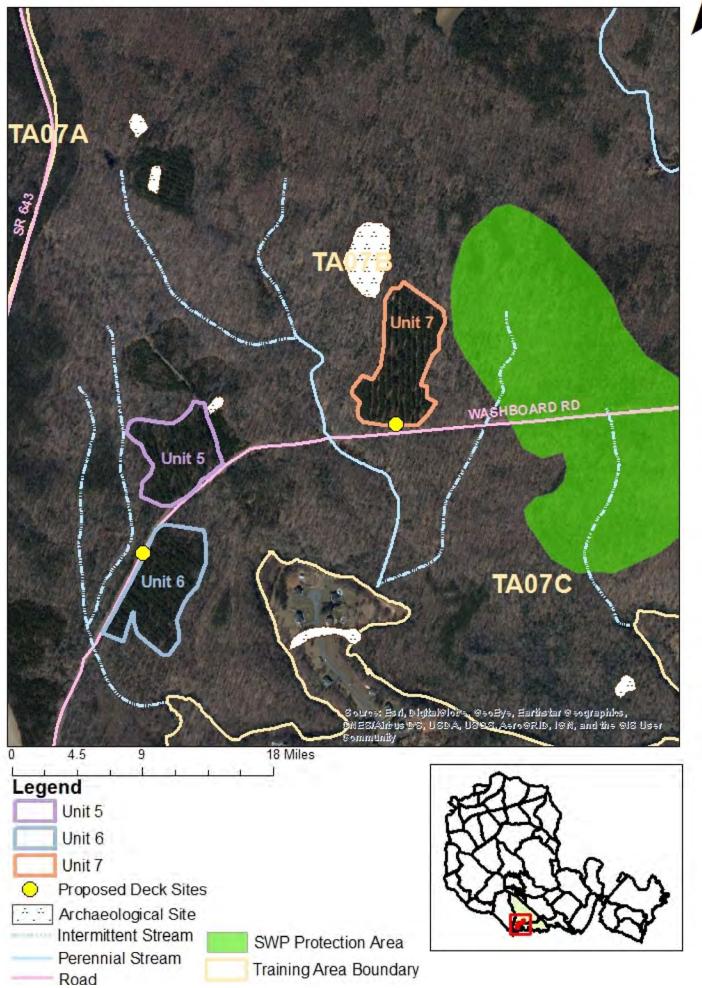
THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the <u>National Wildlife Refuge</u> system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Proposed Timber Harvest (Units 5, 6 and 7)



Siddall CIV Darien G

From: Reynolds, Rick (DGIF) <Rick.Reynolds@dgif.virginia.gov>

Sent: Thursday, May 4, 2017 11:01 AM

To: Siddall CIV Darien G

Subject: [Non-DoD Source] RE: Hell Rick, this is Darien Siddall...this is concerning the Little Brown

Bat and Tri-Colored Bat.

According to DGIF records we are not aware of summer roosts or winter hibernacula for either tri-colored or little brown bat on the Quantico Base.

Rick Reynolds Wildlife Biologist

Virginia Department of Game and Inland Fisheries P.O. Box 996 Verona, VA 24482

540-248-9360

----Original Message-----

From: Siddall CIV Darien G [mailto:darien.siddall@usmc.mil]

Sent: Thursday, May 04, 2017 10:52 AM

To: Reynolds, Rick (DGIF)

Subject: Hell Rick, this is Darien Siddall...this is concerning the Little Brown Bat and Tri-Colored Bat.

Importance: High

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They have been detected on our base though. Please send me your concurrence/non-concurrence on this issue. I have attached the map to this e-mail Thanks!

Darien Siddall

Natural Resource Specialist

NEPA Section

Natural Resources and Environmental Affairs (NREA) Environmental Planning Section

3049 Bordelon St.

Marine Corps Base (MCB) - Quantico, VA 22134

Phone: 703-432-6770 Fax: 703-784-4953 DSN: 278-4030

E-mail: darien.siddall@usmc.mil

UNITED STATES MARINE CORPS

MARINE CORPS INSTALLATIONS NATIONAL CAPITAL REGION MARINE CORPS BASE 3250 CATLIN AVENUE QUANTICO, VIRGINIA 22134 5001

IN REPLY REFER TO: 11015/1 B 046 02 OCT 18

MEMORANDUM FOR THE RECORD

From: Head, Fish, Wildlife, & Agronomy Program, Natural Resources

and Environmental Affairs Branch

To: File

Subj: SMALL WHORLED POGONIA SURVEY FOR FY2020 LOBLOLLY PINE

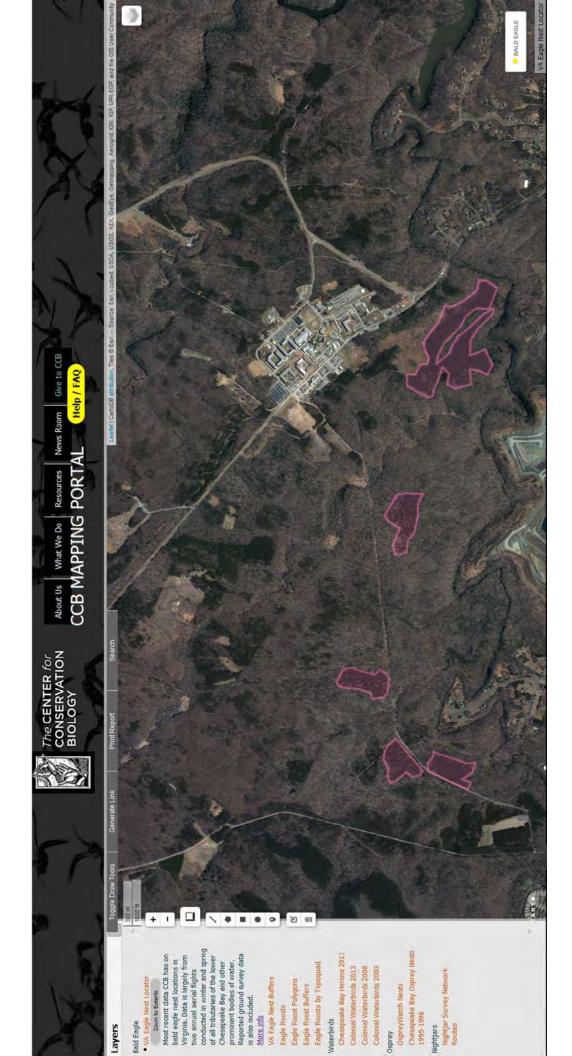
THINNING

Encl: (1) Location maps of timber units 1-12

- 1. MCINCR-MCBQ, G-F, Natural Resources and Environmental Affairs Branch, Forestry Program has proposed a loblolly pine thinning within an approximately 228-acre area in a total of twelve timber units (units 1-12) in TA 5B, 7A, 7B, 7C, and 16D) during FY2020.
- 2. Enclosure 1 provides site locations of timber units 1-12.
- 3. Habitat within the proposed thinning area consists of thick loblolly pine (*Pinus taeda*) with little understory growth.
- 4. There is no potentially suitable habitat for the small whorled pogonia within the proposed timber management project area. The proposed loblolly pine thinning within timber units 1-12 will not affect this federally listed species.

Christa Nye

Copy to:
Head, NEPA Program





Species Conclusions Table

Project Name: Timber Harvest in Training Areas 5B, 7A, 7B, 7C and 16D - Unit 6 at Marine Corps Base Quantico, Virginia.

Date: 3 October 2018

Species / Resource Name	Conclusion	ESA Section 7 / Eagle Act Determination	Notes / Documentation
Bald Eagle	Unlikely to disturb nesting Bald Eagles.	No Eagle Act Permit Required.	Proposed action does not involve the removal of overstory trees with 330 ft. of a Bald Eagle nest. Proposed action is not within 660 feet of a Bald Eagle nest or a Bald Eagle concentration area.
Harperella	No effect	No effect	A 50 ft. buffer will be maintained around all perennial and intermittent streams as well as wetlands. This will be done in accordance with the Virginia BMP Field Guide (2009) and Virginia BMPs for For Water Quality Technical Manual (2011).
Small Whorled Pogonia	No effect	No effect	No habitat or potential habitat for Small Whorled Pogonia is present.
Northern Long-eared Bat	Suitable habitat is present, the species is not present.	Not likely to adversely affect.	Will be implementing USFWS TOYR. No trees will be removed from 15 April to 15 September.
Indiana Bat	Suitable habitat is present, the species is not present.	Not likely to adversely affect.	Will be implementing USFWS TOYR. No trees will be removed from 15 April to 15 September.
Dwarf Wedgemussel	No effect	No effect	A 50 ft. buffer will be maintained around all perennial and intermittent streams as well as wetlands. This will be done in accordance with the Virginia BMP Field Guide (2009) and Virginia BMPs for For Water Quality Technical Manual (2011).



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Virginia Field Office 6669 Short Lane Gloucester, VA 23061

Date: 3 October 2018

Self-Certification Letter

Project Name: Timber Harvest in Training Areas 5B, 7A, 7B, 7C, 16D -Unit 6.

Dear Applicant:

Thank you for using the U.S. Fish and Wildlife Service (Service) Virginia Ecological Services online project review process. By printing this letter in conjunction with your project review package, you are certifying that you have completed the online project review process for the project named above in accordance with all instructions provided, using the best available information to reach your conclusions. This letter, and the enclosed project review package, completes the review of your project in accordance with the Endangered Species Act of 1973 (16 U.S.C. . 1531-1544, 87 Stat. 884), as amended (ESA), and the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c, 54 Stat. 250), as amended (Eagle Act). This letter also provides information for your project review under the National Environmental Policy Act of 1969 (P.L. 91-190, 42 U.S.C. 4321-4347, 83 Stat. 852), as amended. A copy of this letter and the project review package must be submitted to this office for this certification to be valid. This letter and the project review package will be maintained in our records.

The species conclusions table in the enclosed project review package summarizes your ESA and Eagle Act conclusions. These conclusions resulted in:

- "no effect" determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- "may affect, not likely to adversely affect" determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- "may affect, likely to adversely affect" determination for the Northern long-eared bat (*Myotis septentrionalis*) and relying on the findings of the January 5, 2016 Programmatic Biological Opinion for the Final 4(d) Rule on the Northern long-eared bat; and/or
- "no Eagle Act permit required" determinations for eagles.

Applicant Page 2

We certify that use of the online project review process in strict accordance with the instructions provided as documented in the enclosed project review package results in reaching the appropriate determinations. Therefore, we concur with the "no effect" or "not likely to adversely affect" determinations for proposed and listed species and proposed and designated critical habitat; the "may affect" determination for Northern long-eared bat; and/or the "no Eagle Act permit required" determinations for eagles. Additional coordination with this office is not needed.

Candidate species are not legally protected pursuant to the ESA. However, the Service encourages consideration of these species by avoiding adverse impacts to them. Please contact this office for additional coordination if your project action area contains candidate species.

Should project plans change or if additional information on the distribution of proposed or listed species, proposed or designated critical habitat, or bald eagles becomes available, this determination may be reconsidered. This certification letter is valid for 1 year.

Information about the online project review process including instructions and use, species information, and other information regarding project reviews within Virginia is available at our website http://www.fws.gov/northeast/virginiafield/endspecies/project_reviews.html. If you have any questions, please contact Troy Andersen of this office at (804) 824-2428.

Sincerely,

Cindy Schulz Field Supervisor

Virginia Ecological Services

Cynthia a Schuly

Enclosures - project review package



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Virginia Ecological Services Field Office 6669 Short Lane Gloucester, VA 23061-4410

Phone: (804) 693-6694 Fax: (804) 693-9032 http://www.fws.gov/northeast/virginiafield/



In Reply Refer To: October 02, 2018

Consultation Code: 05E2VA00-2018-SLI-3515

Event Code: 05E2VA00-2019-E-00077 Project Name: Unit 7 - Timber Harvest

Subject: Updated list of threatened and endangered species that may occur in your proposed

project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered

species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Virginia Ecological Services Field Office 6669 Short Lane Gloucester, VA 23061-4410 (804) 693-6694

Project Summary

Consultation Code: 05E2VA00-2018-SLI-3515

Event Code: 05E2VA00-2019-E-00077

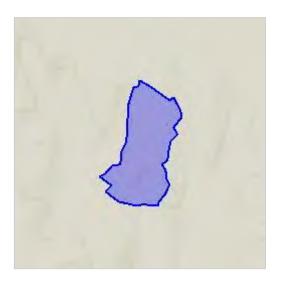
Project Name: Unit 7 - Timber Harvest

Project Type: FORESTRY

Project Description: Timber thinning in Unit 7.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/38.49612747099462N77.46621766153885W



Counties: Stafford, VA

STATUS

Endangered Species Act Species

Species profile: https://ecos.fws.gov/ecp/species/1890

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. <u>NOAA Fisheries</u>, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME

Indiana Bat Myotis sodalis	Endangered
There is final critical habitat for this species. Your location is outside the critical habitat.	
Species profile: https://ecos.fws.gov/ecp/species/5949	
Northern Long-eared Bat Myotis septentrionalis	Threatened
No critical habitat has been designated for this species.	
Species profile: https://ecos.fws.gov/ecp/species/9045	
Flowering Plants	
NAME	STATUS
Harperella Ptilimnium nodosum	Endangered
No critical habitat has been designated for this species.	
Species profile: https://ecos.fws.gov/ecp/species/3739	
Small Whorled Pogonia Isotria medeoloides	Threatened
No critical habitat has been designated for this species.	

Critical habitats

10/02/2018

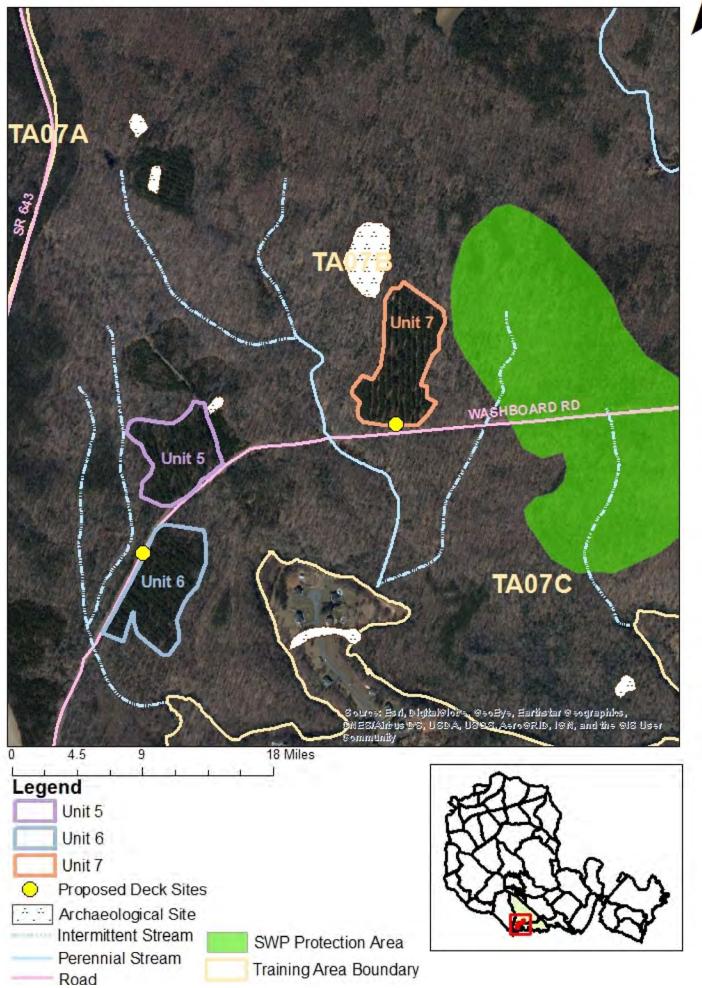
THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the <u>National Wildlife Refuge</u> system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Proposed Timber Harvest (Units 5, 6 and 7)



Siddall CIV Darien G

From: Reynolds, Rick (DGIF) <Rick.Reynolds@dgif.virginia.gov>

Sent: Thursday, May 4, 2017 11:01 AM

To: Siddall CIV Darien G

Subject: [Non-DoD Source] RE: Hell Rick, this is Darien Siddall...this is concerning the Little Brown

Bat and Tri-Colored Bat.

According to DGIF records we are not aware of summer roosts or winter hibernacula for either tri-colored or little brown bat on the Quantico Base.

Rick Reynolds Wildlife Biologist

Virginia Department of Game and Inland Fisheries P.O. Box 996 Verona, VA 24482

540-248-9360

----Original Message-----

From: Siddall CIV Darien G [mailto:darien.siddall@usmc.mil]

Sent: Thursday, May 04, 2017 10:52 AM

To: Reynolds, Rick (DGIF)

Subject: Hell Rick, this is Darien Siddall...this is concerning the Little Brown Bat and Tri-Colored Bat.

Importance: High

Hello Rick,

We spoke at today concerning the State Endangered Little Brown Bat and Tri-Colored Bat. Per our conversation and use of your system, you stated that there were no known colonies of either of these species.

They have been detected on our base though. Please send me your concurrence/non-concurrence on this issue. I have attached the map to this e-mail Thanks!

Darien Siddall

Natural Resource Specialist

NEPA Section

Natural Resources and Environmental Affairs (NREA) Environmental Planning Section

3049 Bordelon St.

Marine Corps Base (MCB) - Quantico, VA 22134

Phone: 703-432-6770 Fax: 703-784-4953 DSN: 278-4030

E-mail: darien.siddall@usmc.mil

UNITED STATES MARINE CORPS

MARINE CORPS INSTALLATIONS NATIONAL CAPITAL REGION MARINE CORPS BASE 3250 CATLIN AVENUE QUANTICO, VIRGINIA 22134 5001

IN REPLY REFER TO: 11015/1 B 046 02 OCT 18

MEMORANDUM FOR THE RECORD

From: Head, Fish, Wildlife, & Agronomy Program, Natural Resources

and Environmental Affairs Branch

To: File

Subj: SMALL WHORLED POGONIA SURVEY FOR FY2020 LOBLOLLY PINE

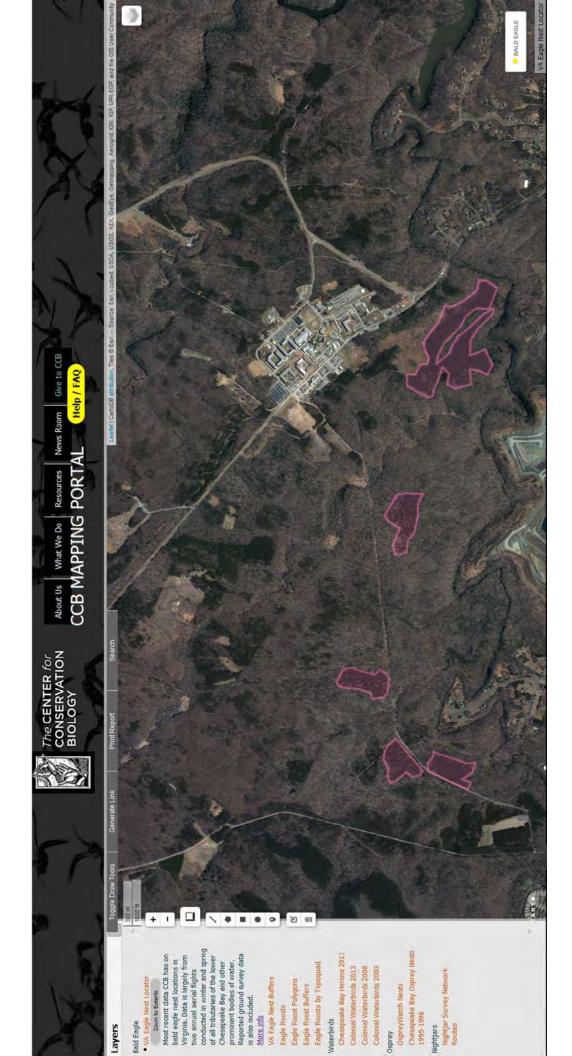
THINNING

Encl: (1) Location maps of timber units 1-12

- 1. MCINCR-MCBQ, G-F, Natural Resources and Environmental Affairs Branch, Forestry Program has proposed a loblolly pine thinning within an approximately 228-acre area in a total of twelve timber units (units 1-12) in TA 5B, 7A, 7B, 7C, and 16D) during FY2020.
- 2. Enclosure 1 provides site locations of timber units 1-12.
- 3. Habitat within the proposed thinning area consists of thick loblolly pine (*Pinus taeda*) with little understory growth.
- 4. There is no potentially suitable habitat for the small whorled pogonia within the proposed timber management project area. The proposed loblolly pine thinning within timber units 1-12 will not affect this federally listed species.

Christa Nye

Copy to:
Head, NEPA Program





Species Conclusions Table

Project Name: Timber Harvest in Training Areas 5B, 7A, 7B, 7C and 16D - Unit 7 at Marine Corps Base Quantico, Virginia.

Date: 3 October 2018

t Determination Notes / Documentation	uired. Proposed action does not involve the removal of overstory trees with 330 ft. of a Bald Eagle nest. Proposed action is not within 660 feet of a Bald Eagle nest or a Bald Eagle concentration area.	A 50 ft. buffer will be maintained around all perennial and intermittent streams as well as wetlands. This will be done in accordance with the Virginia BMP Field Guide (2009) and Virginia BMPs for For Water Quality Technical Manual (2011).	No habitat or potential habitat for Small Whorled Pogonia is present.	ect. Will be implementing USFWS TOYR. No trees will be removed from 15 April to 15 September.	ect. Will be implementing USFWS TOYR. No trees will be removed from 15 April to 15 September.		
ESA Section 7 / Eagle Act Determination	No Eagle Act Permit Required.	No effect	No effect	Not likely to adversely affect.	Not likely to adversely affect.		
Conclusion	Unlikely to disturb nesting Bald Eagles.	No effect	No effect	Suitable habitat is present, the species is not present.	Suitable habitat is present, the species is not present.		
Species / Resource Name	Bald Eagle	Harperella	Small Whorled Pogonia	Northern Long-eared Bat	Indiana Bat		



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Virginia Field Office 6669 Short Lane Gloucester, VA 23061

Date: 3 October 2018

Self-Certification Letter

Project Name: Timber Harvest in Training Areas 5B, 7A, 7B, 7C, 16D -Unit 7.

Dear Applicant:

Thank you for using the U.S. Fish and Wildlife Service (Service) Virginia Ecological Services online project review process. By printing this letter in conjunction with your project review package, you are certifying that you have completed the online project review process for the project named above in accordance with all instructions provided, using the best available information to reach your conclusions. This letter, and the enclosed project review package, completes the review of your project in accordance with the Endangered Species Act of 1973 (16 U.S.C. . 1531-1544, 87 Stat. 884), as amended (ESA), and the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c, 54 Stat. 250), as amended (Eagle Act). This letter also provides information for your project review under the National Environmental Policy Act of 1969 (P.L. 91-190, 42 U.S.C. 4321-4347, 83 Stat. 852), as amended. A copy of this letter and the project review package must be submitted to this office for this certification to be valid. This letter and the project review package will be maintained in our records.

The species conclusions table in the enclosed project review package summarizes your ESA and Eagle Act conclusions. These conclusions resulted in:

- "no effect" determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- "may affect, not likely to adversely affect" determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- "may affect, likely to adversely affect" determination for the Northern long-eared bat (*Myotis septentrionalis*) and relying on the findings of the January 5, 2016 Programmatic Biological Opinion for the Final 4(d) Rule on the Northern long-eared bat; and/or
- "no Eagle Act permit required" determinations for eagles.

Applicant Page 2

We certify that use of the online project review process in strict accordance with the instructions provided as documented in the enclosed project review package results in reaching the appropriate determinations. Therefore, we concur with the "no effect" or "not likely to adversely affect" determinations for proposed and listed species and proposed and designated critical habitat; the "may affect" determination for Northern long-eared bat; and/or the "no Eagle Act permit required" determinations for eagles. Additional coordination with this office is not needed.

Candidate species are not legally protected pursuant to the ESA. However, the Service encourages consideration of these species by avoiding adverse impacts to them. Please contact this office for additional coordination if your project action area contains candidate species.

Should project plans change or if additional information on the distribution of proposed or listed species, proposed or designated critical habitat, or bald eagles becomes available, this determination may be reconsidered. This certification letter is valid for 1 year.

Information about the online project review process including instructions and use, species information, and other information regarding project reviews within Virginia is available at our website http://www.fws.gov/northeast/virginiafield/endspecies/project_reviews.html. If you have any questions, please contact Troy Andersen of this office at (804) 824-2428.

Sincerely,

Cindy Schulz Field Supervisor

Virginia Ecological Services

Cynthia a Schuly

Enclosures - project review package



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Virginia Ecological Services Field Office 6669 Short Lane Gloucester, VA 23061-4410

Phone: (804) 693-6694 Fax: (804) 693-9032 http://www.fws.gov/northeast/virginiafield/



In Reply Refer To: October 02, 2018

Consultation Code: 05E2VA00-2018-SLI-3519

Event Code: 05E2VA00-2019-E-00078 Project Name: Unit 8 - Timber Harvest

Subject: Updated list of threatened and endangered species that may occur in your proposed

project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered

species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Virginia Ecological Services Field Office 6669 Short Lane Gloucester, VA 23061-4410 (804) 693-6694

Project Summary

Consultation Code: 05E2VA00-2018-SLI-3519

Event Code: 05E2VA00-2019-E-00078

Project Name: Unit 8 - Timber Harvest

Project Type: FORESTRY

Project Description: Timber thinning in Unit 8.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/38.493541183095346N77.45407938468875W



Counties: Stafford, VA

STATUS

Endangered Species Act Species

Species profile: https://ecos.fws.gov/ecp/species/1890

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. <u>NOAA Fisheries</u>, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME

Indiana Bat Myotis sodalis	Endangered
There is final critical habitat for this species. Your location is outside the critical habitat.	
Species profile: https://ecos.fws.gov/ecp/species/5949	
Northern Long-eared Bat Myotis septentrionalis	Threatened
No critical habitat has been designated for this species.	
Species profile: https://ecos.fws.gov/ecp/species/9045	
Flowering Plants	
NAME	STATUS
Harperella Ptilimnium nodosum	Endangered
No critical habitat has been designated for this species.	
Species profile: https://ecos.fws.gov/ecp/species/3739	
Small Whorled Pogonia Isotria medeoloides	Threatened
No critical habitat has been designated for this species.	

Critical habitats

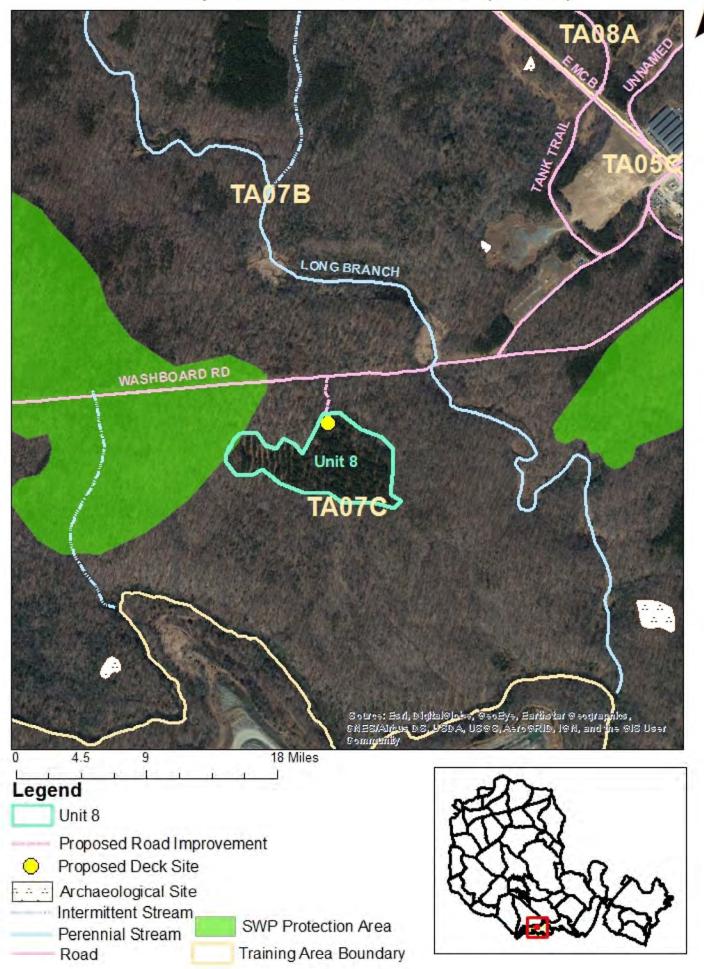
THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the <u>National Wildlife Refuge</u> system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Proposed Timber Harvest (Unit 8)



Siddall CIV Darien G

From: Reynolds, Rick (DGIF) <Rick.Reynolds@dgif.virginia.gov>

Sent: Thursday, May 4, 2017 11:01 AM

To: Siddall CIV Darien G

Subject: [Non-DoD Source] RE: Hell Rick, this is Darien Siddall...this is concerning the Little Brown

Bat and Tri-Colored Bat.

According to DGIF records we are not aware of summer roosts or winter hibernacula for either tri-colored or little brown bat on the Quantico Base.

Rick Reynolds Wildlife Biologist

Virginia Department of Game and Inland Fisheries P.O. Box 996 Verona, VA 24482

540-248-9360

----Original Message-----

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Sent: Thursday, May 04, 2017 10:52 AM

To: Reynolds, Rick (DGIF)

Subject: Hell Rick, this is Darien Siddall...this is concerning the Little Brown Bat and Tri-Colored Bat.

Importance: High

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They have been detected on our base though. Please send me your concurrence/non-concurrence on this issue. I have attached the map to this e-mail Thanks!

Darien Siddall

Natural Resource Specialist

NEPA Section

Natural Resources and Environmental Affairs (NREA) Environmental Planning Section

3049 Bordelon St.

Marine Corps Base (MCB) - Quantico, VA 22134

Phone: 703-432-6770 Fax: 703-784-4953 DSN: 278-4030

E-mail: darien.siddall@usmc.mil

UNITED STATES MARINE CORPS

MARINE CORPS INSTALLATIONS NATIONAL CAPITAL REGION MARINE CORPS BASE 3250 CATLIN AVENUE QUANTICO, VIRGINIA 22134 5001

IN REPLY REFER TO: 11015/1 B 046 02 OCT 18

MEMORANDUM FOR THE RECORD

From: Head, Fish, Wildlife, & Agronomy Program, Natural Resources

and Environmental Affairs Branch

To: File

Subj: SMALL WHORLED POGONIA SURVEY FOR FY2020 LOBLOLLY PINE

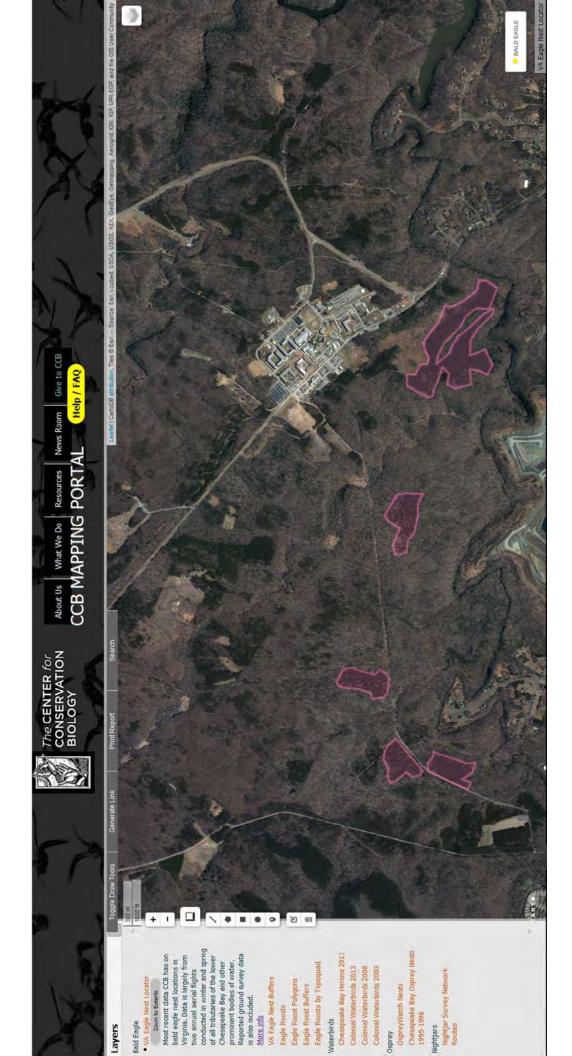
THINNING

Encl: (1) Location maps of timber units 1-12

- 1. MCINCR-MCBQ, G-F, Natural Resources and Environmental Affairs Branch, Forestry Program has proposed a loblolly pine thinning within an approximately 228-acre area in a total of twelve timber units (units 1-12) in TA 5B, 7A, 7B, 7C, and 16D) during FY2020.
- 2. Enclosure 1 provides site locations of timber units 1-12.
- 3. Habitat within the proposed thinning area consists of thick loblolly pine (*Pinus taeda*) with little understory growth.
- 4. There is no potentially suitable habitat for the small whorled pogonia within the proposed timber management project area. The proposed loblolly pine thinning within timber units 1-12 will not affect this federally listed species.

Christa Nye

Copy to:
Head, NEPA Program





Species Conclusions Table

Project Name: Timber Harvest in Training Areas 5B, 7A, 7B, 7C and 16D - Unit 8 at Marine Corps Base Quantico, Virginia.

Date: 3 October 2018

ination Notes / Documentation	Proposed action does not involve the removal of overstory trees with 330 ft. of a Bald Eagle nest. Proposed action is not within 660 feet of a Bald Eagle nest or a Bald Eagle concentration area.	A 50 ft. buffer will be maintained around all perennial and intermittent streams as well as wetlands. This will be done in accordance with the Virginia BMP Field Guide (2009) and Virginia BMPs for For Water Quality Technical Manual (2011).	No habitat or potential habitat for Small Whorled Pogonia is present.	Will be implementing USFWS TOYR. No trees will be removed from 15 April to 15 September.	Will be implementing USFWS TOYR. No trees will be removed from 15 April to 15 September.		
ESA Section 7 / Eagle Act Determination	No Eagle Act Permit Required.	No effect	No effect	Not likely to adversely affect.	Not likely to adversely affect.		
Conclusion	Unlikely to disturb nesting Bald Eagles.	No effect	No effect	Suitable habitat is present, the species is not present.	Suitable habitat is present, the species is not present.		
Species / Resource Name	Bald Eagle	Harperella	Small Whorled Pogonia	Northern Long-eared Bat	Indiana Bat		



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Virginia Field Office 6669 Short Lane Gloucester, VA 23061

Date: 3 October 2018

Self-Certification Letter

Project Name: Timber Harvest in Training Areas 5B, 7A, 7B, 7C, 16D -Unit 8.

Dear Applicant:

Thank you for using the U.S. Fish and Wildlife Service (Service) Virginia Ecological Services online project review process. By printing this letter in conjunction with your project review package, you are certifying that you have completed the online project review process for the project named above in accordance with all instructions provided, using the best available information to reach your conclusions. This letter, and the enclosed project review package, completes the review of your project in accordance with the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as amended (ESA), and the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c, 54 Stat. 250), as amended (Eagle Act). This letter also provides information for your project review under the National Environmental Policy Act of 1969 (P.L. 91-190, 42 U.S.C. 4321-4347, 83 Stat. 852), as amended. A copy of this letter and the project review package must be submitted to this office for this certification to be valid. This letter and the project review package will be maintained in our records.

The species conclusions table in the enclosed project review package summarizes your ESA and Eagle Act conclusions. These conclusions resulted in:

- "no effect" determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- "may affect, not likely to adversely affect" determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- "may affect, likely to adversely affect" determination for the Northern long-eared bat (*Myotis septentrionalis*) and relying on the findings of the January 5, 2016 Programmatic Biological Opinion for the Final 4(d) Rule on the Northern long-eared bat; and/or
- "no Eagle Act permit required" determinations for eagles.

Applicant Page 2

We certify that use of the online project review process in strict accordance with the instructions provided as documented in the enclosed project review package results in reaching the appropriate determinations. Therefore, we concur with the "no effect" or "not likely to adversely affect" determinations for proposed and listed species and proposed and designated critical habitat; the "may affect" determination for Northern long-eared bat; and/or the "no Eagle Act permit required" determinations for eagles. Additional coordination with this office is not needed.

Candidate species are not legally protected pursuant to the ESA. However, the Service encourages consideration of these species by avoiding adverse impacts to them. Please contact this office for additional coordination if your project action area contains candidate species.

Should project plans change or if additional information on the distribution of proposed or listed species, proposed or designated critical habitat, or bald eagles becomes available, this determination may be reconsidered. This certification letter is valid for 1 year.

Information about the online project review process including instructions and use, species information, and other information regarding project reviews within Virginia is available at our website http://www.fws.gov/northeast/virginiafield/endspecies/project_reviews.html. If you have any questions, please contact Troy Andersen of this office at (804) 824-2428.

Sincerely,

Cindy Schulz Field Supervisor

Virginia Ecological Services

Cynthia a Schuly

Enclosures - project review package



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Virginia Ecological Services Field Office 6669 Short Lane Gloucester, VA 23061-4410

Phone: (804) 693-6694 Fax: (804) 693-9032 http://www.fws.gov/northeast/virginiafield/



In Reply Refer To: October 02, 2018

Consultation Code: 05E2VA00-2018-SLI-3521

Event Code: 05E2VA00-2019-E-00082 Project Name: Unit 9 - Timber Harvest

Subject: Updated list of threatened and endangered species that may occur in your proposed

project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered

species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Virginia Ecological Services Field Office 6669 Short Lane Gloucester, VA 23061-4410 (804) 693-6694

Project Summary

Consultation Code: 05E2VA00-2018-SLI-3521

Event Code: 05E2VA00-2019-E-00082

Project Name: Unit 9 - Timber Harvest

Project Type: FORESTRY

Project Description: Timber thinning in Unit 9.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/38.49063143877558N77.44210098890176W



Counties: Stafford, VA

Endangered Species Act Species

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. <u>NOAA Fisheries</u>, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Indiana Bat <i>Myotis sodalis</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened
Clams	
NAME	STATUS

No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/784

Dwarf Wedgemussel Alasmidonta heterodon

Endangered

Event Code: 05E2VA00-2019-E-00082

Flowering Plants

NAME

Harperella Ptilimnium nodosum

Endangered

No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3739

Small Whorled Pogonia Isotria medeoloides

Threatened

No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1890

Critical habitats

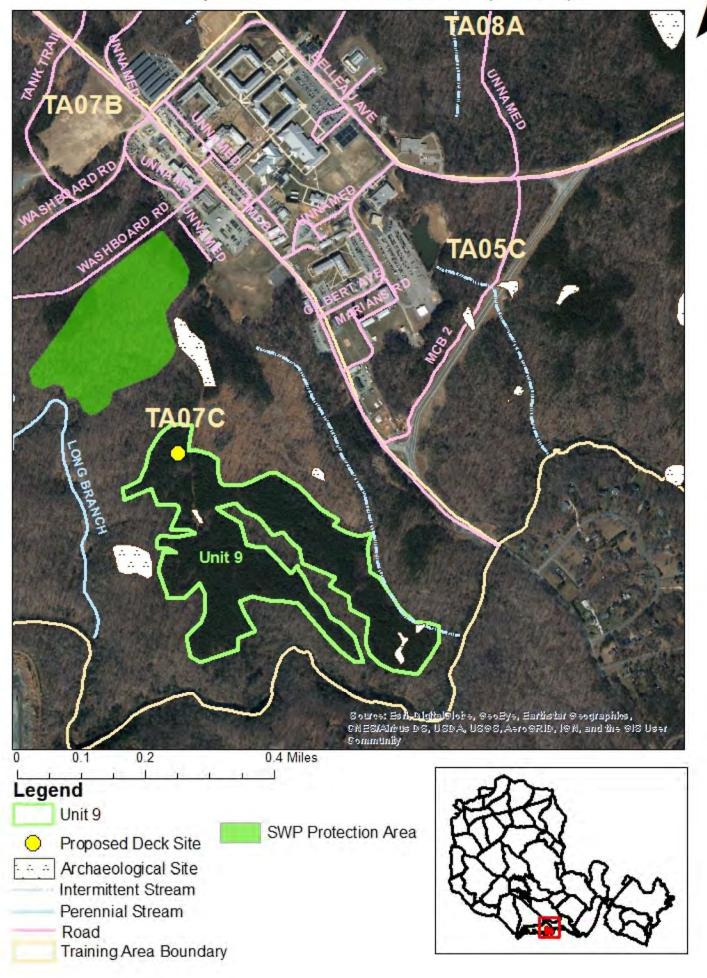
THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the <u>National Wildlife Refuge</u> system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Proposed Timber Harvest (Unit 9)



Siddall CIV Darien G

From: Reynolds, Rick (DGIF) <Rick.Reynolds@dgif.virginia.gov>

Sent: Thursday, May 4, 2017 11:01 AM

To: Siddall CIV Darien G

Subject: [Non-DoD Source] RE: Hell Rick, this is Darien Siddall...this is concerning the Little Brown

Bat and Tri-Colored Bat.

According to DGIF records we are not aware of summer roosts or winter hibernacula for either tri-colored or little brown bat on the Quantico Base.

Rick Reynolds Wildlife Biologist

Virginia Department of Game and Inland Fisheries P.O. Box 996 Verona, VA 24482

540-248-9360

----Original Message-----

From: Siddall CIV Darien G [mailto:darien.siddall@usmc.mil]

Sent: Thursday, May 04, 2017 10:52 AM

To: Reynolds, Rick (DGIF)

Subject: Hell Rick, this is Darien Siddall...this is concerning the Little Brown Bat and Tri-Colored Bat.

Importance: High

Hello Rick,

We spoke at today concerning the State Endangered Little Brown Bat and Tri-Colored Bat. Per our conversation and use of your system, you stated that there were no known colonies of either of these species.

They have been detected on our base though. Please send me your concurrence/non-concurrence on this issue. I have attached the map to this e-mail Thanks!

Darien Siddall

Natural Resource Specialist

NEPA Section

Natural Resources and Environmental Affairs (NREA) Environmental Planning Section

3049 Bordelon St.

Marine Corps Base (MCB) - Quantico, VA 22134

Phone: 703-432-6770 Fax: 703-784-4953 DSN: 278-4030

E-mail: darien.siddall@usmc.mil

UNITED STATES MARINE CORPS

MARINE CORPS INSTALLATIONS NATIONAL CAPITAL REGION MARINE CORPS BASE 3250 CATLIN AVENUE QUANTICO, VIRGINIA 22134 5001

IN REPLY REFER TO: 11015/1 B 046 02 OCT 18

MEMORANDUM FOR THE RECORD

From: Head, Fish, Wildlife, & Agronomy Program, Natural Resources

and Environmental Affairs Branch

To: File

Subj: SMALL WHORLED POGONIA SURVEY FOR FY2020 LOBLOLLY PINE

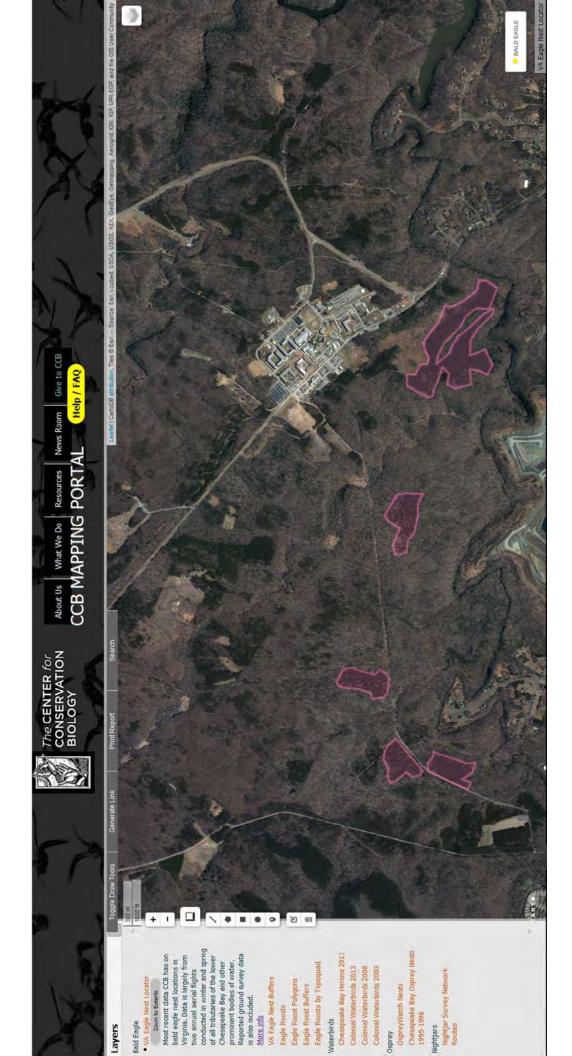
THINNING

Encl: (1) Location maps of timber units 1-12

- 1. MCINCR-MCBQ, G-F, Natural Resources and Environmental Affairs Branch, Forestry Program has proposed a loblolly pine thinning within an approximately 228-acre area in a total of twelve timber units (units 1-12) in TA 5B, 7A, 7B, 7C, and 16D) during FY2020.
- 2. Enclosure 1 provides site locations of timber units 1-12.
- 3. Habitat within the proposed thinning area consists of thick loblolly pine (*Pinus taeda*) with little understory growth.
- 4. There is no potentially suitable habitat for the small whorled pogonia within the proposed timber management project area. The proposed loblolly pine thinning within timber units 1-12 will not affect this federally listed species.

Christa Nye

Copy to:
Head, NEPA Program





Species Conclusions Table

Project Name: Timber Harvest in Training Areas 5B, 7A, 7B, 7C and 16D - Unit 9 at Marine Corps Base Quantico, Virginia.

Date: 3 October 2018

Species / Resource Name	Conclusion	ESA Section 7 / Eagle Act Determination	Notes / Documentation
Bald Eagle	Unlikely to disturb nesting Bald Eagles.	No Eagle Act Permit Required.	Proposed action does not involve the removal of overstory trees with 330 ft. of a Bald Eagle nest. Proposed action is not within 660 feet of a Bald Eagle nest or a Bald Eagle concentration area.
Harperella	No effect	No effect	A 50 ft. buffer will be maintained around all perennial and intermittent streams as well as wetlands. This will be done in accordance with the Virginia BMP Field Guide (2009) and Virginia BMPs for For Water Quality Technical Manual (2011).
Small Whorled Pogonia	No effect	No effect	No habitat or potential habitat for Small Whorled Pogonia is present.
Northern Long-eared Bat	Suitable habitat is present, the species is not present.	Not likely to adversely affect.	Will be implementing USFWS TOYR. No trees will be removed from 15 April to 15 September.
Indiana Bat	Suitable habitat is present, the species is not present.	Not likely to adversely affect.	Will be implementing USFWS TOYR. No trees will be removed from 15 April to 15 September.
Dwarf Wedgemussel	No effect	No effect	A 50 ft. buffer will be maintained around all perennial and intermittent streams as well as wetlands. This will be done in accordance with the Virginia BMP Field Guide (2009) and Virginia BMPs for For Water Quality Technical Manual (2011).



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Virginia Field Office 6669 Short Lane Gloucester, VA 23061

Date: 3 October 2018

Self-Certification Letter

Project Name: Timber Harvest in Training Areas 5B, 7A, 7B, 7C, 16D -Unit 9.

Dear Applicant:

Thank you for using the U.S. Fish and Wildlife Service (Service) Virginia Ecological Services online project review process. By printing this letter in conjunction with your project review package, you are certifying that you have completed the online project review process for the project named above in accordance with all instructions provided, using the best available information to reach your conclusions. This letter, and the enclosed project review package, completes the review of your project in accordance with the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as amended (ESA), and the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c, 54 Stat. 250), as amended (Eagle Act). This letter also provides information for your project review under the National Environmental Policy Act of 1969 (P.L. 91-190, 42 U.S.C. 4321-4347, 83 Stat. 852), as amended. A copy of this letter and the project review package must be submitted to this office for this certification to be valid. This letter and the project review package will be maintained in our records.

The species conclusions table in the enclosed project review package summarizes your ESA and Eagle Act conclusions. These conclusions resulted in:

- "no effect" determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- "may affect, not likely to adversely affect" determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- "may affect, likely to adversely affect" determination for the Northern long-eared bat (*Myotis septentrionalis*) and relying on the findings of the January 5, 2016 Programmatic Biological Opinion for the Final 4(d) Rule on the Northern long-eared bat; and/or
- "no Eagle Act permit required" determinations for eagles.

Applicant Page 2

We certify that use of the online project review process in strict accordance with the instructions provided as documented in the enclosed project review package results in reaching the appropriate determinations. Therefore, we concur with the "no effect" or "not likely to adversely affect" determinations for proposed and listed species and proposed and designated critical habitat; the "may affect" determination for Northern long-eared bat; and/or the "no Eagle Act permit required" determinations for eagles. Additional coordination with this office is not needed.

Candidate species are not legally protected pursuant to the ESA. However, the Service encourages consideration of these species by avoiding adverse impacts to them. Please contact this office for additional coordination if your project action area contains candidate species.

Should project plans change or if additional information on the distribution of proposed or listed species, proposed or designated critical habitat, or bald eagles becomes available, this determination may be reconsidered. This certification letter is valid for 1 year.

Information about the online project review process including instructions and use, species information, and other information regarding project reviews within Virginia is available at our website http://www.fws.gov/northeast/virginiafield/endspecies/project_reviews.html. If you have any questions, please contact Troy Andersen of this office at (804) 824-2428.

Sincerely,

Cindy Schulz Field Supervisor

Virginia Ecological Services

Cynthia a Schuly

Enclosures - project review package



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Virginia Ecological Services Field Office 6669 Short Lane Gloucester, VA 23061-4410

Phone: (804) 693-6694 Fax: (804) 693-9032 http://www.fws.gov/northeast/virginiafield/



In Reply Refer To: October 02, 2018

Consultation Code: 05E2VA00-2018-SLI-3525

Event Code: 05E2VA00-2019-E-00083 Project Name: Unit 10 - Timber Harvest

Subject: Updated list of threatened and endangered species that may occur in your proposed

project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered

species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Virginia Ecological Services Field Office 6669 Short Lane Gloucester, VA 23061-4410 (804) 693-6694

Project Summary

Consultation Code: 05E2VA00-2018-SLI-3525

Event Code: 05E2VA00-2019-E-00083

Project Name: Unit 10 - Timber Harvest

Project Type: FORESTRY

Project Description: Timber thinning in Unit 10.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/38.595021458167565N77.49417563558123W



Counties: Prince William, VA

STATUS

Endangered Species Act Species

Species profile: https://ecos.fws.gov/ecp/species/1890

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. <u>NOAA Fisheries</u>, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME

Indiana Bat <i>Myotis sodalis</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile https://exec.five.com/species/5040	Endangered
Species profile: https://ecos.fws.gov/ecp/species/5949	
Northern Long-eared Bat Myotis septentrionalis	Threatened
No critical habitat has been designated for this species.	
Species profile: https://ecos.fws.gov/ecp/species/9045	
Flowering Plants	
NAME	STATUS
Harperella Ptilimnium nodosum	Endangered
No critical habitat has been designated for this species.	_
Species profile: https://ecos.fws.gov/ecp/species/3739	
Small Whorled Pogonia Isotria medeoloides	Threatened
No critical habitat has been designated for this species.	

Critical habitats

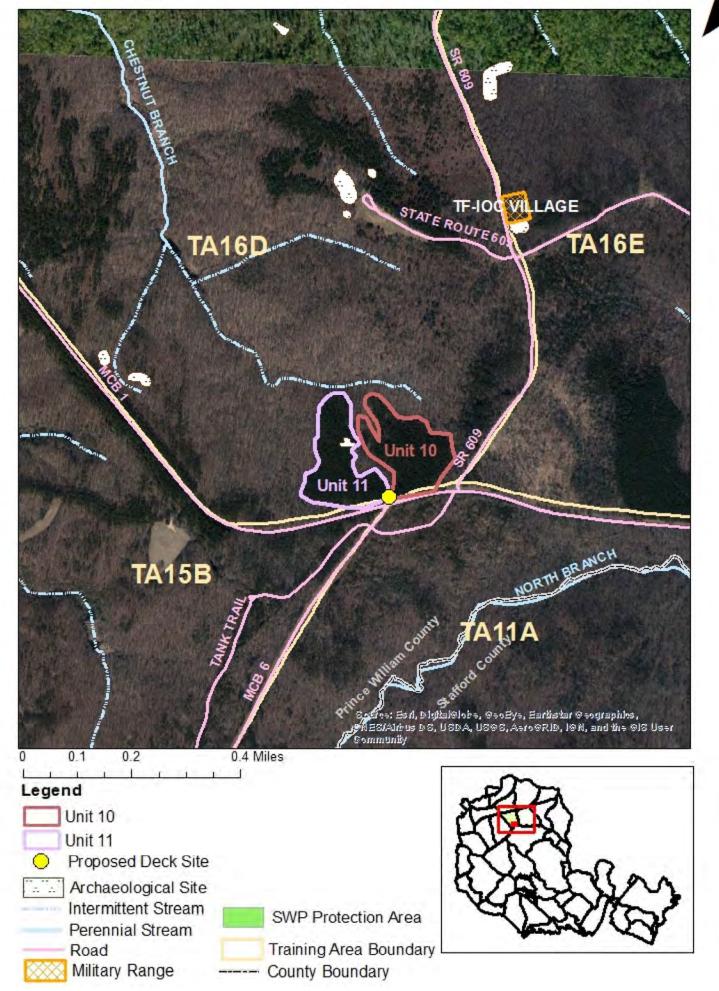
THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the <u>National Wildlife Refuge</u> system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

REFUGE INFORMATION WAS NOT AVAILABLE WHEN THIS SPECIES LIST WAS GENERATED. PLEASE CONTACT THE FIELD OFFICE FOR FURTHER INFORMATION.

Proposed Timber Harvest (Units 10 and 11)



Siddall CIV Darien G

From: Reynolds, Rick (DGIF) <Rick.Reynolds@dgif.virginia.gov>

Sent: Thursday, May 4, 2017 11:01 AM

To: Siddall CIV Darien G

Subject: [Non-DoD Source] RE: Hell Rick, this is Darien Siddall...this is concerning the Little Brown

Bat and Tri-Colored Bat.

According to DGIF records we are not aware of summer roosts or winter hibernacula for either tri-colored or little brown bat on the Quantico Base.

Rick Reynolds Wildlife Biologist

Virginia Department of Game and Inland Fisheries P.O. Box 996 Verona, VA 24482

540-248-9360

----Original Message-----

From: Siddall CIV Darien G [mailto:darien.siddall@usmc.mil]

Sent: Thursday, May 04, 2017 10:52 AM

To: Reynolds, Rick (DGIF)

Subject: Hell Rick, this is Darien Siddall...this is concerning the Little Brown Bat and Tri-Colored Bat.

Importance: High

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They have been detected on our base though. Please send me your concurrence/non-concurrence on this issue. I have attached the map to this e-mail Thanks!

Darien Siddall

Natural Resource Specialist

NEPA Section

Natural Resources and Environmental Affairs (NREA) Environmental Planning Section

3049 Bordelon St.

Marine Corps Base (MCB) - Quantico, VA 22134

Phone: 703-432-6770 Fax: 703-784-4953 DSN: 278-4030

E-mail: darien.siddall@usmc.mil

UNITED STATES MARINE CORPS

MARINE CORPS INSTALLATIONS NATIONAL CAPITAL REGION MARINE CORPS BASE 3250 CATLIN AVENUE QUANTICO, VIRGINIA 22134 5001

IN REPLY REFER TO: 11015/1 B 046 02 OCT 18

MEMORANDUM FOR THE RECORD

From: Head, Fish, Wildlife, & Agronomy Program, Natural Resources

and Environmental Affairs Branch

To: File

Subj: SMALL WHORLED POGONIA SURVEY FOR FY2020 LOBLOLLY PINE

THINNING

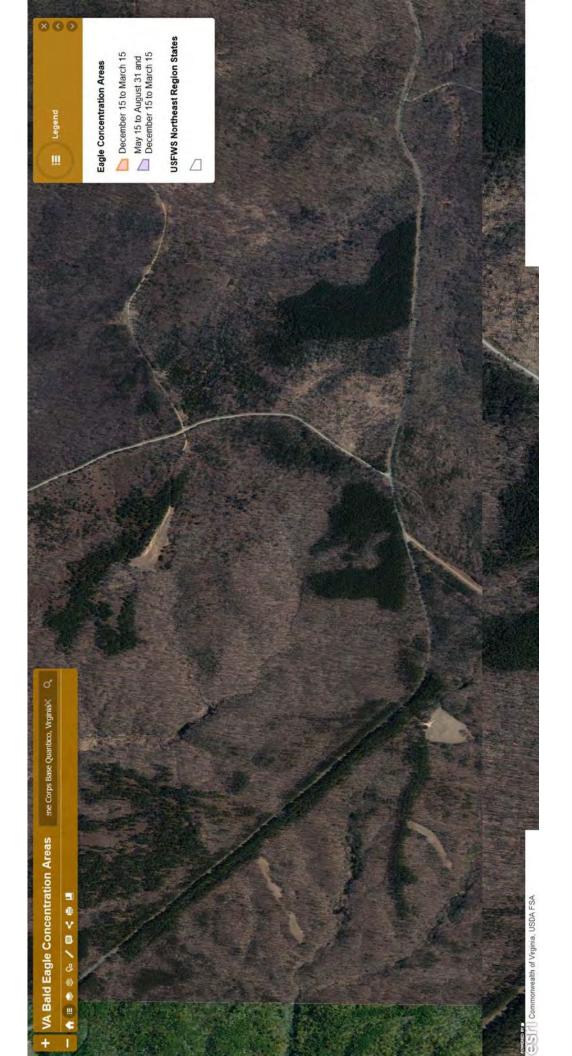
Encl: (1) Location maps of timber units 1-12

- 1. MCINCR-MCBQ, G-F, Natural Resources and Environmental Affairs Branch, Forestry Program has proposed a loblolly pine thinning within an approximately 228-acre area in a total of twelve timber units (units 1-12) in TA 5B, 7A, 7B, 7C, and 16D) during FY2020.
- 2. Enclosure 1 provides site locations of timber units 1-12.
- 3. Habitat within the proposed thinning area consists of thick loblolly pine (*Pinus taeda*) with little understory growth.
- 4. There is no potentially suitable habitat for the small whorled pogonia within the proposed timber management project area. The proposed loblolly pine thinning within timber units 1-12 will not affect this federally listed species.

Christa Nye

Copy to:
Head, NEPA Program





Species Conclusions Table

Project Name: Timber Harvest in Training Areas 5B, 7A, 7B, 7C and 16D - Unit 10 at Marine Corps Base Quantico, Virginia.

Date: 3 October 2018

Species / Resource Name	Conclusion	ESA Section 7 / Eagle Act Determination	Notes / Documentation
Bald Eagle	Unlikely to disturb nesting Bald Eagles.	No Eagle Act Permit Required.	Proposed action does not involve the removal of overstory trees with 330 ft. of a Bald Eagle nest. Proposed action is not within 660 feet of a Bald Eagle nest or a Bald Eagle concentration area.
Harperella	No effect	No effect	A 50 ft. buffer will be maintained around all perennial and intermittent streams as well as wetlands. This will be done in accordance with the Virginia BMP Field Guide (2009) and Virginia BMPs for For Water Quality Technical Manual (2011).
Small Whorled Pogonia	No effect	No effect	No habitat or potential habitat for Small Whorled Pogonia is present.
Northern Long-eared Bat	Suitable habitat is present, the species is not present.	Not likely to adversely affect.	Will be implementing USFWS TOYR. No trees will be removed from 15 April to 15 September.
Indiana Bat	Suitable habitat is present, the species is not present.	Not likely to adversely affect.	Will be implementing USFWS TOYR. No trees will be removed from 15 April to 15 September.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Virginia Field Office 6669 Short Lane Gloucester, VA 23061

Date: 3 October 2018

Self-Certification Letter

Project Name: Timber Harvest in Training Areas 5B, 7A, 7B, 7C, 16D -Unit 10.

Dear Applicant:

Thank you for using the U.S. Fish and Wildlife Service (Service) Virginia Ecological Services online project review process. By printing this letter in conjunction with your project review package, you are certifying that you have completed the online project review process for the project named above in accordance with all instructions provided, using the best available information to reach your conclusions. This letter, and the enclosed project review package, completes the review of your project in accordance with the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as amended (ESA), and the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c, 54 Stat. 250), as amended (Eagle Act). This letter also provides information for your project review under the National Environmental Policy Act of 1969 (P.L. 91-190, 42 U.S.C. 4321-4347, 83 Stat. 852), as amended. A copy of this letter and the project review package must be submitted to this office for this certification to be valid. This letter and the project review package will be maintained in our records.

The species conclusions table in the enclosed project review package summarizes your ESA and Eagle Act conclusions. These conclusions resulted in:

- "no effect" determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- "may affect, not likely to adversely affect" determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- "may affect, likely to adversely affect" determination for the Northern long-eared bat (*Myotis septentrionalis*) and relying on the findings of the January 5, 2016 Programmatic Biological Opinion for the Final 4(d) Rule on the Northern long-eared bat; and/or
- "no Eagle Act permit required" determinations for eagles.

Applicant Page 2

We certify that use of the online project review process in strict accordance with the instructions provided as documented in the enclosed project review package results in reaching the appropriate determinations. Therefore, we concur with the "no effect" or "not likely to adversely affect" determinations for proposed and listed species and proposed and designated critical habitat; the "may affect" determination for Northern long-eared bat; and/or the "no Eagle Act permit required" determinations for eagles. Additional coordination with this office is not needed.

Candidate species are not legally protected pursuant to the ESA. However, the Service encourages consideration of these species by avoiding adverse impacts to them. Please contact this office for additional coordination if your project action area contains candidate species.

Should project plans change or if additional information on the distribution of proposed or listed species, proposed or designated critical habitat, or bald eagles becomes available, this determination may be reconsidered. This certification letter is valid for 1 year.

Information about the online project review process including instructions and use, species information, and other information regarding project reviews within Virginia is available at our website http://www.fws.gov/northeast/virginiafield/endspecies/project_reviews.html. If you have any questions, please contact Troy Andersen of this office at (804) 824-2428.

Sincerely,

Cindy Schulz Field Supervisor

Virginia Ecological Services

Cynthia a Schuly

Enclosures - project review package



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Virginia Ecological Services Field Office 6669 Short Lane Gloucester, VA 23061-4410

Phone: (804) 693-6694 Fax: (804) 693-9032 http://www.fws.gov/northeast/virginiafield/



In Reply Refer To: October 02, 2018

Consultation Code: 05E2VA00-2018-SLI-3523

Event Code: 05E2VA00-2019-E-00086 Project Name: Unit 11 - Timber Harvest

Subject: Updated list of threatened and endangered species that may occur in your proposed

project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered

species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Virginia Ecological Services Field Office 6669 Short Lane Gloucester, VA 23061-4410 (804) 693-6694

Project Summary

Consultation Code: 05E2VA00-2018-SLI-3523

Event Code: 05E2VA00-2019-E-00086

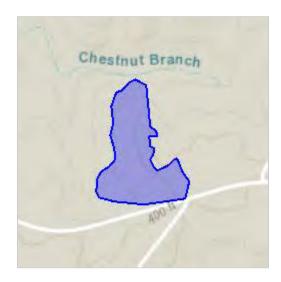
Project Name: Unit 11 - Timber Harvest

Project Type: FORESTRY

Project Description: Timber thinning in Unit 11.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/38.59492083026659N77.49663056410989W



Counties: Prince William, VA

STATUS

Endangered Species Act Species

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. <u>NOAA Fisheries</u>, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME

Indiana Bat <i>Myotis sodalis</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened
Flowering Plants	
NAME	STATUS
Harperella <i>Ptilimnium nodosum</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3739	Endangered
Small Whorled Pogonia <i>Isotria medeoloides</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1890	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the <u>National Wildlife Refuge</u> system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

REFUGE INFORMATION WAS NOT AVAILABLE WHEN THIS SPECIES LIST WAS GENERATED. PLEASE CONTACT THE FIELD OFFICE FOR FURTHER INFORMATION.

Siddall CIV Darien G

From: Reynolds, Rick (DGIF) <Rick.Reynolds@dgif.virginia.gov>

Sent: Thursday, May 4, 2017 11:01 AM

To: Siddall CIV Darien G

Subject: [Non-DoD Source] RE: Hell Rick, this is Darien Siddall...this is concerning the Little Brown

Bat and Tri-Colored Bat.

According to DGIF records we are not aware of summer roosts or winter hibernacula for either tri-colored or little brown bat on the Quantico Base.

Rick Reynolds Wildlife Biologist

Virginia Department of Game and Inland Fisheries P.O. Box 996 Verona, VA 24482

540-248-9360

----Original Message-----

From: Siddall CIV Darien G [mailto:darien.siddall@usmc.mil]

Sent: Thursday, May 04, 2017 10:52 AM

To: Reynolds, Rick (DGIF)

Subject: Hell Rick, this is Darien Siddall...this is concerning the Little Brown Bat and Tri-Colored Bat.

Importance: High

Hello Rick,

We spoke at today concerning the State Endangered Little Brown Bat and Tri-Colored Bat. Per our conversation and use of your system, you stated that there were no known colonies of either of these species.

They have been detected on our base though. Please send me your concurrence/non-concurrence on this issue. I have attached the map to this e-mail Thanks!

Darien Siddall

Natural Resource Specialist

NEPA Section

Natural Resources and Environmental Affairs (NREA) Environmental Planning Section

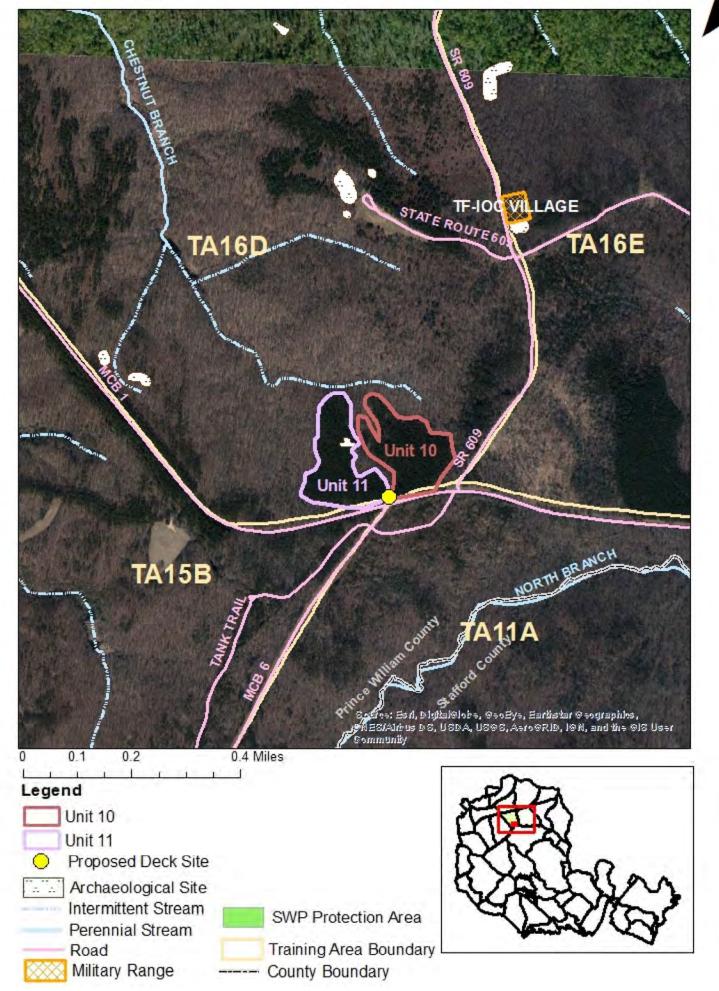
3049 Bordelon St.

Marine Corps Base (MCB) - Quantico, VA 22134

Phone: 703-432-6770 Fax: 703-784-4953 DSN: 278-4030

E-mail: darien.siddall@usmc.mil

Proposed Timber Harvest (Units 10 and 11)



UNITED STATES MARINE CORPS

MARINE CORPS INSTALLATIONS NATIONAL CAPITAL REGION MARINE CORPS BASE 3250 CATLIN AVENUE QUANTICO, VIRGINIA 22134 5001

IN REPLY REFER TO: 11015/1 B 046 02 OCT 18

MEMORANDUM FOR THE RECORD

From: Head, Fish, Wildlife, & Agronomy Program, Natural Resources

and Environmental Affairs Branch

To: File

Subj: SMALL WHORLED POGONIA SURVEY FOR FY2020 LOBLOLLY PINE

THINNING

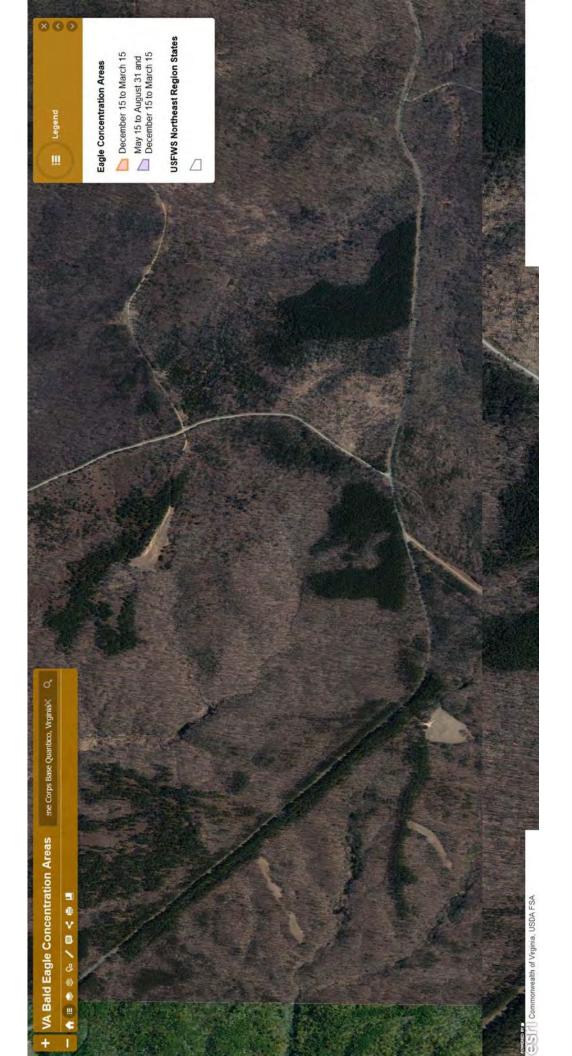
Encl: (1) Location maps of timber units 1-12

- 1. MCINCR-MCBQ, G-F, Natural Resources and Environmental Affairs Branch, Forestry Program has proposed a loblolly pine thinning within an approximately 228-acre area in a total of twelve timber units (units 1-12) in TA 5B, 7A, 7B, 7C, and 16D) during FY2020.
- 2. Enclosure 1 provides site locations of timber units 1-12.
- 3. Habitat within the proposed thinning area consists of thick loblolly pine (*Pinus taeda*) with little understory growth.
- 4. There is no potentially suitable habitat for the small whorled pogonia within the proposed timber management project area. The proposed loblolly pine thinning within timber units 1-12 will not affect this federally listed species.

Christa Nye

Copy to:
Head, NEPA Program





Species Conclusions Table

Project Name: Timber Harvest in Training Areas 5B, 7A, 7B, 7C and 16D - Unit 11 at Marine Corps Base Quantico, Virginia.

Date: 3 October 2018

Species / Resource Name	Conclusion	ESA Section 7 / Eagle Act Determination	Notes / Documentation
Bald Eagle	Unlikely to disturb nesting Bald Eagles.	No Eagle Act Permit Required.	Proposed action does not involve the removal of overstory trees with 330 ft. of a Bald Eagle nest. Proposed action is not within 660 feet of a Bald Eagle nest or a Bald Eagle concentration area.
Harperella	No effect	No effect	A 50 ft. buffer will be maintained around all perennial and intermittent streams as well as wetlands. This will be done in accordance with the Virginia BMP Field Guide (2009) and Virginia BMPs for For Water Quality Technical Manual (2011).
Small Whorled Pogonia	No effect	No effect	No habitat or potential habitat for Small Whorled Pogonia is present.
Northern Long-eared Bat	Suitable habitat is present and the species was detected on the site in 2017 utilizing bat sound detection techniques. However, there is no summer roost, maternity colony or winter hibernacula on the site or on the base.	Not likely to adversely affect.	Will be implementing USFWS TOYR. No trees will be removed from 15 April to 15 September.
Indiana Bat	Suitable habitat is present, the species is not present.	Not likely to adversely affect.	Will be implementing USFWS TOYR for the Indiana Bat. No trees will be removed from 15 April to 15 September.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Virginia Field Office 6669 Short Lane Gloucester, VA 23061

Date: 3 October 2018

Self-Certification Letter

Project Name: Timber Harvest in Training Areas 5B, 7A, 7B, 7C, 16D -Unit 11.

Dear Applicant:

Thank you for using the U.S. Fish and Wildlife Service (Service) Virginia Ecological Services online project review process. By printing this letter in conjunction with your project review package, you are certifying that you have completed the online project review process for the project named above in accordance with all instructions provided, using the best available information to reach your conclusions. This letter, and the enclosed project review package, completes the review of your project in accordance with the Endangered Species Act of 1973 (16 U.S.C. . 1531-1544, 87 Stat. 884), as amended (ESA), and the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c, 54 Stat. 250), as amended (Eagle Act). This letter also provides information for your project review under the National Environmental Policy Act of 1969 (P.L. 91-190, 42 U.S.C. 4321-4347, 83 Stat. 852), as amended. A copy of this letter and the project review package must be submitted to this office for this certification to be valid. This letter and the project review package will be maintained in our records.

The species conclusions table in the enclosed project review package summarizes your ESA and Eagle Act conclusions. These conclusions resulted in:

- "no effect" determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- "may affect, not likely to adversely affect" determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- "may affect, likely to adversely affect" determination for the Northern long-eared bat (*Myotis septentrionalis*) and relying on the findings of the January 5, 2016 Programmatic Biological Opinion for the Final 4(d) Rule on the Northern long-eared bat; and/or
- "no Eagle Act permit required" determinations for eagles.

Applicant Page 2

We certify that use of the online project review process in strict accordance with the instructions provided as documented in the enclosed project review package results in reaching the appropriate determinations. Therefore, we concur with the "no effect" or "not likely to adversely affect" determinations for proposed and listed species and proposed and designated critical habitat; the "may affect" determination for Northern long-eared bat; and/or the "no Eagle Act permit required" determinations for eagles. Additional coordination with this office is not needed.

Candidate species are not legally protected pursuant to the ESA. However, the Service encourages consideration of these species by avoiding adverse impacts to them. Please contact this office for additional coordination if your project action area contains candidate species.

Should project plans change or if additional information on the distribution of proposed or listed species, proposed or designated critical habitat, or bald eagles becomes available, this determination may be reconsidered. This certification letter is valid for 1 year.

Information about the online project review process including instructions and use, species information, and other information regarding project reviews within Virginia is available at our website http://www.fws.gov/northeast/virginiafield/endspecies/project_reviews.html. If you have any questions, please contact Troy Andersen of this office at (804) 824-2428.

Sincerely,

Cindy Schulz Field Supervisor

Virginia Ecological Services

Cynthia a Schuly

Enclosures - project review package



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Virginia Ecological Services Field Office 6669 Short Lane Gloucester, VA 23061-4410

Phone: (804) 693-6694 Fax: (804) 693-9032 http://www.fws.gov/northeast/virginiafield/



In Reply Refer To: October 02, 2018

Consultation Code: 05E2VA00-2018-SLI-3526

Event Code: 05E2VA00-2019-E-00088 Project Name: Unit 12 - Timber Harvest

Subject: Updated list of threatened and endangered species that may occur in your proposed

project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered

species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Virginia Ecological Services Field Office 6669 Short Lane Gloucester, VA 23061-4410 (804) 693-6694

Project Summary

Consultation Code: 05E2VA00-2018-SLI-3526

Event Code: 05E2VA00-2019-E-00088

Project Name: Unit 12 - Timber Harvest

Project Type: FORESTRY

Project Description: Timber thinning in Unit 12.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/38.500136774182636N77.49837522656853W



Counties: Stafford, VA

STATUS

Endangered Species Act Species

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. <u>NOAA Fisheries</u>, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME

Indiana Bat <i>Myotis sodalis</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened
Flowering Plants	
NAME	STATUS
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Small Whorled Pogonia <i>Isotria medeoloides</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1890	Threatened

Critical habitats

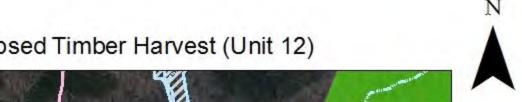
THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

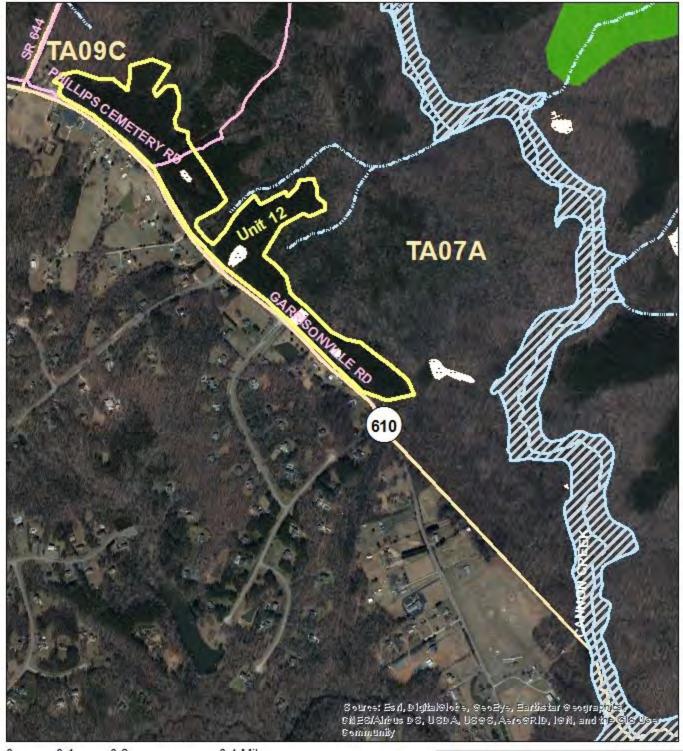
USFWS National Wildlife Refuge Lands And Fish Hatcheries

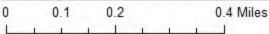
Any activity proposed on lands managed by the <u>National Wildlife Refuge</u> system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Proposed Timber Harvest (Unit 12)







Legend

Unit 12

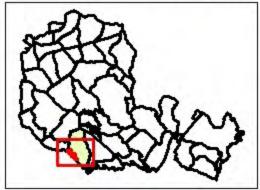
Archaeological Site Intermittent Stream

Perennial Stream

Road

SWP Protection Area

Training Area Boundary



Siddall CIV Darien G

From: Reynolds, Rick (DGIF) <Rick.Reynolds@dgif.virginia.gov>

Sent: Thursday, May 4, 2017 11:01 AM

To: Siddall CIV Darien G

Subject: [Non-DoD Source] RE: Hell Rick, this is Darien Siddall...this is concerning the Little Brown

Bat and Tri-Colored Bat.

According to DGIF records we are not aware of summer roosts or winter hibernacula for either tri-colored or little brown bat on the Quantico Base.

Rick Reynolds Wildlife Biologist

Virginia Department of Game and Inland Fisheries P.O. Box 996 Verona, VA 24482

540-248-9360

----Original Message-----

From: Siddall CIV Darien G [mailto:darien.siddall@usmc.mil]

Sent: Thursday, May 04, 2017 10:52 AM

To: Reynolds, Rick (DGIF)

Subject: Hell Rick, this is Darien Siddall...this is concerning the Little Brown Bat and Tri-Colored Bat.

Importance: High

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They have been detected on our base though. Please send me your concurrence/non-concurrence on this issue. I have attached the map to this e-mail Thanks!

Darien Siddall

Natural Resource Specialist

NEPA Section

Natural Resources and Environmental Affairs (NREA) Environmental Planning Section

3049 Bordelon St.

Marine Corps Base (MCB) - Quantico, VA 22134

Phone: 703-432-6770 Fax: 703-784-4953 DSN: 278-4030

E-mail: darien.siddall@usmc.mil

UNITED STATES MARINE CORPS

MARINE CORPS INSTALLATIONS NATIONAL CAPITAL REGION MARINE CORPS BASE 3250 CATLIN AVENUE QUANTICO, VIRGINIA 22134 5001

IN REPLY REFER TO: 11015/1 B 046 02 OCT 18

MEMORANDUM FOR THE RECORD

From: Head, Fish, Wildlife, & Agronomy Program, Natural Resources

and Environmental Affairs Branch

To: File

Subj: SMALL WHORLED POGONIA SURVEY FOR FY2020 LOBLOLLY PINE

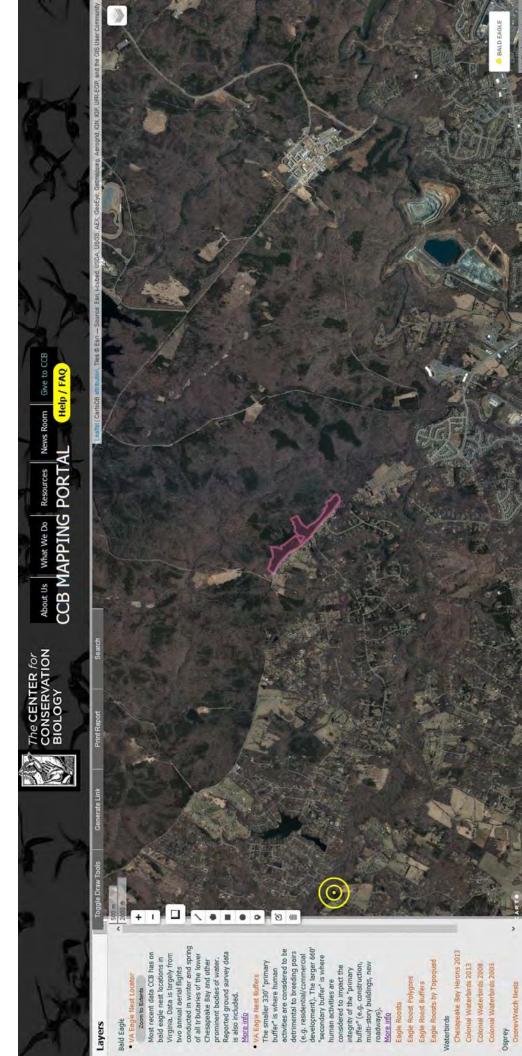
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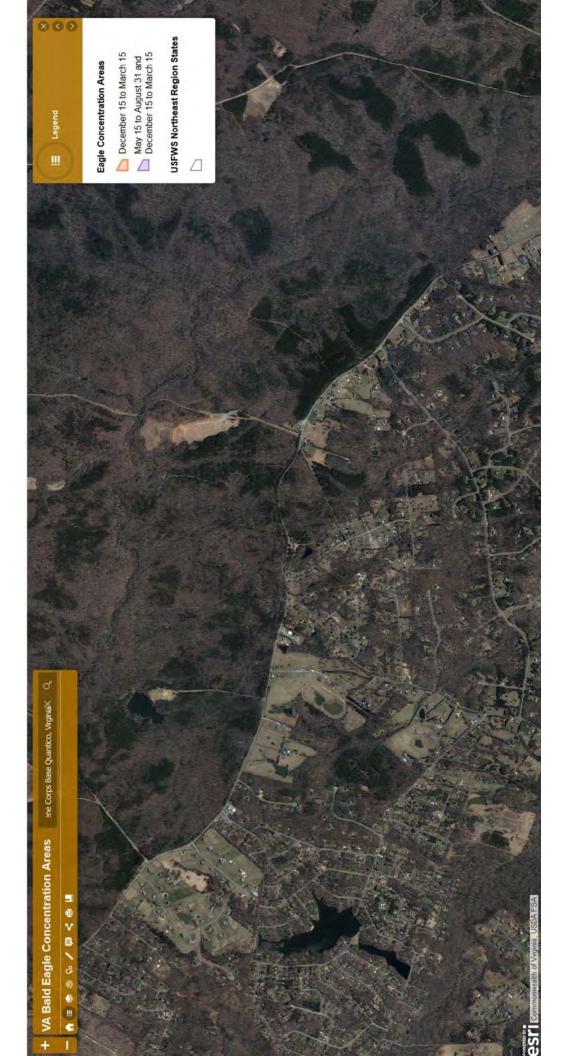
Encl: (1) Location maps of timber units 1-12

- 1. MCINCR-MCBQ, G-F, Natural Resources and Environmental Affairs Branch, Forestry Program has proposed a loblolly pine thinning within an approximately 228-acre area in a total of twelve timber units (units 1-12) in TA 5B, 7A, 7B, 7C, and 16D) during FY2020.
- 2. Enclosure 1 provides site locations of timber units 1-12.
- 3. Habitat within the proposed thinning area consists of thick loblolly pine (*Pinus taeda*) with little understory growth.
- 4. There is no potentially suitable habitat for the small whorled pogonia within the proposed timber management project area. The proposed loblolly pine thinning within timber units 1-12 will not affect this federally listed species.

Christa Nye

Copy to:
Head, NEPA Program





Species Conclusions Table

Project Name: Timber Harvest in Training Areas 5B, 7A, 7B, 7C and 16D - Unit 12 at Marine Corps Base Quantico, Virginia.

Date: 3 October 2018

Species / Resource Name	Conclusion	ESA Section 7 / Eagle Act Determination	Notes / Documentation
Bald Eagle	Unlikely to disturb nesting Bald Eagles.	No Eagle Act Permit Required.	Proposed action does not involve the removal of overstory trees with 330 ft. of a Bald Eagle nest. Proposed action is not within 660 feet of a Bald Eagle nest or a Bald Eagle concentration area.
Harperella	No effect	No effect	A 50 ft. buffer will be maintained around all perennial and intermittent streams as well as wetlands. This will be done in accordance with the Virginia BMP Field Guide (2009) and Virginia BMPs for For Water Quality Technical Manual (2011).
Small Whorled Pogonia	No effect	No effect	No habitat or potential habitat for Small Whorled Pogonia is present.
Northern Long-eared Bat	Suitable habitat is present and the species was detected on the site in 2018 utilizing bat sound detection techniques. However, there is no summer roost, maternity colony or winter hibernacula on the site or on the base.	Not likely to adversely affect.	Will be implementing USFWS TOYR. No trees will be removed from 15 April to 15 September.
Indiana Bat	Suitable habitat is present, the species is not present.	Not likely to adversely affect.	Will be implementing USFWS TOYR. No trees will be removed from 15 April to 15 September.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Virginia Field Office 6669 Short Lane Gloucester, VA 23061

Date: 3 October 2018

Self-Certification Letter

Project Name: Timber Harvest in Training Areas 5B, 7A, 7B, 7C, 16D -Unit 12.

Dear Applicant:

Thank you for using the U.S. Fish and Wildlife Service (Service) Virginia Ecological Services online project review process. By printing this letter in conjunction with your project review package, you are certifying that you have completed the online project review process for the project named above in accordance with all instructions provided, using the best available information to reach your conclusions. This letter, and the enclosed project review package, completes the review of your project in accordance with the Endangered Species Act of 1973 (16 U.S.C. . 1531-1544, 87 Stat. 884), as amended (ESA), and the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c, 54 Stat. 250), as amended (Eagle Act). This letter also provides information for your project review under the National Environmental Policy Act of 1969 (P.L. 91-190, 42 U.S.C. 4321-4347, 83 Stat. 852), as amended. A copy of this letter and the project review package must be submitted to this office for this certification to be valid. This letter and the project review package will be maintained in our records.

The species conclusions table in the enclosed project review package summarizes your ESA and Eagle Act conclusions. These conclusions resulted in:

- "no effect" determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- "may affect, not likely to adversely affect" determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- "may affect, likely to adversely affect" determination for the Northern long-eared bat (*Myotis septentrionalis*) and relying on the findings of the January 5, 2016 Programmatic Biological Opinion for the Final 4(d) Rule on the Northern long-eared bat; and/or
- "no Eagle Act permit required" determinations for eagles.

Applicant Page 2

We certify that use of the online project review process in strict accordance with the instructions provided as documented in the enclosed project review package results in reaching the appropriate determinations. Therefore, we concur with the "no effect" or "not likely to adversely affect" determinations for proposed and listed species and proposed and designated critical habitat; the "may affect" determination for Northern long-eared bat; and/or the "no Eagle Act permit required" determinations for eagles. Additional coordination with this office is not needed.

Candidate species are not legally protected pursuant to the ESA. However, the Service encourages consideration of these species by avoiding adverse impacts to them. Please contact this office for additional coordination if your project action area contains candidate species.

Should project plans change or if additional information on the distribution of proposed or listed species, proposed or designated critical habitat, or bald eagles becomes available, this determination may be reconsidered. This certification letter is valid for 1 year.

Information about the online project review process including instructions and use, species information, and other information regarding project reviews within Virginia is available at our website http://www.fws.gov/northeast/virginiafield/endspecies/project_reviews.html. If you have any questions, please contact Troy Andersen of this office at (804) 824-2428.

Sincerely,

Cindy Schulz Field Supervisor

Virginia Ecological Services

Cynthia a Schuly

Enclosures - project review package

Appendix E Emissions Calculations

Record of Non-ApplicAbility (RONA) for General Conformity

oject Numb	per 14.18001	
ject Conta	Christopher Crawford	
ove accord ate Implem	formity under the Clean Air Act, Section 176(c) has been evaluating to the requirements of Title 40 Code of Federal Regulation entation Plan. The requirement of a conformity determination unduction because:	ns (CFR) Part 93 and the applicable
	ne project/action qualifies as an exempt action. The applicable exer	
-	cample: 40 CFR 93.153(c)(2)(xiv) Transfers of owership, interests, and	
	al and personal properties, regardless of the form or method of the	지 본 사람이 지하는 때 이번 회사가 가득하는 것이 많아 살아가는 것이다.
	ote: Exemptions must be contained in the State Implementation Plan	
	OR	
de 2.6	otal direct and indirect emissions from this project/action have been minimus threshold for conformity purposes estimated at: 33E+00 tons/year of NOx	determined to be below the
_	61E-01 tons/year of VOC	
0	tons/year of PM2.5	
2.7	$78E+02$ tons/year of CO_2 tons/year of	
su At	nese levels are below the conformity threshold values established at pporting documentation and emission estimates are: tached opear in the NEPA Documentation	40 CFR 93.153(b), and
1	ther The APM will electronically maintain project emissions estimates	
V	,	
	Al.	24 Oct 1R
VIDONIMEN	ITAL COOPDINATOR (title and signature)	DATE