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ENVIRONMENTAL ASSESSMENT
FOR
WILDLAND FIRE MANAGEMENT PLAN IMPLEMENTATION
AT
JOINT BASE LANGLEY-EUSTIS – LANGLEY AIR FORCE BASE, VIRGINIA

The Department of the Air Force

January 2023

PRIVACY ADVISORY

This Environmental Assessment (EA) is provided for public comment in accordance with the National Environmental Policy Act (NEPA), the President's Council on Environmental Quality NEPA Regulations (40 Code of Federal Regulations [CFR] §§ 1500-1508), and 32 CFR § 989, *Environmental Impact Analysis Process* (EIAP).

The EIAP provides an opportunity for public input on the Department of the Air Force (DAF) decision making, allows the public to offer input on alternative ways for the DAF to accomplish what it is proposing, and solicits comments on the DAF's analysis of environmental effects.

Public commenting allows the DAF to make better, informed decisions. Letters or other written or oral comments provided may be published in the EA. As required by law, comments provided will be addressed in the EA and made available to the public. Providing personal information is voluntary. Any personal information provided will be used only to identify your desire to make a statement during the public comment portion of any public meetings or hearings or to fulfill requests for copies of the EA or associated documents. Private addresses will be compiled to develop a mailing list for those requesting copies of EA; however, only the names of the individuals making comments and specific comments will be disclosed. Personal home addresses and phone numbers will not be published in the EA.

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Compliance with Revised CEQ Regulations

This document has been verified not to exceed the 75 pages, not including appendices, as defined in 40 CFR § 1501.5(f). As defined in 40 CFR § 1508.1(v) a "page" means 500 words and does not include maps, diagrams, graphs, tables, and other means of graphically displaying quantitation or geospatial information.

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COVER SHEET

ENVIRONMENTAL ASSESSMENT FOR WILDLAND FIRE MANAGEMENT PLAN IMPLEMENTATION AT JOINT BASE LANGLEY-EUSTIS – LANGLEY AIR FORCE BASE, VIRGINIA

a. Lead Agency: The Department of the Air Force (DAF)

b. Proposed Action: Implementation of the Wildland Fire Management Plan (WFMP) at Joint Base Langley-Eustis (JBLE) – Langley Air Force Base (JBLE – Langley), Virginia

c. Inquiries regarding this document should be directed to the 633 Civil Engineer Squadron (CES) Environmental Element organization email at 633CES.CEI.Flight@us.af.mil.

d. Designation: Draft Environmental Assessment (EA)

e. Abstract: This EA evaluates the potential environmental impacts associated with the proposed implementation of the WFMP at JBLE – Langley. The purpose of the Proposed Action is to implement the JBLE – Langley's approved WFMP, which outlines a coordinated approach to wildfire response and wildfire risk mitigation that includes the JBLE – Langley 633d CES Fire and Emergency Services Fire Chief and natural resources staff, as well as the Air Force Wildland Fire Branch. The Proposed Action is needed to achieve fire-related resource management, mission support objectives, and protection of significant values at JBLE – Langley from wildfire risk, including structures and infrastructure, natural resources, and cultural resources.

Potential alternatives to the Proposed Action were each evaluated based on selection standards established by the DAF. Alternatives that met all established selection standards were considered reasonable and retained for consideration in this EA. Alternatives that did not meet one or more of the standards were considered unreasonable and are not retained for consideration in this EA. Based on the results of this evaluation, three Action Alternatives, and the No Action Alternative, were carried forward for detailed analysis in this EA. The EA identifies and discloses potential impacts on the following environmental resources: airspace management and use, air quality and climate change, aesthetics and visual resources, earth resources, floodplains, coastal zone management, water resources, biological resources, and health and safety. The Proposed Action would result in no impacts on land use, noise, prime farmland, cultural resources, socioeconomics, environmental justice and protection of children, infrastructure, transportation, and utilities, and hazardous materials and waste.

Through the Environmental Impact Analysis Process, the DAF has determined that no significant impacts on environmental resources would occur under the Proposed Action, and no mitigation measures are warranted. The DAF has determined that for components of the Proposed Action that occur within a floodplain and wetlands, impacts would remain less than significant with the application of best management practices.

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FINDING OF NO SIGNIFICANT IMPACT (FONSI) AND
FINDING OF NO PRACTICABLE ALTERNATIVE (FONPA)
FOR
AERIAL APPLICATION OF PESTICIDE FOR MOSQUITO AND INVASIVE PLANT SPECIES CONTROL AT JOINT BASE LANGLEY-EUSTIS, VIRGINIA

Pursuant to the Council on Environmental Quality (CEQ) regulations for implementing the procedural provisions of the National Environmental Policy Act of 1969 (NEPA), Title 40 of the Code of Federal Regulations (CFR) Parts 1500-1508 and the Air Force Environmental Impact Analysis Process Regulations (32 CFR Part 989), the Department of the Force (DAF) has prepared this Environmental Assessment (EA) to evaluate the potential impacts on the natural and human environment associated with the proposed implementation of the Wildland Fire Management Plan (WFMP) at Joint Base Langley-Eustis (JBLE) – Langley Air Force Base (JBLE – Langley), Virginia.

Purpose and Need

The purpose of the Proposed Action is to implement the JBLE– Langley's approved WFMP, which outlines a coordinated approach to wildfire response and wildfire risk mitigation that includes the JBLE – Langley 633d Civil Engineer Squadron Fire and Emergency Services Fire Chief and natural resources staff, as well as the Air Force Wildland Fire Branch. The Proposed Action is needed to achieve fire-related resource management, mission support objectives, and protection of significant values at JBLE – Langley from wildfire risk, including structures and infrastructure, natural resources, and cultural resources.

Proposed Action

The Proposed Action would implement the approved WFMP at JBLE – Langley and would include the use of prescribed fire, mechanical (nonfire) fuels treatment, wildfire risk management strategies, and improvements to land and firefighting resources. Implementation of the WFMP on the lands of the 633 Air Base Wing at JBLE – Langley is driven by a need to manage natural resources and to minimize the effects of wildfire on the Installation's significant values, which include structures and infrastructure and natural and cultural resources. The Proposed Action would meet the requirements of the US Environmental Protection Agency's (USEPA's) *Interim Air Quality Policy on Wildland and Prescribed Fires* (May 1998) and *Prescribed Fire on Wildland That May Influence Ozone and Particulate Matter Concentrations* (8 August 2019). The Proposed Action would implement the approved JBLE – Langley WFMP in compliance with all applicable laws and regulations.

Alternatives

Action alternatives were evaluated against a set of selection standards to determine which alternatives would be carried forward for detailed environmental impact analysis. Multiple action alternatives were evaluated against selection standard criteria. Only the action alternatives that met or partially met all selection standards were analyzed in detail for potential environmental impacts. Alternative 1 would implement all proposed prescribed fire, mechanical (nonfire) fuels treatment, wildfire risk management strategies, and improvements to land and firefighting

resources included in JBLE – Langley's WFMP. Alternative 2 would implement the proposed prescribed fire and mechanical (nonfire) fuels treatment included in the approved WFMP but only at the airfield on JBLE – Langley. All wildfire risk management strategies and improvements to land and firefighting resources included in JBLE – Langley's WFMP would be implemented. Alternative 3 would implement the proposed prescribed fire and mechanical (nonfire) fuels treatment included in the approved WFMP but only at the golf course and within pine-oak hummocks on JBLE – Langley. All wildfire risk management strategies and improvements to land and firefighting resources included in JBLE – Langley's WFMP would be implemented. Additionally, a No Action Alternative was analyzed.

The No Action Alternative would not implement the approved WFMP at JBLE – Langley. Under this alternative, traditional wildland fire management would not be practiced on JBLE – Langley. There would be no prescribed burns conducted as a habitat or vegetation management practice; there would be no wildland fire-specific outreach programs on JBLE – Langley; and there would be no formal stand-alone wildfire preparedness plan in place at the Installation. Open fires would continue to be expressly prohibited on JBLE – Langley and all property under its jurisdiction without written approval of the JBLE – Langley Fire Chief or 633 Mission Support Group Commander. The exception to this policy occurs in years when Air Power Over Hampton Roads air shows are held. JBLE – Langley would not achieve fire-related resource management, mission support objectives, and protection of significant values at JBLE – Langley from wildfire risk, including structures and infrastructure, natural resources, and cultural resources.

Environmental Consequences

The Proposed Actions would have no effect on land use, noise, prime farmland, cultural resources, socioeconomics, environmental justice and the protection of children, infrastructure, transportation, utilities, or hazardous materials and wastes.

DAF has made a *no effect* determination for the red knot (*Calidris canutus rufa*), roseate tern (*Sterna dougallii*), listed sea turtles, Indiana bat (*Myotis sodalis*), West Indian manatee (*Trichechus manatus*), Atlantic sturgeon (*Acipenser oxyrhynchus oxyrhynchus*), northeastern beach tiger beetle (*Cicindela dorsalis dorsalis*), and rusty patched bumblebee (*Bombus affinis*). DAF has made a *may affect, but not likely to adversely affect* determination for the eastern black rail (*Laterallus jamaicensis*), northern long-eared bat (*Myotis septentrionalis*), and monarch butterfly (*Danaus plexippus*). There would be no impacts on Atlantic sturgeon or its critical habitat physical or biological features. The Section 7 self-certification package was completed through the US Fish and Wildlife Service Virginia Ecological Services Field Office online project review process during preparation of this EA. Section 7 consultation, under the Endangered Species Act, has been initiated to seek concurrence with these determinations and to identify conservation measures to offset potential impacts.

Negligible to minor impacts would occur on airspace management and use; air quality and climate change; aesthetics and visual resources; soils; vegetation/wildlife habitat; ground and surface water supplies and quality; the coastal zone; wildlife populations; and health and safety. While impacts on wetlands and floodplains are unavoidable given the nature of the Proposed Actions, compliance with all federal, state, local, and DAF regulations would ensure impacts are avoided or minimized to the greatest extent practicable.

Best Management Practices and Permit Requirements

Air Quality

The Proposed Action would meet the requirements of the USEPA's *Interim Air Quality Policy on Wildland and Prescribed Fires* (May 1998) and *Prescribed Fire on Wildland That May Influence Ozone and Particulate Matter Concentrations* (8 August 2019). The Proposed Action would implement the approved JBLE – Langley WFMP in compliance with all applicable air quality laws and regulations. Consequently, prescribed burns performed in accordance with the WFMP are considered "presumed to conform" under the General Conformity [4 CFR 93.153(h)(1)]. Activities that are "presumed to conform" have been determined to have an insignificant impact to air quality because they would not cause or contribute to any new violation of any National Ambient Air Quality Standard (NAAQS) in any area; interfere with provisions in the applicable State Implementation Plan for maintenance of any NAAQS; increase the frequency or severity of any existing violation of any NAAQS in any area; or delay timely attainment of any NAAQS.

Water Resources

- Acquire all necessary wetlands and water resource permits for the Proposed Actions, including, but not limited to National Pollutant Discharge Elimination System (NPDES) stormwater permit(s), Environmental Resource Permit(s), Clean Water Act (CWA) Section 404 Dredge and Fill Permit, and Section 401 water quality certification.
- Implement best management practices (BMPs) as defined in Virginia Pollutant Discharge Elimination System (VPDES) permits to reduce or eliminate the potential for contaminants from entering surface water bodies and groundwater.
- Apply all pesticides in accordance with label instructions and in accordance with VPDES permits and restrict their use over water bodies.

Biological Resources

- Adhere to the precautions outlined in the JBLE – Langley WFMP.
- Apply all pesticides in accordance with label instructions and in accordance with VPDES permits and restrict their use over water bodies.
- Only use prescribe burning when environmental conditions are conducive.
- Identify all environmentally sensitive areas (e.g., active bald eagle nests) for avoidance or proper approval for treatment.
- Adhere to JBLE – Langley Integrated Natural Resources Management Plan measures.

Health and Safety

Several wildfire risk mitigation strategies are included in the Proposed Action in addition to implementing fire and nonfire fuels treatments (see Table 2-2 of the EA). BMPs would include:

- Comply with standards issued by federal Occupational Safety and Health Administration, USEPA, and state occupational safety and health agencies.
- Use personal protective equipment.
- Follow all pesticide label instructions and BMPs to prevent accidental exposure and protect human health.
- Notify personnel in the areas proposed for fire or pesticide application ahead of time and direct them to avoid the areas during burn periods and pesticide applications.
- Do not complete prescribed burns when conditions could increase the likelihood of spread (e.g., high or gusty winds and high temperatures).

Public Review and Stakeholder Coordination

Coordination letters were submitted to numerous public stakeholders, including the Virginia Department of Conservation and Recreation, Virginia Department of Environmental Quality, Virginia Department of Wildlife Resources, Virginia Department of Historic Resources, Virginia Marine Council, National Oceanic and Atmospheric Administration Fisheries Service, US Army Corps of Engineers, US Department of Agriculture, USEPA, US Fish and Wildlife Service, US Geological Survey, and Native American tribes claiming cultural affinity to the area. An early notification of impacts on wetlands and floodplains was published in the *Daily Press* in February 2022. Copies of the notice and coordination letters are included in **Appendix A** of the EA. The Draft EA was released for public review for 30 days in December 2022, with a Notice of Availability published in the *Daily Press*.

Finding of No Significant Impact

Based on my review of the facts and analyses presented in the attached EA, I conclude that the Proposed Actions would not have a significant impact on the natural or human environment either by itself or cumulatively. The requirements of NEPA and the CEQ's regulations have been fulfilled. An Environmental Impact Statement is not required and will not be prepared.

Finding of No Practicable Alternative

Executive Order (EO) 11990, *Protection of Wetlands* (24 May 1977), directs agencies to avoid to the extent possible the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of proposed actions in wetlands wherever there is a practicable alternative. Agencies should use economic and environmental data, agency mission statements, and any other pertinent information when deciding whether or not to implement actions in wetlands. EO 11990 directs each agency to provide for early public review of plans for construction in wetlands. In accordance with EO 11990 and 32 CFR Part 989, a Finding of No Practicable Alternative (FONPA) must accompany the Finding of No Significant Impact (FONSI) stating why there are no practicable alternatives to development within or affecting wetland areas.

Similarly, EO 11988, *Floodplain Management* (24 May 1977), requires federal agencies to avoid to the extent possible the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. If it is found that there is no practicable alternative, the agency must minimize potential harm to the floodplain and circulate a notice explaining why the action is to be located in the floodplain prior to taking action. In accordance with EO 11988, a FONPA must accompany the FONSI stating why there are no practicable alternatives to development within or affecting floodplains.

The Proposed Actions would result in impacts on both wetlands and floodplains. The following FONPA is therefore presented with the FONSI, pursuant to EO 11990 and EO 11988.

***Wetlands*:** Wetland impacts would be reduced to the maximum extent possible through implementation of environmental protection measures. Pursuant to Section 404(b)(1) of the CWA, wetland impacts must be avoided to the greatest extent practicable. As noted in the attached EA, there are no practicable alternatives to the Proposed Actions that would avoid all impacts or further minimize impacts on wetlands because wetlands on JBLE – Langley would be burned to maintain a five-year mean fire return interval where feasible to mimic natural conditions. Taking all the environmental, economic, and other pertinent factors into account, pursuant to EO 11990, the authority delegated by Secretary of the Air Force Order 791.1, and taking into consideration the submitted information, I find that there is no practicable alternative to this action and the proposed action includes all practical measures to minimize harm to the environment.

***Floodplains*:** Similarly, there is no practicable alternative to implementing the Proposed Actions at JBLE – Langley outside of floodplains. The majority of JBLE – Langley is within the 100-year floodplain. As noted in the attached EA, there are no practicable alternatives to the Proposed Actions that would avoid all impacts or further minimize impacts on floodplains. Taking all the environmental, economic, and other pertinent factors into account, pursuant to EO 11988, the authority delegated by Secretary of the Air Force Order 791.1, and taking into consideration the submitted information, I find that there is no practicable alternative to this action and the proposed action includes all practical measures to minimize harm to the environment.

_____ _____

DEE JAY KATZER, Colonel, USAF Date
Chief, Civil Engineer Division
Air Combat Command (ACC/A4C)

Attachment: *Draft Environmental Assessment for Wildland Fire Management Plan Implementation at Joint Base Langley-Eustis – Langley Air Force Base, Virginia*

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ABBREVIATIONS AND ACRONYMS

1 FW	1st Fighter Wing
192 FW	192nd Fighter Wing
633 ABW	633d Air Base Wing
633 ABW/PA	633d Air Base Wing Public Affairs
633 CES	633d Civil Engineer Squadron
633 CES/CEF	633d Civil Engineer Squadron Fire and Emergency Services
633 MSG	633d Mission Support Group
ACAM	Air Conformity Applicability Model
AFCEC/CZOF	Fire Chief, Air Force Wildland Fire Branch
AFI	Air Force Instruction
AFMAN	Air Force Manual
AFSEC/SEFW	Air Force Safety Center – Bird/Wildlife Aircraft Strike Hazard Team
AQCR	Air Quality Control Region
BBR	Big Bethel Reservoir
C	candidate
CAA	Clean Air Act
CBIC	Chesapeake Bay Impact Crater
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
CZMP	Coastal Zone Management Program
DAF	Department of the Air Force
DoD	Department of Defense
E	endangered
EA	Environmental Assessment
EFH	Essential Fish Habitat
EIAP	Environmental Impact Analysis Process
EO	Executive Order
ESA	Endangered Species Act
°F	degrees Fahrenheit
FAA	Federal Aviation Administration
FES	JBLE – Langley Fire and Emergency Services
FMP	Fisheries Management Plan
FMU	Fire Management Unit
FONPA	Finding of No Practicable Alterative
FONSI	Finding of No Significant Impact
FWIS	Fish and Wildlife Information Service
GHG	greenhouse gas
HAZMAT	hazardous materials
INRMP	Integrated Natural Resource Management Plan
JBLE	Joint Base Langley-Eustis
JBLE – Langley	Joint Base Langley-Eustis, Langley Air Force Base
JBLE – Langley FES	633d Civil Engineer Squadron Fire and Emergency Services
MBTA	Migratory Bird Treaty Act
MFRI	mean fire return interval
MS4	Municipal Separate Storm Sewer System
N/A	not applicable
NAAQS	National Ambient Air Quality Standards
NASA	National Aeronautics and Space Administration
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO_2	nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration
NO_x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NR	natural resources
NWCG	National Wildfire Coordinating Group
O_3	ozone
OSHA	Occupational Safety and Health Administration
$PM_{2.5}$	particulates equal to or less than 2.5 microns in diameter
PM_{10}	particulates equal to or less than 10 microns in diameter
PPE	personal protective equipment
PSD	Prevention of Significant Deterioration
ROI	Region of Influence
SDWA	Safe Drinking Water Act
SO_2	sulfur dioxide
SPCC	Spill Prevention Control and Countermeasures
T	threatened
TMDL	total maximum daily load
tpy	tons per year
US	United States
USACE	US Army Corps of Engineers
USC	United States Code
USEPA	US Environmental Protection Agency
USFWS	US Fish and Wildlife Service
UXO	unexploded ordnance

VAC	Virginia Administrative Code
VDEQ	Virginia Department of Environmental Quality
VDWR	Virginia Department of Wildlife Resources
VOC	volatile organic compound
VPDES	Virginia Pollutant Discharge Elimination System
WFMP	Wildland Fire Management Plan
WFPC	Wildland Fire Program Coordinator
WNS	white-nose syndrome
WSM	Wildland Support Module
WUI	Wildland Urban Interface

1.0 PURPOSE AND NEED

1.1 INTRODUCTION

This Environmental Assessment (EA) has been prepared in accordance with regulations issued by the Council on Environmental Quality (CEQ), 32 Code of Federal Regulations (CFR) Part 989, and the Department of the Air Force (DAF) Environmental Impact Analysis Process (EIAP) to evaluate potential environmental impacts associated with the proposed implementation of the Wildland Fire Management Plan (WFMP) at Joint Base Langley-Eustis (JBLE) – Langley Air Force Base (JBLE – Langley), Virginia. In accordance with CEQ *Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act* (NEPA) (40 CFR Parts 1500-1508, Section 1502.13), this section specifies the purpose and need for the proposed implementation of the WFMP.

1.2 DESCRIPTION OF THE DEPARTMENT OF DEFENSE MISSION AT JOINT BASE LANGLEY-EUSTIS – LANGLEY

JBLE is a joint base formed by the DAF's JBLE – Langley and the US Army's JBLE – Eustis. The host organization at JBLE is the 633d Air Base Wing (633 ABW), which is a unit of the 15th Air Force. The 633 ABW comprises three groups that provide installation support to more than 9,000 military and civilian personnel, including Headquarters Air Combat Command and four operational wings. The 633 ABW provides mission-ready expeditionary airmen to combatant commanders in support of joint and combined operations worldwide. The 633 ABW includes the following units at JBLE – Langley:

- 633d Medical Group
- 633d Mission Support Group (633 MSG)

Other major tenant units include:

- 363d Intelligence, Surveillance, and Reconnaissance Wing
- 480th Intelligence, Surveillance, and Reconnaissance Wing
- 1st Fighter Wing (1 FW)
- 192d Wing

1.2.1 Wildland Fire Impacts on the Department of Defense Mission

Wildfires and fire suppression operations can interfere with missions and threaten military assets. Wildfires, particularly under severe conditions, have the potential to pose a significant risk to DAF personnel and their families, as well as to infrastructure on DAF property and private property, should the fire spread off the Installation. Missions can be cancelled or postponed as a preventative measure during periods of high fire danger. Certain flight operations may require a smoke-free environment and can be impacted by smoke from wildfires or prescribed fires. Smoke can also reduce readiness by disrupting flight lines. In a worst-case scenario, smoke could potentially contribute to traffic accidents that lead to injury or death. While its use is highly unlikely, airspace use during firefighting operations has the potential to negatively impact the ability of JBLE – Langley to achieve its primary mission.

1.2.2 Department of Defense Mission Impacts on Wildland Fire Activities

While military ground training activities are not a significant presence on JBLE – Langley, the military mission has the potential to introduce ignition sources such as small arms, flares, smoke grenades, and tracers, as well as the potential for fires to start because of human habitation, traffic

on roads, and arcing overhead powerlines. Constraints exist that may affect ongoing prescribed fire and wildfire response operations. Military mission activities and associated safety footprints can limit access for prescribed fire and for wildfire suppression. Areas with potential hazardous materials, unexploded ordnance (UXO), or other contamination can affect the ability to carry out prescribed fires and wildfire suppression due to safety considerations. Other impacts may include security clearance requirements for cooperators, limited access points, and jurisdictional boundaries. Missions involving aircraft operations may result in airspace restrictions that would impact the use of aerial firefighting resources. Close coordination between wildland fire crews and mission planners is required at JBLE – Langley to ensure safety and avoid conflicts.

1.3 CURRENT WILDLAND FIRE MANAGEMENT ON JOINT BASE LANGLEY-EUSTIS – LANGLEY

Traditional wildland fire management is not currently practiced on JBLE – Langley. At present, the Installation does not conduct prescribed burns as a habitat or vegetation management practice; there are no wildland-fire-specific outreach programs on JBLE – Langley, and there is no formal stand-alone wildfire preparedness plan in place at the Installation. Open fires are expressly prohibited on JBLE – Langley and all property under its jurisdiction without written approval of the JBLE – Langley Fire Chief or 633 MSG Commander. The exception to this policy occurs in years when Air Power Over Hampton Roads air shows are held. In advance of the airshow, JBLE – Langley has utilized small-scale prescribed burns on the airfield to prepare for the fireworks show. These burns have been accomplished in the past with assistance from the Virginia Department of Forestry. Small, prescribed burns are performed to reduce the risk of a grass fire resulting from the pyrotechnic displays which are part of the air show.

1.4 WILDLAND FIRE MANAGEMENT PLANNING ON JOINT BASE LANGLEY-EUSTIS – LANGLEY

JBLE – Langley has prepared a Tier 1 WFMP (JBLE – Langley 2021a) in accordance with regulations, standards, and procedures of Section E3.8 of the Department of Defense (DoD) Instruction 6055.06, *DoD Fire and Emergency Services Program Certification Program* (3 October 2019), which mandates that any installation with burnable vegetation must have a WFMP, and Section 3P of the Air Force Manual (AFMAN) 32-7003, *Environmental Conservation* (20 April 2020). The JBLE – Langley WFMP was written as a supporting document for implementation of the Installation's Integrated Natural Resources Management Plan (INRMP) (JBLE – Langley 2019), as mandated by AFMAN 32-7003. The JBLE – Langley WFMP was approved for implementation on 16 March 2021. The purpose of the JBLE – Langley WFMP is to reduce wildfire potential, protect and enhance valuable infrastructure and natural resources, and achieve ecosystem resiliency goals and objectives on Air Force-managed properties. The WFMP directly supports the Air Force mission and is consistent with the JBLE – Langley INRMP (JBLE – Langley 2019).

Now that it is approved, the JBLE – Langley WFMP will be reviewed annually to ensure the latest information is consistently incorporated into the DAF's wildfire prevention and suppression procedures. An ad hoc review committee convened by JBLE – Langley's Wildland Fire Program Coordinator (WFPC) will meet annually to consider fire activity and prevention and response effectiveness. The review committee will also conduct an audit of fire occurrences and expenses and recommend changes, if necessary, to improve the Wildland Fire Management Program. The WFMP is a living document and may be changed as necessary to account for the constantly evolving requirements placed on the Wildland Fire Management Program on JBLE– Langley.

Proponents of the WFMP include the WFPC, 633d Civil Engineer Squadron Fire and Emergency Services (633 CES/CEF, hereafter JBLE – Langley FES) Fire Chief, Air Force Wildland Fire Branch (AFCEC/CZOF), and the Wildland Support Module (WSM) established at Joint Base McGuire – Dix – Lakehurst. The WFPC's primary responsibilities are to serve as the primary Installation point of contact for AFCEC/CZOF fuels treatment implementation, to collect data associated with fuels treatment implementation, and to initiate, coordinate, and ensure appropriate Installation engagement and timely completion of the WFMP. The Installation Commander or his/her designee, with input from the FES Fire Chief, is responsible for appointing the WFPC position and for reviewing and approving the WFMP. The FES Fire Chief is responsible for ensuring wildfire readiness and response for JBLE – Langley. The FES Fire Chief also ensures the WFMP accurately reflects FES' standard operating procedures, roles, and responsibilities. The AFCEC/CZOF provides technical and operational support to installations for a wide range of wildland-fire-related products and services, including writing and updating WFMPs, conducting prescribed burning, using Decision Support Tools during wildfire emergencies, promoting interagency liaisons, tracking National Wildfire Coordinating Group (NWCG) qualifications, and providing wildland fire training. The AFCEC/CZOF is also responsible for issuing, maintaining, and tracking the NWCG certifications and qualifications for DAF personnel, including contractors and volunteers where appropriate. The WSM plans and implements all prescribed fire on DAF property. This includes the development of all required prescribed fire plans. The WSM possesses the qualifications to supplement and support on-installation wildfire suppression activity if requested and available.

Wildfire suppression and prescribed fire activities are the primary activities described in the WFMP, but it also includes information about and references to other related natural resource management activities, including ecological monitoring, threatened and endangered species management, and cultural resource management. While fire is not a common occurrence on JBLE – Langley, several local plant communities have evolved with periodic fire. Fire management is a pivotal activity that affects nearly all other natural resource management activities. The WFMP addresses the specific fire-related supporting goals and objectives identified in the INRMP to enhance and develop the Installation's natural resources (JBLE – Langley 2019). Implementation of the WFMP would assure achievement of fire-related resource management and mission support objectives.

1.5 LOCATION OF THE PROPOSED ACTION

JBLE – Langley is located in southeastern Virginia on the Virginia Peninsula, which is bordered by the James River, the York River, and the Chesapeake Bay (**Figure 1-1**). JBLE – Langley is a 2,883-acre installation located within the city of Hampton (**Figure 1-2**). Tributaries of the Back River form the northern, eastern, and southern boundaries of the Main Base. The western boundary of the Installation is generally defined by Armistead Avenue. On the northwest side, the Base borders the National Aeronautics and Space Administration (NASA) Langley Research Center. The remainder of the western boundary is adjacent to the city of Hampton and consists primarily of tidal marsh, residential, and mixed commercial lands.

JBLE – Langley owns a geographically separated unit of DAF property around Big Bethel Reservoir (BBR); however, implementation of the WFMP does not include any actions at BBR. This property is within the limits of three separate municipalities: York County, the city of Hampton, and the city of Newport News. Fires at this property would be suppressed by the fire department for the municipality in which it occurs, under an existing Mutual Aid Agreement. JBLE – Langley does not have the authority to serve as a first response organization on portions of BBR due to current proprietary jurisdictional status.

Figure 1-1. Regional Location of Joint Base Langley-Eustis – Langley Air Force Base

Figure 1-2. Location of Joint Base Langley-Eustis – Langley Air Force Base and Surrounding Area

1.6 PURPOSE AND NEED

The purpose of the Proposed Action is to implement the JBLE– Langley's approved WFMP (JBLE – Langley 2021a), which outlines a coordinated approach to wildfire response and wildfire risk mitigation that includes JBLE – Langley FES and natural resources staff, as well as the AFCEC/CZOF. The Proposed Action is needed to achieve fire-related resource management, mission support objectives, and protection of significant values at JBLE – Langley from wildfire risk, including structures and infrastructure, natural resources, and cultural resources.

1.7 SCOPE OF THE ENVIRONMENTAL ASSESSMENT

The proposed implementation of the WFMP at JBLE – Langley addressed within this document constitutes a federal action and, therefore, must be assessed in accordance with NEPA, which requires federal agencies to consider the environmental consequences of proposed actions in the decision-making process (42 United States Code [USC] 4321, et seq.). The intent of NEPA is to protect, restore, or enhance the environment through well-informed decisions by the federal decision maker. The CEQ was established under NEPA, 42 USC 4342, et seq., to implement and oversee federal policy in this process. In 1978, the CEQ issued regulations implementing the NEPA process under Title 40 CFR 17 Parts 1500–1508. On 14 September 2020, CEQ issued an *Update to the Regulations Implementing the Procedural Provisions of the National Environmental Policy Act (*40 CFR Parts 1500–1508 and 1515–1518). On 20 April 2022, CEQ issued the *Phase I Final Rule for National Environmental Policy Act Implementing Regulations Revisions*. The final rule amended certain provisions of CEQ's regulations for implementing NEPA, addressing the purpose and need of a proposed action, agency NEPA regulations, and the definition of "effects." The amendments generally restore provisions that were in effect for decades before being modified in 2020. The DAF EIAP for meeting CEQ requirements is accomplished via procedures set forth in CEQ regulations and 32 CFR 989. This EA has been prepared in accordance with the most recent 2022 CEQ guidance for implementing NEPA, which became effective on 20 May 2022, and 32 CFR 989.

Consistent with the CEQ regulations, the scope of analysis presented in this EA is defined by the potential range of environmental impacts that would result from implementation of the Proposed Action. Resources with potential impacts were considered in detail to determine if implementing the Proposed Action would have a significant impact on those resources. The resources analyzed include airspace; noise; health and safety; air quality and climate change; land use; visual resources; earth resources; water resources; biological resources; cultural resources; socioeconomics; environmental justice and protection of children; infrastructure, transportation, and utilities; and hazardous materials and wastes.

The existing affected environment and the potential environmental consequences with implementation of the Proposed Action are described in **Section 3.0,** *Affected Environment and Environmental Consequences*.

1.8 APPLICABLE REGULATORY REQUIREMENTS

Applicable federal, state, and local regulations have been considered during analysis of the impacts on individual environmental and social resources evaluated as part of the EA. The following legislation has been given particular consideration:

- Clean Air Act (CAA) (42 USC 7401 et seq.)
- Clean Water Act (CWA) (33 USC 1251 et seq.)
- Coastal Zone Management Act (CZMA) (16 CFR 1451–1464)
- Endangered Species Act (ESA) (16 USC 1531–1543)

- Migratory Bird Treaty Act (16 USC 703–712)
- Bald and Golden Eagle Protection Act (16 USC 668-668c)
- National Historic Preservation Act (NHPA) (54 USC 300101 et sq.)
- Safe Drinking Water Act (SDWA) (42 USC 300f et seq.)
- Stormwater requirements under Section 438 of the Energy Independence and Security Act (42 USC 17094)
- *Determining Conformity of General Federal Actions to State or Federal Implementation Plans* (General Conformity Rule 40 CFR 93, Subpart B)
- USEPA *Interim Air Quality Policy on Wildland and Prescribed Fires* (May 1998)
- USEPA *Exceptional Events Guidance: Prescribed Fire on Wildland that May Influence Ozone and Particulate Matter Concentrations* (8 August 2019)
- Executive Order (EO) 11988, *Floodplain Management*
- EO 11990, *Protection of Wetlands*
- DoD Instruction 6055.06, *DoD Fire and Emergency Services Program Certification Program* (3 October 2019)
- AFMAN 32-7003, *Environmental Conservation* (20 April 2020)

The DAF will consult with the US Fish and Wildlife Service (USFWS) under Section 7 of the ESA regarding the project in accordance with the recently implemented 4(d) rule for the northern long-eared bat (*Myotis septentrionalis*) and the potential occurrence of the eastern black rail (*Laterallus jamaicensis*). Coordination with the National Oceanic and Atmospheric Administration (NOAA) Fisheries regarding aquatic species presence, particularly the Atlantic sturgeon (*Acipenser oxyrhynchus oxyrhynchus*) and shortnose sturgeon (*Acipenser revirostrum*), will also be required.

The Proposed Action is located within Virginia's coastal zone and requires a federal Consistency Determination in accordance with the CZMA. The CZMA enables states to implement federally approved coastal programs to protect coastal areas in conjunction with environmental, economic, and human health. The DAF will submit a Consistency Determination to the Virginia Department of Environmental Quality (VDEQ).

To comply with the NHPA and its implementing regulations at 36 CFR 800, federally recognized tribes affiliated historically with the JBLE – Langley geographic region will be invited to consult on all proposed undertakings that have a potential to affect properties of cultural, historical, or religious significance to the tribes. The tribal coordination process is distinct from NEPA coordination or the Interagency/Intergovernmental Coordination for Environmental Planning processes and requires separate notification of all relevant tribes. Timelines for tribal consultation are also distinct from those of intergovernmental consultations. JBLE – Langley initiated consultation in accordance with Air Force Instruction (AFI) 90-2002, *Interactions with Federally Recognized Tribes* (24 August 2020). Once consultation is initiated by the Commander, the JBLE – Langley point of contact for consultation is the Tribal Historic Preservation Officer, and for the Advisory Council on Historic Preservation, is the JBLE – Langley Cultural Resources Manager. Records of correspondence with the Native American tribal governments will be included in **Appendix A.**

1.9 PUBLIC AND AGENCY REVIEW OF EA

Through the public involvement process, the DAF will notify relevant federal, state, and local agencies and the public of the Proposed Action and request input on environmental concerns they might have regarding the Proposed Action. The public involvement process provides JBLE – Langley with the opportunity to consider and address state and local views in its decision

regarding implementing this federal proposal. **Table 1-1** presents the agencies and tribes that will be contacted in the preparation of this EA.

An early public notice was published in the *Daily Press* on 11 and 12 February 2022. In accordance with EO 11990, JBLE – Langley published the early public notice to notify the public of potential impacts on floodplains and wetlands and to invite public comment on the proposal and any practicable alternatives that may reduce wetland or other impacts. A copy of the early public notice and responses to the notice are provided in **Appendix A**.

Table 1-1. Agencies and Tribes Consulted/Coordinated

Federal Agencies	
National Oceanic and Atmospheric Administration Fisheries Service	US Army Corps of Engineers, Norfolk District
US Department of Agriculture, Natural Resources Conservation Service	US Environmental Protection Agency, Region 3
US Fish and Wildlife Service, Virginia Field Office	US Geological Survey, Environmental Affairs Program
State Agencies	
Virginia Department of Conservation and Recreation, Virginia Natural Heritage Program	Virginia Department of Environmental Quality, Virginia Coastal Zone Management Program
Virginia Department of Environmental Quality, Office of Environmental Impact Review	Virginia Department of Wildlife Resources
Virginia Department of Historic Resources, Review and Compliance	Virginia Marine Resources Commission
Local Agencies	
City of Hampton, Virginia	Hampton Wetland Board
City of Poquoson, Virginia	York County Administrator
Tribes	
Catawba Indian Nation	Chickahominy Indian Tribe
Delaware Nation	Nansemond Indian Nation
Pamunkey Indian Tribe	Rappahannock Tribe Cultural Center
Upper Mattaponi Indian Tribe	

A Notice of Availability of the Draft EA and Draft Finding of No Significant Impact (FONSI)/ Finding of No Practicable Alterative (FONPA) was published in the *Daily Press* announcing the availability of the Draft EA and Draft FONSI/FONPA for a period of 30 days. Public and agency comments received on the Draft EA and Draft FONSI/FONPA will be provided in **Appendix A** of the Final EA**.**

Copies of the Draft EA and Draft FONSI/FONPA will also made available for review online at the JBLE – Langley public website, https://www.jble.af.mil/About-Us/Units/Langley-AFB/Langley-Environmental.

2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 INTRODUCTION

This section of the EA describes details of the Proposed Action and alternatives considered to meet the purpose and need of the Proposed Action, and how the alternatives were screened against selection standards.

2.2 DESCRIPTION OF THE PROPOSED ACTION

The Proposed Action would implement the approved WFMP at JBLE – Langley. Implementation of the WFMP on the lands of the 633 ABW at JBLE – Langley is driven by a need to manage natural resources and to minimize the effects of wildfire on the Installation's significant values, which include structures and infrastructure and natural and cultural resources. The Proposed Action would meet the requirements of the USEPA's *Interim Air Quality Policy on Wildland and Prescribed Fires* (May 1998) and *Prescribed Fire on Wildland That May Influence Ozone and Particulate Matter Concentrations* (8 August 2019). The Proposed Action would implement the approved JBLE – Langley WFMP in compliance with all applicable laws and regulations.

2.3 ALTERNATIVE SELECTION STANDARDS

NEPA and the CEQ regulations mandate the consideration of reasonable alternatives for the Proposed Action. "Reasonable alternatives" are those that could be utilized to meet the purpose and need of the Proposed Action. In accordance with 32 CFR 989.8(c), the development of selection standards is an effective mechanism for the identification, comparison, and evaluation of reasonable alternatives.

Alternatives to the Proposed Action were evaluated based on three selection standards:

- **Standard 1**: The alternative(s) must provide a coordinated approach to wildfire response and wildfire risk mitigation that includes JBLE – Langley FES and natural resources staff and AFCEC/CZOF and must be contained in the approved WFMP.
- **Standard 2**: The alternative(s) must address the specific fire-related supporting goals and objectives identified in the JBLE – Langley INRMP to enhance and develop the Installation's natural resources.
- **Standard 3**: The alternative(s) must be compliant with AFMAN 32-7003 Section 3P:
    - Reduce wildfire threats to Air Force mission assets and personal through fuel reduction treatments.
    - Provide guidance for execution of wildfire suppression, mitigation, prescribed fire, and hazardous fuel reduction on Air Force installations.
    - Provide strategic, logistical, and "boots on the ground" wildland fire support to ensure military preparedness.
    - Leverage interagency partnerships and technical expertise for long-term cost savings to the Air Force.
    - Train Air Force personnel to achieve nationally recognized NWCG standards to prevent injury and loss of life and to build response capability.
    - Collect, analyze, and communicate key wildland fire data to demonstrate ecological benefits and risk to mission.

2.4 ALTERNATIVES CONSIDERED

This section presents all alternatives evaluated and assesses them relative to selection standards. The selection standards were used to screen alternatives that met or partially met the selection standards and were carried forward for further detailed analysis in the EA (**Table 2-1**). Alternatives that met or partially met all selection standards were considered reasonable and retained for consideration in this EA. Although the No Action Alternative was analyzed, under the No Action Alternative, implementation of the JBLE – Langley WFMP would not occur; therefore, the purpose and need would not be met.

Table 2-1. Alternatives Considered Compared to Selection Standards

Selection Standard	Alternative 1 Full Implementation of the WFMP	Alternative 2 Implementation of the WFMP Only at the Airfield	Alternative 3 Implementation of the WFMP Only at the Golf Course and within Oak-Pine Hummocks	No Action Alternative
Standard 1: The alternative(s) must provide a coordinated approach to wildfire response and wildfire risk mitigation that includes JBLE – Langley FES and natural resources staff and AFCEC/CZOF and must be contained in the approved WFMP.	Yes	Yes	Yes	No
Standard 2: The alternative(s) must address the specific fire-related supporting goals and objectives identified in the JBLE – Langley INRMP to enhance and develop the Installation's natural resources.	Yes	Yes	Yes	No
Standard 3: The alternative(s) must be compliant with AFMAN 32-7003 Section 3P.	Yes	Partial	Partial	No

WFMP – Wildland Fire Management Plan; **JBLE** – **Langley FES** – 633d Civil Engineer Squadron Fire and Emergency Services; **AFCEC/CZOF** – Air Force Wildland Fire Branch; **JBLE** – **Langley** – Joint Base Langley-Eustis – Langley Air Force Base; **INRMP** – Integrated Natural Resources Management Plan; **AFMAN** – Air Force Manual

2.4.1 Alternative 1. Full Implementation of the Wildfire Management Plan

Alternative 1 would implement all proposed prescribed fire, mechanical (nonfire) fuels treatment, wildfire risk management strategies, and improvements to land and firefighting resources included in JBLE – Langley's WFMP (JBLE – Langley 2021a).

2.4.1.1 Prescribed Fire

Prescribed fire is one cost-effective tool that can be used to meet wildfire management needs. Prescribed fires improve floral and faunal diversity, improve forest habitat quality, control certain invasive species, and reduce hazardous fuels that could intensify destructive wildfires. Nonfire

fuel treatments, as well as preparedness and readiness actions, are also important in minimizing the effects of wildfire and are recommended as part of the JBLE – Langley's WFMP (JBLE – Langley 2021a).

Alternative 1 would implement the WFMP on JBLE – Langley within established Fire Management Units (FMUs). FMUs are areas defined by similar overall fire management objectives with consideration for specific (or dominant) constraints, requirements, and guidelines for implementation (JBLE – Langley 2021a). Unique characteristics, such as topography, fuels, and natural resource concerns, would also be considered. On JBLE – Langley, there would be only one single, contiguous FMU (FMU 1), which would consist of the entirety of the Installation (2,895 acres), including 2,081 acres that are burnable (**Figure 2-1**). Topography in FMU 1 is generally level or slightly sloping with varying aspects toward the adjacent branches of the Back River.

Due to the presence of infrastructure and a high human population, all wildfires in FMU 1 would be fully suppressed under Alternative 1. All JBLE – Langley buildings and other infrastructure are located inside FMU 1. The structures, powerline poles, and some scattered sensitive areas would require protection during fire operations. While nearly 72 percent of FMU 1 is considered burnable, a large proportion of this burnable area consists of lawns, the golf course, ornamental trees, and other maintained vegetation. Remaining areas consist of wetlands and forests, which would be available for consumption by fire. The dominant fuel types in FMU 1 include unburnable developed areas, short grass and grass-shrub in the developed areas and wetlands, and timber litter in forested areas (JBLE – Langley 2020).

Under Alternative 1, planned fuels treatments would include prescribed fire treatments, as well as chemical and mechanical fuels treatments. These treatments may be conducted throughout the FMU, where appropriate (**Figure 2-1**). Fuels treatments would be identified and prioritized based upon the anticipated treatment outcomes in relation to the objectives of the INRMP to enhance and develop the Installation's natural resources. Projects to improve public safety would be prioritized above all others, with projects supporting the military mission following in order of prioritization. The JBLE – Langley WFPC would meet with the assigned WSM Lead to identify and prioritize projects and fuels treatments needed to support INRMP and WFMP objectives.

Recommended prescribed fire treatments included in Alternative 1 would be based upon the natural fire regimes that existed prior to European settlement. The primary vegetation classification on JBLE – Langley is Northern Atlantic Coastal Plain Maritime Forest, which has a mean fire return interval (MFRI) for surface-severity fire of about 10 years. There are several minor classifications that represent different wetland/riparian vegetation types, but the dominant wetland/riparian class on JBLE – Langley is Gulf and Atlantic Coastal Plain Tidal Marsh Systems, which has an MFRI of about five years. Given these estimated MFRIs, Alternative 1 would conduct surface-severity prescribed fire in undisturbed forested areas on JBLE – Langley (see **Figure 2-1**) every 10 years and replacement-severity prescribed fire in wetland areas (see **Figure 2-1**) every 5 years. Wetlands on JBLE – Langley (**Figure 2-2**) would be burned to maintain a five-year MFRI where feasible. Additional prescribed fire could be implemented for other purposes, such as an integrated pest management effort to control the common reed (*Phragmites australis*), or in efforts to remove fuels on the JBLE – Langley airfield in preparation for pyrotechnics used during the Air Power Over Hampton Roads event.

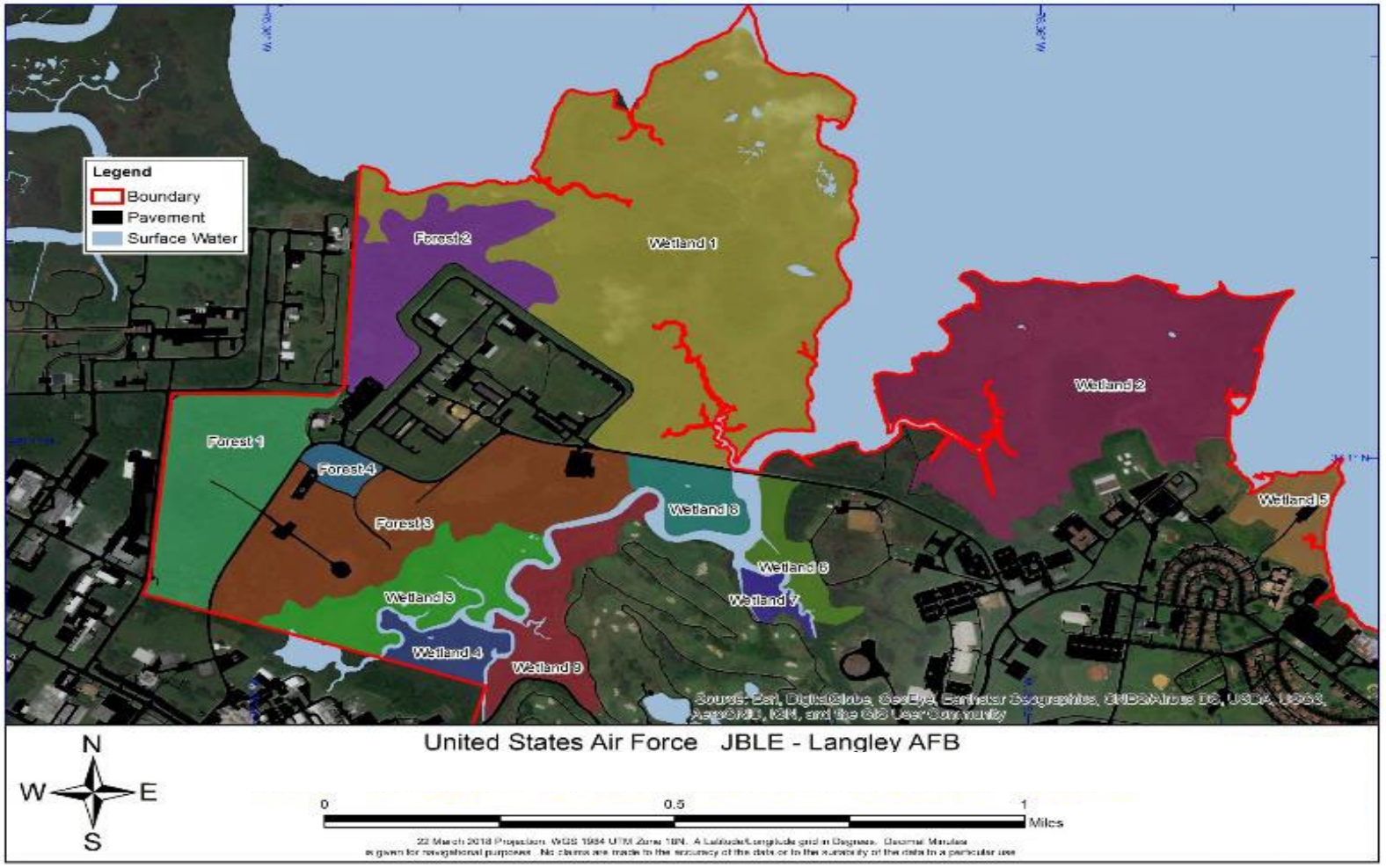

Figure 2-1. Prescribed Fire Units within Fire Management Unit 1 on Joint Base Langley-Eustis – Langley Air Force Base

Figure 2-2. Wetlands on Joint Base Langley-Eustis – Langley Air Force Base

A regular burn schedule is proposed that would result in the airfield being burned twice on a five-year rotation. The proposed schedule provides guidance but offers flexibility and accounts for the possibility that some combination of the proposed events may be selected and implemented. Additional small areas adjacent to the units could also be added at the discretion of the fire managers. After a few rotations on this schedule, it could be desirable to vary the schedule and season of burning to approximate the natural variability more closely in timing of burns or to better meet certain airfield operations and ecological objectives. In particular, annual burning of the airfield could be needed to assist with Bird/Wildlife Aircraft Strike Hazards and airshow operations.

As part of Alternative 1, unit treatments could be delayed or moved up from one to three years without greatly compromising burn objectives. Delays could be due to unfavorable weather conditions, contingency factors, missions, protection of sensitive resources, or funding deficits. **Table 2-2** provides the proposed fuels management schedule for burn units on JBLE – Langley.

Table 2-2. Proposed Fuels Management Schedule for Burn Units on Joint Base Langley-Eustis – Langley under Alternative 1

Burn Unit	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Year 2028
Airfield		Burn	Burn	Burn		Burn	
Forest 1		Burn			Burn		
Forest 2	Burn			Burn			
Forest 3		Burn			Burn		
Forest 4		Burn			Burn		
Wetland 1	Burn			Burn			
Wetland 2			Burn			Burn	
Wetland 3		Burn			Burn		
Wetland 4		Burn			Burn		
Wetland 5			Burn			Burn	
Wetland 6			Burn				Burn
Wetland 7			Burn				Burn
Wetland 8			Burn				Burn
Wetland 9			Burn				Burn

Source: JBLE – Langley 2021a

2.4.1.2 Mechanical and Chemical (Nonfire) Fuels Treatment

Alternative 1 would also include mechanical fuels treatments. These treatments would primarily involve mastication/mowing of areas containing privet (*Ligustrum* spp.) and large grassy areas where fire may not be the appropriate treatment. There are no commercial timber tracts on JBLE – Langley, so harvesting and thinning of forested areas on JBLE – Langley would serve the primary purpose of airfield safety. Mechanical fuels treatment in priority areas, such as those areas adjacent to buildings and structures and the airfield, would also serve to mitigate hazardous fuels.

As part of Alternative 1, routine mechanical fuels treatments would include annual vegetation maintenance extending at least 30 feet from buildings and structures, fuel storage areas, hazardous waste generator or storage areas, powerline poles, flight lines, sensitive resource areas, munitions storage areas, firing ranges, fire range danger zones, and adjacent private lands. No new firebreaks are proposed at this time; however, all new firebreaks would follow previous disturbance where possible to minimize resource damage and soil disturbance.

The recommended chemical fuels treatments included in Alternative 1 would be limited to chemical control of invasive species, such as common reed and Japanese stiltgrass (*Microstegium vimineum*). These treatments would serve the primary purpose of habitat

improvement. Priority areas would include those that would also serve to mitigate hazardous fuels, such as areas adjacent to improved portions of the Installation. All pesticides used would be registered with the USEPA and applied in accordance with label instructions and existing VPDES permits. Nonfire fuels treatment under Alternative 1 also include the use of fire retardants and foam for wildfire suppression. Fire retardants and foam would not be used within 300 feet of any drainage, wetland, vernal pool, or other water source and would be limited to use in the event of emergencies when fire is a threat to human life.

2.4.1.3 Wildfire Risk Management Strategies

Several wildfire risk mitigation strategies are included in Alternative 1 in addition to implementing fire and nonfire fuels treatments. These strategies would primarily consist of efforts to prevent wildfire ignitions and to create defensible space in the Wildland Urban Interface (WUI) areas of JBLE – Langley to reduce the possibility of a wildfire spreading to buildings and structures in the developed areas. **Table 2-3** provides the proposed wildfire risk mitigation strategies.

Table 2-3. Proposed Wildfire Risk Mitigation Strategies

Strategy	Responsible Party	Proposed Schedule
Firebreak Maintenance: No firebreaks exist on the Installation.	N/A	If firebreaks are created in the future, they would be maintained as needed
Prescribed Fire: Prescribed fire would be used to manage hazardous fuels near values to protect.	AFCEC/CZOF, JBLE – Langley FES (if NWCG qualified)	Every 5 to 10 years Airfield every 2 to 4 years
Outreach/Notification: Public outreach and notification would be conducted.	633 ABW/PA, NR staff, FES	Annually
Preposition/Patrol: Wildland firefighting resources would be prepositioned in areas most at risk from wildfire on high fire danger days. Patrols for wildfire starts would be conducted during the peak fire activity period of the day (1200-1800 hours) when known ignition sources are present.	JBLE – Langley FES	Daily when high fire danger exists
Fire-Resistant Construction: Fire-resistant materials would be chosen for new construction and renovation and for outdoor fixtures, such as outdoor furniture.	633 CES	During new construction or renovations or as fixtures are replaced
Eliminate Ember Traps: Holes, gaps, or other openings in buildings that may allow embers to enter would be screened or closed.	633 CES	Conduct initial inspection within 1 year and maintain annually or as needed
Native Plantings: Only plant native vegetation with high moisture content. Consider using “xeriscaping” landscaping where adequate irrigation of vegetation is not available.	NR staff, 633 CES	N/A
Manage WUI Fuels: Flammable vegetation and debris would be removed within 30 feet of WUI structures. This zone is known as the “Structure Ignition Zone.”	JBLE – Langley building tenants	Conduct initial removal within 1 year and maintain annually or as needed
Reduce Ladder Fuels: Trees would be pruned 6 feet above the ground to eliminate ladder fuels.	NR staff, 633 CES	Annually
Powerline Maintenance: Vegetation under powerlines would be mowed.	633 CES	Annually

Source: JBLE – Langley 2021a
N/A – not applicable; **AFCEC/CZOF** – Air Force Wildland Fire Branch; **JBLE** – **Langley** – Joint Base Langley-Eustis – Langley Air Force Base; **JBLE** – **Langley FES** – 633d Civil Engineer Squadron Fire and Emergency Services; **NWCG** – National Wildfire Coordinating Group; **633 ABW/PA** – 633d Air Base Wing Public Affairs; **NR**– natural resources; **633 CES** – 633d Civil Engineer Squadron; **WUI** – Wildland Urban Interface

2.4.1.4 Improvements to Land and Firefighting Resources

JBLE – Langley would implement improvements to its land and firefighting resources that would enhance the response capabilities of firefighters. Paramount among these improvements would be formally establishing the JBLE – Langley FES as the primary initial attack responders. Under Alternative 1, JBLE – Langley would work to increase the operational qualifications of FES personnel and would primarily focus on the preparedness and readiness actions of the WFMP. Implementation of the Alternative 1 would also establish the position of WFPC on JBLE – Langley, which would be held by the Natural Resources Manager, to oversee the planning and implementation of wildland fire projects.

2.4.2 Alternative 2. Implementation of the Wildfire Management Plan Only at the Airfield on JBLE – Langley

Alternative 2 would implement the proposed prescribed fire and mechanical (nonfire) fuels treatment included in the approved WFMP but only at the airfield on JBLE – Langley. All wildfire risk management strategies and improvements to land and firefighting resources included in JBLE – Langley's WFMP would be implemented.

2.4.2.1 Prescribed Fire

Alternative 2 would be limited to the use of a small-scale prescribed fires to support airfield fuel reduction for the Air Power Over Hampton Roads air shows that have traditionally occurred on a biannual basis at JBLE – Langley. These small burns would be accomplished to reduce the risk of a grass fire resulting from the pyrotechnic displays which are part of the air show. Under Alternative 2, prescribed fire treatments would be restricted to the airfield, and burns would occur once annually in preparation for the air show rather than based upon natural fire regimes. None of the forest or wetland prescribed fire units included in Alternative 1 (see **Figure 2-1**) would be burned under Alternative 2; Alternative 2 would leave these areas on JBLE – Langley vulnerable to potential wildfire.

2.4.2.2 Mechanical (Nonfire) Fuels Treatment

Alternative 2 would also include the mechanical fuels treatments described in Alternative 1 but only in those areas adjacent the airfield where the treatments would serve to mitigate hazardous fuels. The recommended chemical fuels treatments included in Alternative 1 would also be included in Alternative 2 but would be limited to chemical control of invasive species at and adjacent to the airfield.

2.4.2.3 Wildfire Risk Management Strategies

All wildfire risk mitigation strategies included in Alternative 1 would also be included in Alternative 2.

2.4.2.4 Improvements to Land and Firefighting Resources

Under Alternative 2, JBLE – Langley would implement all the improvements to its land and firefighting resources that would enhance the response capabilities of firefighters as described for Alternative 1.

2.4.3 Alternative 3. Implementation of the Wildfire Management Plan Only at the Golf Course and within Oak-Pine Hummocks on JBLE – Langley

Alternative 3 would implement the proposed prescribed fire and mechanical (nonfire) fuels treatment included in the approved WFMP but only at the golf course and within pine-oak hummocks on JBLE – Langley. All wildfire risk management strategies and improvements to land and firefighting resources included in JBLE – Langley's WFMP would be implemented.

2.4.3.1 Prescribed Fire

Alternative 3 would be limited to burning the created pollinator habitat on the Eaglewood Golf Course and within oak-pine hummock areas associated with Tabbs Creek on the Base. The canopy within the oak-pine hummock areas is dominated by black oak (*Quercus velutina),* southern red oak (*Quercus falcata), and* willow oak (*Quercus phellos*) with loblolly pine (*Pinus taeda*), sweetgum (*Liquidambar styraciflua*), and black gum (*Nyssa sylvatica*). While uncommon on JBLE – Langley, this community type is widespread and common throughout the Coastal Plain of Virginia. Prescribed fire would be used once annually for maintenance purposes. None of the airfield, forest, or wetland prescribed fire units included in Alternative 1 (see **Figure 2-1**) would be burned under Alternative 3; Alternative 3 would leave these areas on JBLE – Langley vulnerable to potential wildfire.

2.4.3.2 Mechanical (Nonfire) Fuels Treatment

Alternative 3 would also include the mechanical fuels treatments described in Alternative 1 but only in those areas adjacent the golf course and the pine-oak hummocks on Base where the treatments would serve to mitigate hazardous fuels. The recommended chemical fuels treatments included in Alternative 1 would also be included in Alternative 3 but would be limited to chemical control of invasive species adjacent at and adjacent to the golf course and oak-pine hummocks.

2.4.3.3 Wildfire Risk Management Strategies

All wildfire risk mitigation strategies included in Alternative 1 would also be included in Alternative 3.

2.4.3.4 Improvements to Land and Firefighting Resources

Under Alternative 3, JBLE – Langley would implement all the improvements to its land and firefighting resources that would enhance the response capabilities of firefighters as described for Alternative 1.

2.4.4 No Action Alternative

The No Action Alternative evaluates the potential consequences of not undertaking the Proposed Action and serves to establish a comparative baseline for analysis and the Preferred Alternative. Under the No Action Alternative, traditional wildland fire management would not be practiced on JBLE – Langley. Currently, the Installation does not conduct prescribed burns as a habitat or vegetation management practice; there are no wildland fire-specific outreach programs on JBLE – Langley; and there is no formal stand-alone wildfire preparedness plan in place at the Installation. Open fires would continue to be expressly prohibited on JBLE – Langley and all property under its jurisdiction without written approval of the JBLE – Langley Fire Chief or 633 MSG Commander. The exception to this policy occurs in years when Air Power Over Hampton Roads air shows are held. In advance of the airshow, JBLE – Langley would continue to utilize small-scale prescribed burns on the airfield to prepare for the fireworks show. It is anticipated that these burns would continue to be accomplished with assistance from the Virginia Department of

Forestry. Small burns would reduce the risk of a grass fire resulting from the pyrotechnic displays that are part of the air show.

2.4.5 Action Alternatives

The three action alternatives described in **Section 2.4** all either meet or partially meet the selection standards (see **Table 2-1**) and are analyzed in this EA. Alternative 1, full Implementation of the WFMP, is the Preferred Alternative.

2.5 SUMMARY OF POTENTIAL ENVIRONMENTAL CONSEQUENCES

The potential impacts associated with the action alternatives and the No Action Alternative are summarized in **Table 2-4.** The summary is based on information discussed in detail in **Section 3.0,** *Affected Environment and Environmental Consequences,* of the EA, which includes a concise definition of the issues addressed and the potential environmental impacts associated with each alternative.

Table 2-4. Summary of Environmental Consequences

Resource Area	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3	No Action Alternative
Airspace Management and Use	Smoke from prescribed fires could have minor, short-term adverse impacts on certain flight operations that require a smoke-free environment. Smoke could also reduce readiness by disrupting flight lines. Conversely, missions involving flights may result in airspace restrictions that would impact the use of prescribed fire or aerial firefighting resources. Close coordination between wildland fire crews and mission planners would ensure airspace safety and minimize potential airspace use conflicts.	Impacts on airspace management and use would be similar to, but less than, those described for the Preferred Alternative.	Impacts on airspace management and use would be similar to, but less than, those described for the Preferred Alternative.	Airspace use during wildfire fighting operations has the potential to adversely impact the ability of JBLE – Langley to achieve its primary mission. Under the No Action Alternative, unexpected wildfires and/or fire suppression operations could interfere with missions. Smoke could also reduce readiness by disrupting flight lines. In a worst-case scenario, smoke from wildfires could potentially contribute to aircraft accidents that lead to injury or death. Close coordination between wildland fire crews and mission planners would ensure airspace safety and minimize potential airspace use conflicts.
Air Quality and Climate Change	The Preferred Alternative would generate air emissions that would have adverse impacts on air quality, but these emissions are expected to be short term and minor. The primary source of air emissions would be from the prescribed fire treatments. Prescribed fires generate smoke, which emit hazardous particulate matter and gaseous compounds. Estimated emissions from prescribed fires and related activities would be well below the *de minimis* threshold for General Conformity. Impacts on air quality would be minor as criteria pollutant emissions from prescribed fires would be intermittent and short term, not lasting more than a few days. Emissions of carbon dioxide from prescribed fire sources are considered biogenic sources that are part of the carbon cycle, and as such, no emission factors to estimate emissions were available.	Impacts on air quality and climate change would be similar to, but less than, those described for the Preferred Alternative.	Impacts on air quality and climate change would be similar to, but less than, those described for the Preferred Alternative.	There would be no impact on air quality. There would be no concerns regarding the adverse air quality effects that would have occurred from the prescribed fires and from vehicular operations. However, there could be a buildup of fuel at JBLE – Langley, and if prescribed burns are not conducted, the chances of a wildfire event occurring would increase, with a possibility of a more

Resource Area	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3	No Action Alternative
Air Quality and Climate Change (continued)	However, GHG emissions from vehicular operations associated with prescribed fires would be minor and would not likely add to the regional GHG levels in any meaningful way.			adverse impact on air quality overall.
Aesthetics and Visual Resources	Smoke from prescribed fires could have minor, short-term adverse impacts on the visual character of JBLE – Langley and surrounding areas. Once smoke clears, the visual character of the area would return to post-fire conditions. Under the Preferred Alternative, prescribed fire would be used to manage hazardous fuel loads within existing wetland areas, native vegetation would be planted, and flammable vegetation and debris would be removed within 30 feet of WUI areas; these actions would support visual aesthetics and result in beneficial impacts.	Impacts on aesthetics and visual resources would be similar to, but less than, those described for the Preferred Alternative.	Impacts on aesthetics and visual resources would be similar to, but less than those described for the Preferred Alternative. However, the perceived impact on aesthetics and visual resources may be greater than those described for the Preferred Alternative, as golfers would be directly affected during times of prescribed fire use on the golf course.	Wildland fires and smoke from wildland fires could have adverse impacts on the visual character of JBLE – Langley. Surrounding areas and private property could also be impacted, should the fire spread off the Installation. Under the No Action Alternative, unmanaged wildfires could result in substantial adverse effects on the viewshed, damage scenic resources on JBLE – Langley, and degrade the overall existing visual character or quality.
Earth Resources	Short-term, minor adverse impacts on soils could occur from prescribed fires, chemical fuel treatments, mechanical fuel treatments, and wildfire suppression. Impacts on soils from these activities could include increased soil erosion, increased soil temperature, changes in soil chemistry (loss of nitrogen), consumption of organic matter, and soil contamination from fire retardants and the use of pesticides. Soil erosion would be controlled using emergency stabilization treatments when necessary. Additionally, low-intensity fires, like prescribed burns, would remove aboveground biomass from plants, but root systems would remain intact and would hold the soil in place. Increases in soil temperature would be minor and short lived. Use of fire retardants for wildfire suppression has the potential to adversely impact soils. However, this impact would be minor due to the infrequency of use and is not different from	Impacts on earth resources would be similar to, but less than, those described for the Preferred Alternative.	Impacts on earth resources would be similar to, but less than, those described for the Preferred Alternative.	There would be no change in existing fire management; therefore, there would be no new impacts on earth resources.

Resource Area	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3	No Action Alternative
Earth Resources (continued)	existing conditions because, given the developed nature of JBLE – Langley, any wildfire on the Installation would be suppressed even if the WFMP was not implemented. In the long term, impacts on soils from implementation of the Preferred Alternative would be beneficial. The actions described in the WFMP would ultimately decrease the size, frequency, and severity of wildfires, which would reduce soil erosion, runoff, and sedimentation.			
Floodplains	There would be no impacts on floodplains. In terms of flooding impacts, given the relatively small areas of prescribed burning and fuel treatment, the increased flood risk from removed vegetation would be minimal. However, in the long term, the fuel treatment actions described in the WFMP would decrease the size, frequency, and severity of wildfires, which would ultimately reduce flooding impacts from wildfires Basewide.	Impacts on floodplains would be similar to those described for the Preferred Alternative.	Impacts on floodplains would be similar to those described for the Preferred Alternative.	There would be no change in existing fire management, therefore, no new impacts would occur on floodplains. However, if the WFMP is not implemented, the risk of flooding following a large or severe wildfire would increase.
Coastal Zone Management	The Preferred Alternative is consistent with the maximum extent practicable with the enforceable policies of the Virginia Coastal Resources Management Program.	Alternative 2 is consistent to the maximum extent practicable with the enforceable policies of the Virginia Coastal Resources Management Program.	Alternative 3 is consistent to the maximum extent practicable with the enforceable policies of the Virginia Coastal Resources Management Program.	There would be no change in existing fire management; therefore, no new impacts on the coastal zone would be expected.
Water Resources	Short-term, minor adverse impacts on surface water and stormwater could occur from prescribed fires, chemical fuel treatments, mechanical fuel treatments, and wildfire suppression. Impacts on surface water from these activities could include short-term ash runoff, increased soil erosion, runoff, and sedimentation, and inadvertent release of contaminants and chemicals. Short-term, minor adverse impacts on wetlands could occur from chemical fuel treatments and mechanical fuel treatments. Prescribed fire would also temporarily increase soil erosion, runoff (including ash runoff), and sedimentation to wetlands. In in the short term, there would be adverse minor impacts on wetlands from prescribed burns. In the long term, there would be beneficial impacts on wetlands from prescribed burns.	Adverse impacts on water resources would be similar to, but less than, those described for the Preferred Alternative. No long-term beneficial impacts on wetlands would occur under Alternative 2.	Adverse impacts on water resources would be similar to, but less than, those described for the Preferred Alternative. No long-term beneficial impacts on wetlands would occur under Alternative 3.	There would be no change in existing fire management, therefore, no new impacts on water resources. However, if the WFMP is not implemented, the risk of major water quality impacts following a large or severe wildfire would increase.

Resource Area	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3	No Action Alternative
Biological Resources	The Preferred Alternative would have short-term adverse impacts on the vegetation. However, the Preferred Alternative would result in long-term beneficial impacts on vegetative communities, as accumulated fuels pose serious threats to forest resources. The Preferred Alternative may result in short-term minor adverse impacts on some fauna. Most adverse impacts may be avoided through proper timing and, for prescribed fire, proper burn techniques. Fuel treatment may also result in indirect short-term, minor adverse impact on some species due to the temporary loss of habitat. Potential adverse impacts on bats that may be found within treatment areas would be direct mortality if roosting bats are unable to arouse during short-term torpor. Short-term, negligible adverse impacts on fish and other aquatic organisms may occur from minor sedimentation of ash from prescribed fire activities near surface waters. The Preferred Alternative would also have long-term, beneficial impacts on fauna. Impacts on invasive plant control efforts would be long-term and beneficial. Prescribed burns, mechanical and chemical treatments would target specific areas to control invasive plants such as Johnson grass, common reed, Japanese stiltgrass, and privet to allow for native species recruitment. DAF has made a *no effect* determination for the red knot, roseate tern, listed sea turtles, Indiana bat, West Indian manatee, Atlantic sturgeon, northeastern beach tiger beetle, and rusty patched bumblebee. DAF has made a *may affect, but not likely to adversely affect* determination for the eastern black rail and monarch butterfly. There would be no impacts on Atlantic sturgeon or its critical habitat physical or biological features. The Section 7 self-certification package was completed through the USFWS Virginia Ecological Services Field Office online project review process during preparation of this EA.	Impacts on biological resources would be similar to, but less than those described for the Preferred Alternative.	Impacts on biological resources would be similar to, but less than those described for the Preferred Alternative.	Excessive fuels would continue to accumulate that may result in catastrophic crown fires that kill all trees and shrubs and consume most of the surface organic layer. In addition, crown fires are intense, fast moving, threaten resources, and often result in large, burned areas. None of the benefits impacts on biological resources from more natural disturbance would occur, such as invasive species and disease control and increased regeneration of desirable species and increases in beneficial habitat.
Health and Safety	Minor, short-term impacts on the health and safety of firefighting personal would be expected during firefighting activities. In particular, smoke from prescribed fires or wildland fires could have minor, short-term adverse impacts on health and safety. Several national requirements, including the *National Incident Management System: Wildland Fire Qualification System Guide,* are in place to aid the conduct of safe fire operations. All firefighters would have the training and experience for their positions and equipment they operate. All	Adverse impacts on health and safety would be similar to, but less than those described for the Preferred Alternative. Beneficial impacts on health and safety	Adverse impacts on health and safety would be similar to, but less than those described for the Preferred Alternative. Beneficial impacts on health and safety	Unexpected wildfires and/or fire suppression operations could lead to an increase in firefighter and public safety risks in the long-term if the approved WFMP is not implemented. Wildland fire may compromise public and firefighter safety, especially

Resource Area	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3	No Action Alternative
Health and Safety (continued)	personnel would wear appropriate PPE and use appropriate protective equipment. All proposed actions included in the Preferred Alternative would be implemented, as necessary, according to the DAF, Virginia Department of Environmental Quality, and NWCG guidance. Long-term, beneficial effects on health and safety are anticipated, as all of the proposed actions in the WFMP are designed to reduce and suppress wildfire with the goal of minimizing fire size, frequency, and severity while supporting the training mission of JBLE – Langley. The Preferred Alternative would help keep JBLE – Langley lands and personnel safe and would also help to protect the surrounding area and communities. As part of the Preferred Alternative, harvesting and thinning on JBLE – Langley would serve the primary purpose of airfield safety. Further, the Air Force Wildland Fire Branch has coordinated, reviewed, and approved the WFMP with the Installation to ensure consistency with approved land management plans, values to be protected, and natural and cultural resource management plans, and that it addresses public health issues related to smoke and air quality. Military mission activity and associated safety footprints would be in place to limit access for prescribed fire and for wildfire suppression. The AFSEC/SEFW would continue to assist and advise on safety matters to maintain compliance with federal and Department of Defense regulations.	would be similar to those described for the Preferred Alternative.	would be similar to those described for the Preferred Alternative.	during severely hot, dry years. Wildland fires represent a direct and indirect threat to the public, JBLE – Langley personnel, and firefighters. Smoke from unexpected wildfires could also reduce health and safety. In a worst-case scenario, smoke from wildfires could potentially contribute to accidents that lead to injury or death.

JBLE – **Langley** – Joint Base Langley-Eustis – Langley Air Force Base; **GHG** – greenhouse gas; **WUI** – Wildland Urban Interface; **WFMP** – Wildfire Management Plan; **DAF** – Department of the Air Force; **USFWS** – United States Fish and Wildlife Service; **EA** – Environmental Assessment; **PPE** – personal protection equipment; **NWCG** – National Wildfire Coordinating Group; **AFSEC/SEFW** – Air Force Safety Center – Bird/Wildlife Aircraft Strike Hazard Team

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3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter describes the environment potentially affected by the Proposed Action. NEPA requires the analysis address those areas and components of the environment with the potential to be affected; locations and resources with no potential to be affected need not be analyzed. The existing conditions of each relevant environmental resource are described to give the public and agency decision makers a meaningful point from which to compare potential future environmental, social, and economic effects.

Sections 3.1 through **3.10** provide the baseline environment potentially affected by the Proposed Action at JBLE and the environmental consequences. The expected geographic scope of any potential consequences in identified as the Region of Influence (ROI). For most resources in this chapter, the ROI is defined as the boundaries of JBLE – Langley unless otherwise specified for a particular resource area.

Resource areas that are anticipated to experience no impacts under implementation of the Proposed Action or its alternatives are not examined in detail in this EA and include land use, noise, prime farmland, cultural resources, socioeconomics, environmental justice and protection of children, transportation and utilities, and hazardous materials and waste. A brief summary of the reasons for not undertaking detailed analyses for these resource areas is provided below.

Land Use. The Proposed Action would have no effect on current or future land uses on JBLE – Langley. No activities are proposed that would alter existing land use categories at JBLE – Langley or that would be incompatible with existing land uses.

Noise. No effects from noise would be expected. There are no sensitive noise receptors (e.g., churches, schools, residential areas) situated near JBLE – Langley that would experience a noticeable increase in noise with implementation of the Proposed Action. Noise generated from mechanical fuel treatment, including mastication, mowing, and harvesting and thinning of vegetation or from aerial firefighting resources, would be intermittent and short term and would occur in areas where noise from ongoing training at the active airfields is already occurring.

Prime Farmland. No impacts would be anticipated on prime farmland soils. All nine of the soil types at JBLE – Langley are classified as “not prime farmland” (JBLE – Langley 2019).

Cultural Resources. No effects on cultural resources would be expected. Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties. The WFMP was developed to address in detail all actions that would be accomplished for the protection of cultural resources in wildland fire management planning and treatment activities. The JBLE – Langley Cultural Resource staff coordinates on all stages of the WFMP and fire planning. The JBLE – Langley WFMP has adapted a checklist from the National Park Service for guidelines that would be followed for a review of cultural resource concerns prior to the implementation of any wildland fire project. Planning activities would comply with the NHPA and other applicable cultural resource laws, directives, and policies. As part of treatment planning, the JBLE – Langley Cultural Resource staff would ensure the cultural resource inventory is complete, determine the potential for adverse effects on historic properties within the specific treatment area, initiate the Section 106 process and consultation with the State Historic Preservation Office and Tribal Historic Preservation Office on a case-by-case basis as needed, and ensure any cultural resource mitigations, as appropriate, are included in each plan.

Socioeconomics. No effect on socioeconomics would be expected. No change in personnel, housing demand, or economic conditions at JBLE – Langley would be anticipated as a result of the Proposed Action. The local expenditures for fuel and materials for pesticide application would

occur rarely, be of small value compared to the large regional economy of the Hampton Roads area, and would have no substantial impact on the local economy.

Environmental Justice and Protection of Children. The Proposed Action would not have disproportionate impacts on low-income, minority, or youth populations. EO 12898, *Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations*, directs federal agencies to identify low-income and minority populations potentially affected because of proposed federal actions. EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, directs federal agencies to identify and assess environmental health and safety risks that may disproportionately affect children. As impacts generated from the Proposed Action would be confined to JBLE – Langley, no environmental justice communities, if present in the nearby communities of Newport News or Hampton, would be particularly or disproportionately affected. Further, no change in personnel, housing demand, or economic conditions would occur and therefore would not impact low-income, minority, or youth populations. No health and safety risks to children are anticipated as the project area is limited to JBLE – Langley and the Installation is inaccessible to the general public.

Infrastructure, Transportation, and Utilities. No effects on infrastructure, transportation, or utilities are anticipated. No new construction or infrastructure changes would occur under the Proposed Action. All infrastructure, structures, and powerline poles at JBLE – Langley would be protected during fire operations. Without the Proposed Action, wildfires, particularly under severe conditions, have the potential to pose a significant risk to DAF infrastructure on DAF property and private property, should the fire spread off the Installation. No project-related increases in traffic are anticipated during implementation of the Proposed Action. No change in the traffic level of service would occur. No change in utility infrastructure or usage at JBLE – Langley would result from the Proposed Action.

Hazardous Materials and Waste. No impacts from the use or storage of hazardous materials and waste are expected. Recommended chemical treatments would be limited to chemical control of invasive species. Only pesticides approved for use in the State of Virginia and having a current valid USEPA registration number and already approved for use and storage on Main Base at JBLE – Langley would be used (JBLE – Langley 2019: Section 13). Implementation of the Proposed Action would not disturb potential or known sources of any hazardous wastes or materials, would not alter any current hazardous materials storage procedures or areas, and would not alter any areas of known contamination or known to contain UXO on JBLE – Langley. The DAF, through DAFI 10-2501 and AFMAN 32-7002, has dictated that all facilities develop and implement Hazardous Materials Management Plans, Hazardous Waste Management Plans, and/or Spill Prevention, Control, and Countermeasures (SPCC) Plans. Storage, handling, and transportation of hazardous materials and waste during Proposed Action implementation would be conducted in accordance with applicable regulations and established procedures, including the JBLE – Langley Hazardous Waste Management Plan. Any spills or releases of hazardous materials would be reported to the VDEQ, cleaned up by the contractor, and disposed of at an approved off-Base treatment, storage, or disposal facility (Virginia Administrative Code [VAC] § 62.1-44.34.8 through 9, and 9 VAC 25- 580-10, et seq.). Spills would be handled in accordance with the Installation's SPCC Plan.

Cumulative Effects. Direct and indirect cumulative effects of reasonably foreseeable direct and indirect effects associated with other proposed projects at and near JBLE – Langley (**Appendix B**) and recently completed projects on JBLE – Langley are also analyzed for each resource.

3.1 AIRSPACE MANAGEMENT AND USE

Airspace management involves the direction, control, and handling of flight operations in the airspace that overlies the borders of the US and its territories. Under Title 49, USC § 40103, *Sovereignty and Use of Airspace,* and Public Law No. 103-272, the US government has exclusive sovereignty over the airspace. The Federal Aviation Administration (FAA) has the responsibility for planning, managing, and controlling the structure and use of all airspace over the US. FAA rules govern the national airspace system, and FAA regulations establish how and where aircraft may fly. Collectively, the FAA uses these rules and regulations to make airspace use as safe, effective, and compatible as possible for all types of aircraft, from private propeller-driven planes to large, high-speed commercial and military jets.

3.1.1 Existing Conditions

The JBLE – Langley airfield is operated by the 1 FW and 192nd Fighter Wing (192 FW) supporting military operations conducted by units stationed on the Base. Military training has occurred in the vicinity of JBLE – Langley since 1916. With a large complement of F-22s and T-38A/Bs, most operations at JBLE – Langley are performed by the 1 FW and 192 FW.

Air traffic control for JBLE – Langley is provided by the DAF. Controlled Class D airspace, extending upward from the surface up to and including 2,500 feet above ground level within a 4-nautical-mile radius of JBLE – Langley, has been established around the airfield to support managing air traffic.

A variety of factors influence the annual level of operational activity at JBLE – Langley, including economics, national emergencies, and maintenance requirements. Operations consist of arrivals and departures (itinerant) by primarily military aircraft, with a smaller amount of traffic from NASA turboprop aircraft flights. Military aircraft use makes up 92 percent of the airfield use at JBLE – Langley, with the remaining amount used by NASA and transient aircraft flights (**Table 3-1**).

Table 3-1. Annual Operations at Joint Base Langley-Eustis, Langley Air Force Base

Use	Annual Operations	Percentage of Use
1st Fighter Wing	38,677	92
National Aeronautics and Space Administration	1,134	3
Transient	2,200	5
Total	**42,011**	**100**

Source: DAF 2019

3.1.2 Environmental Consequences

Any impact on airspace management would be considered significant if implementation of the alternatives were to substantially increase risks associated with flying activities, safety of personnel, contractors, military personnel, or the local community; hinder the ability to respond to an emergency; or introduce new health or safety risk for which DAF or the surrounding community is not prepared or does not have adequate management and response plans in place.

3.1.2.1 Preferred Alternative

Smoke from prescribed fires could have minor, short-term adverse impacts on certain flight operations at JBLE – Langley that require a smoke-free environment. Smoke could also reduce readiness by disrupting flight lines. Conversely, missions involving flights may result in airspace

restrictions that would impact the use of prescribed fire or aerial firefighting resources. Close coordination between wildland fire crews and mission planners would ensure airspace safety and minimize potential airspace use conflicts.

3.1.2.2 Alternative 2

Impacts on airspace management and use would be similar to, but less than, those described for the Preferred Alternative because Alternative 2 would implement the proposed prescribed fire and mechanical (nonfire) fuels treatment included in the approved WFMP but only at the airfield on JBLE – Langley.

3.1.2.3 Alternative 3

Impacts on airspace management and use would be similar to, but less than, those described for the Preferred Alternative because Alternative 3 would implement the proposed prescribed fire and mechanical (nonfire) fuels treatment included in the approved WFMP but only at the golf course and within pine-oak hummocks on JBLE – Langley.

3.1.2.4 Cumulative Effects

When combined with proposed projects on JBLE – Langley, the Proposed Action would have no reasonably foreseeable impacts on airspace management or use and would not result in any significant effects when combined with ongoing and future aircraft training activities and other reasonably foreseeable future actions.

3.1.2.5 No Action Alternative

Airspace use during wildfire fighting operations would have the potential to adversely impact the ability of JBLE – Langley to achieve its primary mission. Under the No Action Alternative, unexpected wildfires and/or fire suppression operations could interfere with missions. Missions could be canceled or postponed as a preventative measure during periods of high fire danger. Certain flight operations that require a smoke-free environment would be impacted by smoke from wildfires. Smoke could also reduce readiness by disrupting flight lines. In a worst-case scenario, smoke from wildfires could potentially contribute to aircraft accidents that lead to injury or death. Close coordination between wildland fire crews and mission planners would ensure airspace safety and minimize potential airspace use conflicts.

3.2 AIR QUALITY AND CLIMATE CHANGE

Air quality in various areas of the country is affected by pollutants emitted by numerous sources, including natural and human-made sources. To manage pollutant emission levels in ambient air, the USEPA was mandated under the CAA to set air quality standards for select pollutants that are known to affect human health and the environment.

The USEPA has divided the country into geographical regions known as Air Quality Control Regions (AQCRs) to evaluate compliance with the National Ambient Air Quality Standard (NAAQS) (40 CFR 50). NAAQS are currently established for six criteria air pollutants: ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), respirable particulate matter (including particulates equal to or less than 10 microns in diameter (PM_{10}) and particulates equal to or less than 2.5 microns in diameter ($PM_{2.5}$), and lead. The VDEQ has adopted the NAAQS, thereby requiring the use of the standards within the Commonwealth of Virginia (9 VAC 5, Chapter 30). Each AQCR has regulatory areas that are designated as an attainment area or nonattainment area for each of the criteria pollutants depending on whether it meets or exceeds the NAAQS.

Attainment areas that were reclassified from a previous nonattainment status to attainment are called maintenance areas and are required to prepare a maintenance plan for air quality.

JBLE – Langley is located in the independent city of Hampton, which is located in the Hampton Roads Intrastate AQCR in Virginia (40 CFR § 81.93). The city of Hampton is part of the Norfolk-Virginia Beach-Newport News (Hampton Roads) region.

JBLE – Langley falls within an Orphan Maintenance Area for the 1997 ozone NAAQS; therefore, based on DAF policy, General Conformity (40 CFR 93 Subpart B) does apply for "orphaned" maintenance areas. Maintenance areas must demonstrate an action conforms with the state's plan to reach attainment with the NAAQS. However, in accordance with 40 CFR 93.153(i)(2), prescribed fires conducted in accordance with a Smoke Management Program that meets the requirements of USEPA's *Interim Air Quality Policy on Wildland and Prescribed Fires* or an equivalent replacement USEPA policy are presumed to conform with the requirement for General Conformity.

Overall, VDEQ monitoring data show that criteria pollutant emission concentrations of CO, SO_2, nitrogen oxides (NO_x), and O_3 have been decreasing over the past several years. The approved WFMP meets the requirements of the USEPA's May 1998 *Interim Air Quality Policy on Wildland and Prescribed Fires* and August 2019 *Prescribed Fire on Wildland that May Influence Ozone and Particulate Matter Concentrations*.

Additionally, based on the past three-year (2018 to 2020) O_3 monitoring network data, there have been no exceedances of the 2015 O_3 standard of 0.070 parts per million in any of the areas of the state (VDEQ 2020). The reductions are believed to be the result of emission control measures that have been implemented over the past two decades. These measures targeted motor vehicle engines, gas stations, the consumer products industry, and power plants.

Federal actions in NAAQS nonattainment and maintenance areas are also required to comply with the USEPA's General Conformity Rule (40 CFR 93). These regulations are designed to ensure that federal actions do not impede local efforts to achieve or maintain attainment with the NAAQS. Federal actions are evaluated to determine if the total indirect and direct net emissions from the project are below *de minimis* levels for each of the pollutants as specified in 40 CFR 93.153. If *de minimis* levels are not exceeded for any of the pollutants, no further evaluation is required. However, if net emissions from the project exceed the *de minimis* thresholds for one or more of the specified pollutants, a conformity determination, as prescribed in the General Conformity Rule, is required.

The USEPA's Prevention of Significant Deterioration (PSD) regulations apply in attainment areas and apply only to a major stationary source (i.e., a source with the potential to emit 250 tons per year [tpy] of any regulated pollutants), and a significant modification to a major stationary source, as defined. Additional PSD major source and significant modification thresholds apply for greenhouse gases (GHGs). PSD permitting can also apply to a proposed project if the following conditions exist: (1) the proposed project is a modification with a net emissions increase to an existing PSD major source, (2) the proposed project is within 10 kilometers of national parks or wilderness areas (i.e., Class I areas), and (3) regulated stationary source pollutant emissions would cause an increase in the 24-hour average concentration of any regulated pollutant in the Class I area of 1 milligram per cubic meter or more (40 CFR 52.21[b][23][iii]). A Class I area includes national parks larger than 6,000 acres, national wilderness areas and national memorial parks larger than 5,000 acres, and international parks.

3.2.1 Existing Emissions and Permitting Overview

The regional climate of southeast Virginia, where the Preferred Alternative is proposed to take place, is classified as a humid subtropical climate characterized by mild winters and hot, humid summers. The warmest month in the region is July, with average high and low temperatures of 89 degrees Fahrenheit (°F) and 73°F, respectively. January is the coldest month, with an average high temperature of 50°F and average low temperature of 34°F. The wettest month by average precipitation is July, with an average of 5.1 inches of rain. The driest month is February with an average of 3.1 inches of precipitation (US Climate Data 2022). Summers are characterized by frequent thunderstorms, and winters are impacted by midlatitude cyclones. Tropical cyclones affect the region about once per year during the summer and fall months.

JBLE – Langley is not classified as a major source for PSD or located within 10 kilometers (6.21 miles) of any of the designated Class I areas protected by the Regional Haze Rule. Thus, the project requires no analysis with respect to the PSD requirements under 40 CFR 51.166. As the area is not in nonattainment for any criteria pollutant, the project requires no analysis with respect to the nonattainment New Source Review requirements under 40 CFR 51.165.

JBLE – Langley operates under VDEQ-issued Stationary Source Operating Permits which limit emissions for each criteria pollutant from stationary sources to less than 100 tpy. The facilitywide air emission permit limits for each facility are shown in **Table 3-2**. Stationary sources at each of the Installations that emit criteria pollutants and hazardous air pollutants include generators, boilers, paint spray booths, fuel storage and handling, and degreasing activities. Mobile sources, such as vehicle and aircraft emissions, are generally not regulated under permitting requirements and are not covered under existing Stationary Source Operating Permits. Emissions for 2019 for stationary and mobile sources of emissions at JBLE – Langley are shown in **Table 3-2**.

Table 3-2. JBLE – Langley 2019 Emissions Source Summary

Source	CO	NO_X	PM_{10}	$PM_{2.5}$	SO_2	VOC
Stationary JBLE – Langley[1] (tpy)	17.90	26.73	4.72	3.54	1.08	28.03
Mobile JBLE – Langley[1] (tpy)	298.77	110.51	14.85	11.48	9.12	12.68
Langley Facilitywide Emission Limits[2] (tpy)	69.40	98.00	16.00	16.00	23.40	32.90

CO – carbon monoxide; **NO_x** – nitrogen oxides; **PM_{10}** – particulates equal to or less than 10 microns in diameter; **$PM_{2.5}$** – particulates equal to or less than 2.5 microns in diameter; **SO_2** – sulfur dioxide; **VOC** – volatile organic compound; **JBLE** – Joint Base Langley-Eustis; **tpy** – tons per year

1 JBLE – Langley 2020 Air Emissions Inventory

2 Source: JBLE – Langley State Operating Permit (2013)

3.2.2 Climate Change

GHGs are gases that trap heat in the atmosphere. These emissions are generated by both natural processes and human activities. The accumulation of GHGs in the atmosphere helps regulate the Earth's temperature and is believed to contribute to global climate change. GHGs include water vapor, carbon dioxide (CO_2), methane, NO_x, O_3, and several hydrocarbons and chlorofluorocarbons.

In Virginia, the USEPA regulates GHG primarily through a permitting program known as the GHG Tailoring Rule. In addition to the GHG Tailoring Rule, in 2009 the USEPA promulgated a rule requiring sources to report their GHG emissions if they emit more than 25,000 metric tons or more of carbon dioxide equivalent (CO_2e) per year (40 CFR 98.2[a][2]). Both regulations apply only to stationary sources of emissions.

The actual CO_2e emissions from stationary sources at JBLE Langley is estimated to be 16,196 metric tpy (JBLE – Langley 2020). All GHG emissions at JBLE – Langley fall under the Stationary Source Operating Permit levels, and the Base continues to be exempt from mandatory USEPA GHG reporting.

3.2.3 Environmental Consequences

Although the region is in attainment for the current O_3 standard, because of historical nonattainment and maintenance designations for O_3, the primary pollutants of concern are NO_x and volatile organic compounds (VOCs). In nonattainment and maintenance areas, emissions at or above 100 tpy are considered significant, particularly as this threshold triggers full conformity analysis. Proposed project emissions below 100 tpy are considered moderate or, if very low, minor.

Based on guidance in Chapter 4 of the Air Force *Air Quality Environmental Impact Analysis Process (EIAP) Guide*, Volume II, *Advanced Assessments,* proposed project emissions are also compared against the insignificance indicator of 250 tpy for PSD major source permitting threshold for actions occurring in areas that are in attainment for all criteria pollutants (25 tpy for lead). Thus, for the remaining criteria pollutants (CO, sulfur oxides, lead, $PM_{2.5}$, and PM_{10}), the annual emission increases would not be considered significant if they are below the relevant insignificant indicator values.

3.2.3.1 Preferred Alternative

Implementation of the Preferred Alternative would generate air emissions that would impact air quality in an adverse way, but these emissions are expected to be short term and minor.

Under the Proposed Action, the primary source of air emissions would be from the prescribed fire treatments. Mechanical fuel treatments, such as mowing and cutting, are relatively nominal sources of air pollutants, and are not further considered here.

Prescribed fires generate smoke, which emit hazardous particulate matter and gaseous compounds. Particulate matter, mainly $PM_{2.5}$, is the most substantial of the regulated criteria pollutants that would be emitted from prescribed fires. PM_{10}, CO, and O_3 may also be important under certain circumstances. These pollutants, in high levels, can adversely impact human health and can lead to reduced visibility in the vicinity of the fire. The planned prescribed burning for the Proposed Action would increase particulate matter in the air and has the potential to reduce visibility (or haze). Emissions from CO and hydrocarbons would also impact air quality adversely; however, they would not exceed air quality standards.

Table 3-3 presents emissions from prescribed fire treatment and related activities. The affected area includes the Installation and its vicinities where prescribed fires would occur. The methodologies, emission factors, emission calculations and related assumptions for prescribed fires activities are outlined in **Appendix C.** The Air Conformity Applicability Model (ACAM) documentation of estimated emissions in the form of a Record of Conformity Applicability is provided in **Appendix C.**

As seen in **Table 3-3**, estimated VOC and NO_x emissions from prescribed fires and related activities are well below the 100 tpy *de minimis* threshold for General Conformity. Emissions from all other remaining criteria pollutants are well below their relevant insignificance indicator emission levels. Emissions presented in **Table 3-2** have been estimated assuming all proposed burn events would occur simultaneously in one calendar year. However, the proposed burn schedule in **Table 2-2** indicates no more than half of the proposed burn events are to be implemented in any given

year. Thus, annual pollutant emissions from Proposed Action are anticipated to be well below the estimated emissions shown in **Table 3-3,** if implemented per the proposed burn schedule. Additionally, the prescribed burns will be performed in accordance with the WFMP; therefore, these actions are considered "presumed to conform" under General Conformity [4 CFR 93.153(h)(1)]. Activities that are "presumed to conform" have been determined to have an insignificant impact to air quality because they would not: cause or contribute to any new violation of any NAAQS in any area; interfere with provisions in the applicable State Implementation Plan for maintenance of any NAAQS; increase the frequency or severity of any existing violation of any NAAQS in any area; or delay timely attainment of any NAAQS.

Impacts on air quality would be minor as criteria pollutant emissions from prescribed fires would be intermittent and short term, not lasting more than a few days. Further, it is anticipated that all relevant federal and state regulations, including any requirements to obtain a permit, would be followed in order to limit impacts on air quality. Unmanaged smoke can potentially become a cause for concern. For this reason, it is anticipated that the Proposed Action would follow recommendations of the latest edition of the NWCG *Smoke Management Guide for Prescribed and Wildland Fire* (NWCG 2020). Basic smoke management practices include conducting prescribed fires during favorable meteorological conditions and not scheduling burn events during O_3 alerts or other health advisories. For example, burning timed to coincide with weather conditions that would allow for smoke dispersion and transport would mitigate air quality effects. These conditions would minimize concentrations of haze-forming particles, which are generated from smoke.

Table 3-3. Total Annual Increases in Criteria Pollutant Emissions Summary

Source	CO	NO_X	PM_{10}	$PM_{2.5}$	SO_2	VOC
Burning of Vegetation[1],[2] (tpy)	130.697	4.176	13.846	2.757	N/A	1.796
Vehicular Operations[3] (tpy)	0.012	0.012	0.000	0.000	0.000	0.003
Total Emissions (tpy)	*130.71*	*4.19*	*13.85*	*2.76*	*0.00*	*1.80*
De Minimis Threshold[4] (tpy)	–	100	–	–	–	100
Exceeded *de Minimis*	–	No	–	–	–	No

CO – carbon monoxide; **NO_x** – nitrogen oxides; **PM_{10}** – particulates equal to or less than 10 microns in diameter; **$PM_{2.5}$** – particulates equal to or less than 2.5 microns in diameter; **SO_2** – sulfur dioxide; **VOC** – volatile organic compound; **tpy** – tons per year; **N/A** – not applicable; **N** – ??

1 Calculated emissions estimates. ACAM does not have prescribed burning activity.

2 Includes emissions only from wetland and forested areas. WFMP implementation for all burn units is assumed to occur in one year.

3 ACAM estimates. Includes emissions from the operation of off-road equipment for prescribed fires.

4 *De minimis* thresholds are for O_3 precursors (NO_x and VOC) only. The Installation is in a maintenance area for O_3 and in an attainment area for all other criteria pollutants.

Thus, air pollution concentrations from the Proposed Action are less likely to exceed standards as prescribed fire is a temporary air pollution activity, and the Installation would likely schedule them during optimum meteorological conditions.

Emissions of CO_2 from prescribed fire source are considered biogenic sources that are part of the carbon cycle, and as such, no emission factors to estimate emissions were available. However, GHG emissions from vehicular operations associated with prescribed fires were estimated to be 5.3 tons of CO_2e. CO_2e is the number of metric tons of CO_2 emissions with the same global warming potential as one metric ton of another GHG. These estimated CO_2e emissions are minor and are not likely to add to the regional GHG levels in any meaningful way.

No new stationary source of air emissions is expected to be constructed or stationed permanently at JBLE – Langley for the proposed implementation of the WFMP. Thus, project emissions were

not evaluated for new source construction permitting and Title V permitting impacts. Requirements in the permit would remain unchanged.

3.2.3.2 Alternative 2

Impacts on air quality and climate change would be similar to, but less than those described for the Preferred Alternative because Alternative 2 would implement the proposed prescribed fire and mechanical (nonfire) fuels treatment included in the approved WFMP but only at the airfield on JBLE – Langley.

3.2.3.3 Alternative 3

Impacts on air quality and climate change would be similar to, but less than, those described for the Preferred Alternative because Alternative 3 would implement the proposed prescribed fire and mechanical (nonfire) fuels treatment included in the approved WFMP but only at the golf course and within pine-oak hummocks on JBLE – Langley.

3.2.3.4 Cumulative Effects

The Proposed Action, in addition to past, present, and reasonably foreseeable future actions at JBLE – Langley, would result in less than significant cumulative impacts on air quality.

Most of the reasonably foreseeable projects proposed at JBLE – Langley are either construction projects or are port expansion, rehabilitation, or maintenance dredging projects. With any addition of ongoing construction projects in the area, criteria pollutant emissions, especially PM_{10} emissions could increase; however, these increases would be short in duration (lasting a few days) and localized, and the incremental impact on air quality in the longer term would be negligible. Further, prescribed fire is a temporary air pollution source and can be scheduled during periods of optimum meteorological and good air quality conditions. In this way, the Proposed Action activities when combined with the impacts of other projects on or proximate to the Base would not significantly impact air quality.

The implementation of the Preferred Alternative would also result in CO, VOC, and NO_x emissions from prescribed burn and from vehicular operations; however, these emissions are minor, and the duration would be short and intermittent; therefore, cumulative impacts on air quality in combination with other projects would not be significant. GHG emissions are anticipated to be generated because of vehicular operations, but they are minor, temporary, and intermittent and are not likely to add to the regional GHG levels in any meaningful way.

Overall, no cumulative change to air quality is expected when adding the Proposed Action to reasonably foreseeable future actions; therefore, these combined effects on air quality are expected to be less than significant.

3.2.3.5 No Action Alternative

The No Action Alternative would not have an impact on air quality. With this alternative, there would be no concerns regarding the adverse air quality effects that would have occurred from the prescribed fires and from vehicular operations. However, there could be a buildup of fuel at JBLE – Langley, and if prescribed burns are not conducted, the chances of a wildfire event occurring would increase, with a possibility of a more adverse impact on air quality, overall.

3.3 AESTHETICS AND VISUAL RESOURCES

Visual resources consist of natural and human-made features that give a particular environment its aesthetic qualities. Landscape character is evaluated to assess whether the Proposed Action

would be compatible with the existing features or would contrast noticeably with the setting and appear out of place. Visual sensitivity includes public values, goals, awareness, and concern regarding visual quality.

3.3.1 Existing Conditions

Spatial and visual relationships on JBLE – Langley are the result of development activities that have occurred since World War II. There are visually disorganized elements in the cantonment areas, including substations, exterior mechanical systems (heating, ventilating, and fuel storage), dumpsters, storage areas, and maintenance yards, which are often unscreened and lack visual appeal. Facilities and parking areas often disrupt the scenic natural environment.

Aircraft training operations from the airfield at JBLE – Langley present views of aircraft on and off the Installation. Rivers and creeks on JBLE – Langley offer views of watercraft varying in size from kayaks to large military and commercial vessels. Along the waters' edges are marshes and associated wildlife viewing opportunities. Training areas on JBLE – Langley have generally retained the typical oak-hickory-pine forest vegetation native to the Southern Coastal Plain.

3.3.2 Environmental Consequences

Potential impacts on aesthetic and visual resources are considered significant if the Proposed Action would (1) have a substantial adverse effect on a scenic vista or viewshed; (2) substantially damage scenic resources, including primary/secondary ridgelines, trees, rock outcroppings, or historic buildings; (3) substantially degrade the existing visual character or quality of the site and its surroundings; or (4) create a new source of substantial light or glare that would adversely affect day or nighttime views in the area. Impacts on aesthetics would be deemed significant if disturbances could permanently and negatively alter the overall character of the viewshed.

3.3.2.1 Preferred Alternative

Smoke from prescribed fires could have minor, short-term, adverse impacts on the visual character of JBLE – Langley and surrounding areas, as smoke could reduce visibility (JBLE – Langley 2021a). Once smoke clears, the visual character of the area would return to post-fire conditions. Under the Preferred Alternative, prescribed fire would be used to manage hazardous fuel loads within existing wetland areas, native vegetation would be planted, and flammable vegetation and debris would be removed within 30 feet of WUI areas; these actions would support visual aesthetics and result in beneficial impacts.

3.3.2.2 Alternative 2

Impacts on aesthetics and visual resources would be similar to, but less than those described for the Preferred Alternative because Alternative 2 would implement the proposed prescribed fire and mechanical (nonfire) fuels treatment included in the approved WFMP but only at the airfield on JBLE – Langley.

3.3.2.3 Alternative 3

Impacts on aesthetics and visual resources would be similar to, but less than those described for the Preferred Alternative. However, the perceived impact on aesthetics and visual resources may be greater than those described for the Preferred Alternative, as golfers would be directly affected during times of prescribed fire use on the golf course.

3.3.2.4 Cumulative Effects

When combined with proposed projects on JBLE – Langley, the Proposed Action's minor, short-term, adverse impacts on aesthetics and visual resources would not result in any significant cumulative effects on these resources. The currently proposed tree removal and replanting projects along with the common reed control associated with the Proposed Action could together result in future significant beneficial cumulative impacts on JBLE – Langley when combined with other natural resources management projects planned by the Installation.

3.3.2.5 No Action Alternative

Wildland fires and smoke from wildland fires could have adverse impacts on the visual character of JBLE – Langley. Surrounding areas and private property could also be impacted should the fire spread off the Installation. Under the No Action Alternative, unmanaged wildfires could result in substantial adverse effects on the viewshed, damage scenic resources on JBLE – Langley, and degrade the overall existing visual character or quality.

3.4 EARTH RESOURCES

Earth resources are defined as the physiography, topography, geology, and soils of a given area. Physiography and topography pertain to the general shape and arrangement of a land surface, including its height and the position of its natural and human-made features. Geology is the study of the Earth's composition and provides information on the structure and configuration of surface and subsurface features.

3.4.1 Existing Conditions

The upper surface geology at JBLE – Langley consists of "recent deposits," which contain alluvium (silt, sand, and clay), marsh sediment (peat, silt, sand, and clay with organic matter), and sand (beach and dune sand occurring as a tidal mud flat). They are Coastal Plain deposits that extend from the surface to a depth of 774 feet (JBLE – Langley 2021b).

Soils within JBLE – Langley are mostly unconsolidated fluvial, marine, and estuarine deposits underlain by beach sands, sandy clays, and gravels from the Tabb and Lynnhaven formations. Land-moving and filling activities at JBLE – Langley have altered soil profiles to the extent that site soil profiles do not concur with local soil surveys from adjacent counties (JBLE 2016). Soil types at JBLE-Langley are classified as "not prime farmland." The list below identifies soils of the JBLE – Langley area (JBLE – Langley 2014; US Department of Agriculture 2019):

- Udorthents-Dumps complex
- Chickahominy-Urban land complex, 0 to 2 percent slopes
- Axis very fine sandy loam, 0 to 2 percent slopes
- Altavista-Urban land complex, 0 to 3 percent slopes
- Lawnes loam, 0 to 1 percent slopes, very frequently flooded
- Bohicket muck, 0 to 1 percent slopes
- Johnston silt loam, 0 to 2 percent slopes
- Urban land

3.4.2 Environmental Consequences

Protection of unique geological features, minimization of soil erosion, and the siting of facilities in relation to potential geologic hazards are typically considered when evaluating potential impacts of a proposed action on geological resources. An alternative could have an adverse impact if any

the following were to occur as a result of implementing the alternative: (1) a decrease in soil productivity or fertility; (2) changes to the soil composition, structure, or function within the environment; (3) impacts on soils classified as prime and unique farmland; or (4) an increased potential for soil erosion.

3.4.2.1 Preferred Alternative

Implementation of the Preferred Alternative could affect soil erosion, soil chemistry, and related processes. Short-term, minor, adverse impacts on soils could occur from prescribed fires, chemical fuel treatments, mechanical fuel treatments, and wildfire suppression. Impacts on soils from these activities could include increased soil erosion, increased soil temperature, changes in soil chemistry (loss of nitrogen), consumption of organic matter, and soil contamination from fire retardants and the use of pesticides. Soil erosion would be controlled using emergency stabilization treatments when necessary (JBLE – Langley 2021c). Additionally, low-intensity, cooler-burning fires, like prescribed burns, would destroy plant litter and some aboveground plant parts, but not heat the soil substantially, allowing root systems to remain intact and hold the soil in place (Neary et al. 2005). Increases in soil temperature would be minor and short lived. The duration and intensity of heat generated during prescribed fires are not anticipated to consume more than the surface litter layer, thereby minimizing the loss of soil organic matter. Prescribed fire can increase the availability of many important soil nutrients, such as calcium, phosphorus, and nitrogen, and can increase soil pH (Kreye et al. 2020). The increase in nutrients stimulates new plant growth, resulting in rapid improvement of soil retention (Kreye et al. 2020).

Use of fire retardants for wildfire suppression has the potential to impact soils. However, this impact would be minor due to the infrequency of use and not different than existing conditions because, given the developed nature of JBLE – Langley, any wildfire on the Installation would be suppressed even if the WFMP was not implemented. Effects on soils from the application of fire retardant resemble a fertilizing response. For nutrient-poor soils (sandy, with low organic matter content), the addition of nitrogen and phosphorus from retardants could improve soil productivity in the short term. For already productive soils (clay, with high organic matter content), the additional nutrients could have an acidifying effect and reduce soil pH, making some nutrients unavailable (US Forest Service 2011).

In the long term, impacts on soils from implementation of the Preferred Alternative would be beneficial. The actions described in the WFMP would ultimately decrease the size, frequency, and severity of wildfires, which would reduce soil erosion, runoff, and sedimentation from wildfires. Beneficial long-term impacts on soils would also result from the reestablishment of a natural, fire-driven nutrient cycle and increased stability of the soil strata, given increased native herbaceous ground cover and the reduced threat of severe wildland fire.

3.4.2.2 Alternative 2

Impacts on earth resources would be similar to, but less than those described for the Preferred Alternative because Alternative 2 would implement the proposed prescribed fire and mechanical (nonfire) fuels treatment included in the approved WFMP but only at the airfield on JBLE – Langley.

3.4.2.3 Alternative 3

Impacts on earth resources would be similar to, but less than, those described for the Preferred Alternative because Alternative 3 would implement the proposed prescribed fire and mechanical (nonfire) fuels treatment included in the approved WFMP but only at the golf course and within pine-oak hummocks on JBLE – Langley.

3.4.2.4 Cumulative Effects

The Preferred Alternative would not result in significant long-term cumulative impacts on earth resources. Potential environmental impacts on earth resources from the Preferred Alternative are negligible to minor on their own and when added to impacts on earth resources from the other reasonably foreseeable future actions identified in **Appendix B.**

3.4.2.5 No Action Alternative

Under the No Action Alternative, implementation of the JBLE – Langley WFMP would not occur. There would be no change in existing fire management; therefore, no new impacts on earth resources would take place.

3.5 FLOODPLAINS

3.5.1 Existing Conditions

Floodplains are areas of low, level ground present along rivers, stream channels, or coastal waters that are subject to periodic or infrequent inundation due to rain or melting snow. Floodplain ecosystem functions include natural moderation of floods, flood storage and conveyance, groundwater recharge, nutrient cycling, water quality maintenance, and provision of habitat for a diversity of plants and animals. Flood potential is evaluated by the Federal Emergency Management Agency, which defines the 100-year floodplain as an area within which there is a 1 percent chance of inundation by a flood event in a given year, or a flood event in the area once every 100 years. The risk of flooding is influenced by local topography, the frequency of precipitation events, the size of the watershed above the floodplain, and upstream development.

Federal, state, and local regulations often limit floodplain development to passive uses, such as recreation and conservation activities, to reduce the risks to human health and safety. EO 11988, *Floodplain Management,* provides guidelines that agencies should carry out as part of their decision making on projects that have potential impacts on or within the floodplain. This EO requires federal agencies to avoid, to the extent possible, the long- and short-term, adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. EO 13690, *Establishing a Flood Risk Management Standard and Process for Further Soliciting and Considering Stakeholder Input,* signed in January 2015, established a Federal Flood Risk Management Standard and a process for further soliciting and considering stakeholder input.

Most of JBLE – Langley lies within the 100-year floodplain (**Figure 3-1**). JBLE – Langley occasionally has severe flooding with some strong nor'easters and hurricanes. Flood-prone areas on JBLE – Langley include any land below 9 feet mean sea level along the Base's perimeter and adjacent to water bodies (JBLE 2016).

3.5.2 Environmental Consequences

Evaluation criteria for potential impacts on floodplains are based on water availability, quality, and use; existence of floodplains; and associated regulations. Adverse impacts on floodplains would occur if the proposed or alternative actions (1) endanger public health by creating or worsening flood conditions, (2) violate established laws or regulations adopted to protect floodplains, or (3) are proposed in areas with high probabilities of flooding.

3.5.2.1 Preferred Alternative

There would be no impacts on floodplains from implementation of the Preferred Alternative. In terms of flood risk impacts, given the relatively small areas of prescribed burning and fuel treatment, the increased flood risk from removed vegetation would be short term and minimal. However, in the long term, the fuel treatment actions described in the WFMP would decrease the size, frequency, and severity of wildfires, which would ultimately reduce flooding impacts from wildfires Basewide. Extreme runoff rates can occur after large and/or severe wildfires from charred land that is unable to absorb precipitation. These runoff rates can cause devasting floods when storms hit recently burned land. Decreasing the size, frequency, and severity of wildfire would result in less extreme runoff rates and ultimately less extreme flooding.

3.5.2.2 Alternative 2

Impacts on floodplains and flood risks would be similar to, but less than those described for the Preferred Alternative because Alternative 2 would implement the proposed prescribed fire and mechanical (nonfire) fuels treatment included in the approved WFMP but only at the airfield on JBLE – Langley.

3.5.2.3 Alternative 3

Impacts on floodplains and flood risks would be similar to, but less than those described for the Preferred Alternative because Alternative 3 would implement the proposed prescribed fire and mechanical (nonfire) fuels treatment included in the approved WFMP but only at the golf course and within pine-oak hummocks on JBLE – Langley.

3.5.2.4 Cumulative Effects

The Preferred Alternative, in *addition* to reasonably foreseeable future actions identified in **Appendix B**, is not anticipated to result in cumulative impacts on floodplains. All proposed and cumulative actions must be consistent with federal, state, and local regulations that limit floodplain development.

3.5.2.5 No Action Alternative

Under the No Action Alternative, implementation of the JBLE – Langley WFMP would not occur. There would be no change in existing fire management, and therefore, no new impacts on floodplains. However, if the WFMP is not implemented, the risk of flooding following a large or severe wildfire would increase.

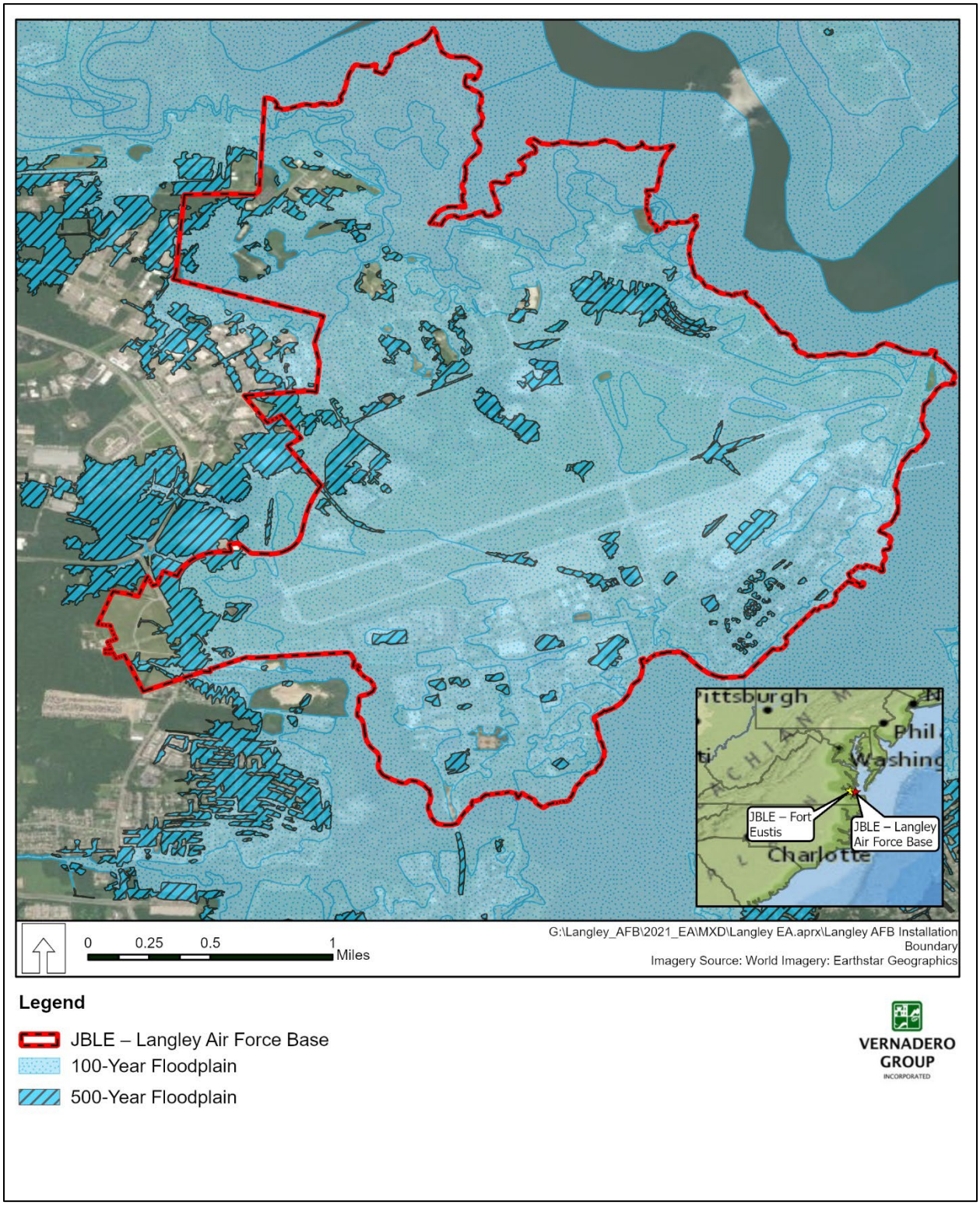

Figure 3-1. Floodplains at Joint Base Langley Eustis – Langley

3.6 COASTAL ZONE MANAGEMENT

3.6.1 Existing Conditions

The coastal zone refers to coastal waters and the adjacent shorelines, including islands, transition and intertidal areas, salt marshes, wetlands, and beaches, extending to the outer limit of state title and ownership under the Submerged Lands Act (i.e., 3 nautical miles). NOAA oversees the Coastal Zone Management Program for the federal government. Coastal areas in the US receive special land use protections through the federal Coastal Zone Management Program. Authorized by the CZMA of 1972 (16 USC § 1451, et seq., as amended), this federal program addresses the coastal issues of the US through a voluntary partnership among the federal government and the coastal and Great Lakes states and territories. The program's purpose is to protect, restore, and responsibly develop the nation's diverse coastal communities and resources. Section 307 of the CZMA provides states with the authority to offer input in federal agency decision making for activities potentially affecting coastal uses or resources. This federal consistency provision provides authority to the states that would not otherwise be authorized through other federal programs. Section 307 of the CZMA requires that federal actions that have reasonably foreseeable effects on any coastal use or natural resources of the coastal zone be consistent with the enforceable policies of a state's approved coastal management program. Federal agency activities must be consistent with the state's coastal management program to the maximum extent practicable. A CZMA Consistency Determination is provided in **Appendix D.**

All of JBLE – Langley is within Virginia's coastal zone, as defined by the Virginia Coastal Zone Management Program (CZMP). Virginia's CZMP is federally approved, and activities on the Base with the potential to affect coastal resources must comply with the maximum extent practicable with the enforceable policies of the CZMP. JBLE – Langley is required by the federal CZMA to follow the Chesapeake Bay Preservation Act (Virginia Code §10.1-2100) to the maximum extent practicable. Both sites established 100-foot upland buffers at tidal creeks, streams, and wetlands, in conjunction with the 100-foot buffers established by the city of Hampton. The objective is to maintain these with native vegetation to the greatest extent practical (JBLE – Langley 2019).

3.6.2 Environmental Consequences

Impacts would be considered significant if alternative actions are inconsistent with the state's CZMP.

3.6.2.1 Preferred Alternative

As stated above, federal agency activities must be consistent with the state's CZMP to the maximum extent practicable. The Preferred Alternative is consistent to the maximum extent practicable with the enforceable policies of the Virginia Coastal Resources Management Program. The CZMA Consistency Determination provided in **Appendix D** discusses the potential impacts on the coastal zone from the Preferred Alternative.

3.6.2.2 Alternative 2

Alternative 2 is consistent to the maximum extent practicable with the enforceable policies of the Virginia Coastal Resources Management Program.

3.6.2.3 Alternative 3

Alternative 3 is consistent to the maximum extent practicable with the enforceable policies of the Virginia Coastal Resources Management Program.

3.6.2.4 Cumulative Effects

The Preferred Alternative, in addition to reasonably foreseeable future actions identified in **Appendix B,** are not anticipated to result in cumulative impacts on floodplains.

3.6.2.5 No Action Alternative

Under the No Action Alternative, implementation of the JBLE – Langley WFMP would not occur. There would be no change in existing fire management, therefore, no new impacts on floodplains. However, if the WFMP is not implemented, the risk of flooding following a large or severe wildfire would increase.

3.6.2.6 Reasonably Foreseeable Future Actions

The Preferred Alternative, in addition to reasonably foreseeable future actions identified in **Appendix B**, is not anticipated to result in incremental impacts on the coastal zone. All proposed and reasonably foreseeable future actions must be consistent with the state's CZMP to the maximum extent practicable.

3.6.2.7 No Action Alternative

Under the No Action Alternative, implementation of the JBLE – Langley WFMP would not occur. There would be no change in existing fire management; therefore, no new impacts on the coastal zone would be expected. However, if the WFMP is not implemented, the risk of major erosion impacts following a large or severe wildfire would increase.

3.7 WATER RESOURCES

Water resources are natural and human-made sources of water that are available for use by, and for the benefit of, humans and the environment. Water resources include groundwater, surface water, floodplains, wetlands, the coastal zone, and stormwater. Evaluation of water resources examines the quantity and quality of the resource and its demand for various purposes and ensures compliance with the CWA.

3.7.1 Surface Water

Surface water includes natural, modified, and human-made water confinement and conveyance features above groundwater that may or may not have a defined channel and discernable water flow. These features are generally classified as streams, springs, wetlands, natural and artificial impoundments (e.g., ponds, lakes), and constructed drainage canals and ditches.

The CWA regulates discharges of pollutants into surface waters of the US. Jurisdictional waters, including surface water resources as defined in 33 CFR § 328.3, are regulated under § 401 and § 404 of the CWA and § 10 of the Rivers and Harbors Act. Human-made features not directly associated with a natural drainage, such as upland stock ponds and irrigation canals, are generally not considered jurisdictional waters. The CWA establishes federal limits through the National Pollutant Discharge Elimination System (NPDES) permit process for regulating point (end of pipe) and nonpoint (e.g., stormwater) discharges of pollutants into the waters of the US and quality standards for surface waters. The term "waters of the US" has a broad meaning under the CWA and incorporates deep-water aquatic habitats and special aquatic habitats (including wetlands). Wetlands are discussed in **Section 3.7.3**, and stormwater is discussed in **Section 3.7.4**.

JBLE – Langley is on the lower Virginia Peninsula, between the Northwest Branch and Southwest Branch of the Back River, a tributary of the Chesapeake Bay. The land occupied by the Base lies

entirely within the Lynnhaven-Poquoson watershed. The surface water surrounding JBLE – Langley is brackish to saline and occurs in an estuarine setting. The Back River, Brick Kiln Creek, New Market Creek, and Tabbs Creek provide drainage for the area. Brick Kiln Creek and the Northwest Branch of Back River are listed on the 2014 Impaired Waters list. These streams are considered impaired for recreation and shellfish consumption due to bacterial contamination (JBLE – Langley 2019). Section I.D of the JBLE – Langley Municipal Separate Storm Sewer System (MS4) permit (Permit No. VAR040140, effective 1 November 2018) requires the Base to prepare a Chesapeake Bay Total Maximum Daily Load (TMDL) Action Plan that demonstrates future plans that meet the required nutrient and suspended solids reductions (JBLE – Langley 2021b). No drinking water intake systems exist on JBLE – Langley. JBLE – Langley surface water features are depicted in **Figure 3-2.**

3.7.2 Groundwater

Groundwater is water that exists in the saturated zone beneath the Earth's surface that collects and flows through aquifers. Groundwater is an essential resource that functions to recharge surface water and is used for drinking, irrigation, and industrial purposes. Groundwater typically can be described in terms of depth from the surface, aquifer or well capacity, water quality, recharge rate, and surrounding geologic formations. Groundwater quality and quantity are regulated under several federal and state programs. Groundwater resources are regulated on the federal level by the USEPA under the SDWA. The federal Underground Injection Control regulations, authorized under the SDWA, require a permit for the discharge or disposal of fluids into a well.

The USEPA's Sole Source Aquifer Program, authorized by the SDWA, further protects aquifers that are designated as critical to water supply and makes any proposed federal or federal

financially assisted project that has the potential to contaminate the aquifer subject to USEPA review. The Virginia Department of Health Office of Drinking Water reviews projects for the potential to impact public drinking water sources (groundwater wells and surface water intakes) and sets standards for groundwater to protect human health.

JBLE – Langley does not conform to the regional groundwater model, because of the extraordinary circumstances of the Chesapeake Bay Impact Crater (CBIC) during the depositional history of the Lower Virginia Peninsula (JBLE – Langley 2019). The outer rim of the crater appears to act as a boundary and a mixing zone separating groundwater of high salinity inside the outer rim from fresher, lower-salinity water outside the outer rim. The result of the impact was the local removal of five water-bearing units beneath the area now occupied by JBLE – Langley and their replacement by impact-generated crater fill sediments (JBLE – Langley 2019).

Beneath JBLE – Langley, the hydrogeologic units include, in descending order: the Water Table Aquifer, the Yorktown Confining Unit, the Yorktown-Eastover Aquifer, the Eastover-Calvert Confining Unit, and the Chickahominy-Piney Point Aquifer (Powars and Bruce 1999). Due to the loss of aquifers associated with the CBIC, the groundwater beneath JBLE – Langley is not a practical source of irrigation or potable water. An investigation based on available regional and JBLE – Langley-specific well data (JBLE – Langley 2019) predicted that the water table aquifer could yield up to 35 gallons per minute. This prediction was confirmed in 2004 when an exploratory production water well drilled at the JBLE – Langley golf course sustained a yield of 30 gallons per minute. However, the water evacuated during the pump test proved too brackish to be used untreated for either irrigation or potable purposes (JBLE – Langley 2019).

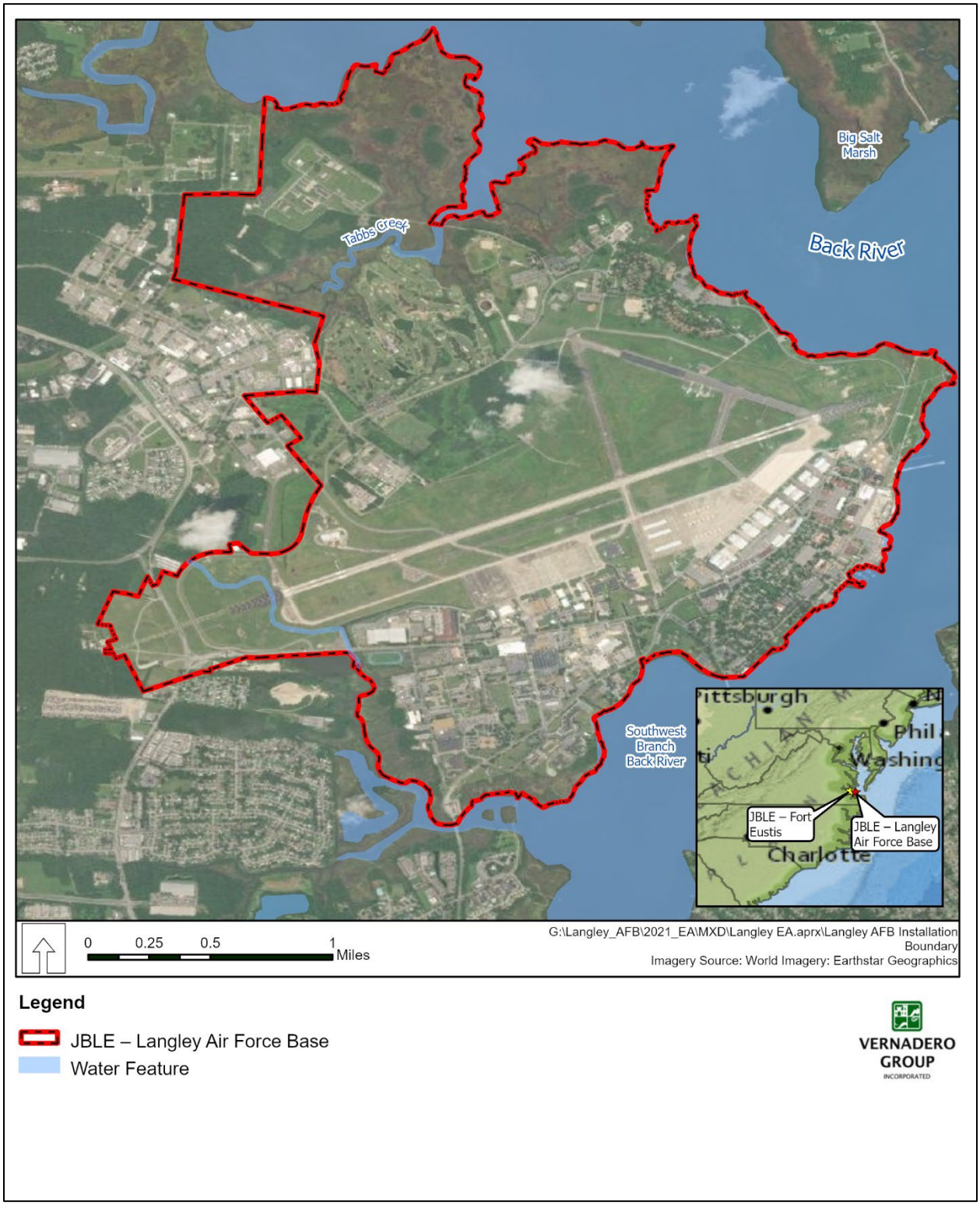

Figure 3-2. Surface Water Features at Joint Base Langley Eustis – Langley

3.7.3 Wetlands

The US Army Corps of Engineers (USACE) defines wetlands as "those areas that are inundated or saturated with ground or surface water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions" (Environmental Laboratory 1987). Wetlands generally include swamps, marshes, bogs, and similar areas (33 CFR 328).

Wetlands are an important natural system and habitat because of the diverse biologic and hydrologic functions they perform. These functions include water quality improvement, groundwater recharge and discharge, pollution mitigation, nutrient cycling, wildlife habitat detention, and erosion protection. Wetlands are protected as a subset of the "the waters of the US" under Section 404 of the CWA. The term "waters of the US" has a broad meaning under the CWA and besides navigable waters, incorporates deep-water aquatic habitats and wetlands. Section 404(b)(1) of the CWA directs the USEPA to develop guidelines for the placement of dredged or fill material (33 USC § 1341[b]). These guidelines, developed by USEPA, are known as the "404(b)(1) Guidelines" and are located at 40 CFR 230. The stated purpose of the guidelines is to "restore and maintain the chemical, physical, and biological integrity of waters of the US through the control of discharges of dredged or fill material" (40 CFR 230.1[a]). Federal protection of wetlands is promulgated under EO 11990, the purpose of which is to reduce adverse impacts associated with the destruction or modification of wetlands. This order directs federal agencies to provide leadership in minimizing the destruction, loss, or degradation of wetlands. In Virginia, activities occurring within a wetland are regulated by both the VDEQ and the USACE.

The latest wetlands delineation for JBLE – Langley was accomplished by USACE in February 2013 (see **Figure 2-2**). The delineation classified JBLE – Langley's wetlands following the Cowardin classification system (Cowardin et al. 1979). Jurisdictional wetlands are those wetlands subject to regulatory protection under Section 404 of the CWA. Wetlands at JBLE – Langley, classified as jurisdictional by the USACE, encompass approximately 652 acres, of which 462 acres are nonfreshwater estuarine wetlands. Most of the wetlands are associated with Tabbs Creek, Tide Mill Creek, and their tributaries. Established forested wetlands were identified in the northwest section of the Base, and isolated palustrine emergent wetlands were identified throughout the flight-line area. In 2001, several distinct wetland communities were identified within the confines of the Base: Big Cordgrass Community, Brackish Water Mixed Community, Cattail Community, Phragmites Community, Isolated Freshwater Emergent Communities, Saltbush Community, Saltmarsh Cordgrass Community, Saltmeadow Community, and Forested Community (JBLE – Langley 2019).

3.7.4 Stormwater Drainage

Stormwater is surface water, generated by precipitation events, that may percolate into permeable surficial sediments or flow across the top of impervious or saturated surficial areas, a condition known as runoff. Stormwater is an important component of surface-water systems because of its potential to introduce sediments and other contaminants that could degrade surface waters, such as lakes, rivers, or streams. Proper management of stormwater flows, which can be intensified by high proportions of impervious surfaces associated with buildings, roads, and parking lots, is important to the management of surface water quality and natural flow characteristics.

The USEPA delegated authority to VDEQ to administer its own NPDES permitting program (the Virginia Pollutant Discharge Elimination System, or VPDES) for wastewater and stormwater discharge associated with industrial activity, construction activity, and MS4 activity.

JBLE – Langley is served by a stormwater drainage system of pipes, box culverts, and open ditches that discharge to the Back River and its tributaries: Tide Mill Creek, Brick Kiln Creek, and Tabbs Creek. Surface water also drains directly to these water bodies. Because of the flat relief of the area, standing water accumulates during heavy storm events. JBLE – Langley has 24 permitted stormwater outfalls under the General Industrial Stormwater Permit VAR052285. JBLE – Langley coordinates with the VDEQ if a permit modification is needed to implement any proposed Base project. The 633 CES/Environmental maintains a Stormwater Pollution Prevention Plan that addresses pollution control measures and management strategies for its industrial-related (i.e., aircraft) stormwater discharges. This plan is a requirement under the VPDES stormwater discharge permit and requires the assessment of stormwater outfalls (with current monitoring requirements), outdoor material storage and usage areas, and existing materials management practices and an annual erosion and sediment control survey (JBLE – Langley 2019).

Under the JBLE – Langley MS4 Permit VAR040140, the VDEQ assigned JBLE – Langley a reduction amount of 6.21 percent for bacteria, which includes fecal coliform, *Enterococcus*, and *E. coli* (JBLE – Langley 2019). According to the 2017 VDEQ TMDL report, fecal bacteria originate from multiple sources, including natural and anthropogenic sources in the Back River watershed, with wildlife contributing about 50 percent of the fecal bacteria. Part II (TMDL Special Conditions) of the MS4 Permit requires the Base to meet the Chesapeake Bay TMDL requirements by reducing total nitrogen, total phosphorus, and total suspended solids loads by 40 percent of the Chesapeake Bay L2 scoping reductions by 30 June 2023 (JBLE – Langley 2021b).

VAC specifies special regulatory requirements regarding discharges of pesticides into surface waters. Pesticide applications that take place at JBLE – Langley are always performed in accordance with the VPDES General Permit VAG87 as specified in 9VAC25-800.

3.7.5 Environmental Consequences

Evaluation criteria for potential impacts on water resources are based on water availability, quality, and use; existence of floodplains; and associated regulations. Adverse impacts on water resources would occur if the proposed or alternative actions (1) reduce water availability or supply to existing users, (2) overdraft groundwater basins, (3) exceed safe annual yield of water supply sources, (4) adversely affect water quality, (5) endanger public health by creating or worsening health hazard conditions, or (6) violate established laws or regulations adopted to protect water resources.

3.7.5.1 Preferred Alternative

Short-term, minor adverse impacts on surface water and stormwater could occur from prescribed fires, chemical fuel treatments, mechanical fuel treatments, and wildfire suppression. Impacts on surface water from these activities could include short-term ash runoff; increased soil erosion, runoff, and sedimentation; and inadvertent release of contaminants and chemicals. The effects of low-severity fires, such as small-scale prescribed burns, on water resources are generally minimal and short lived. In fact, according to a 2005 U.S. Forest Service report, “prescribed fires with low to moderate burn severity rarely produce adverse hydrologic effects that land managers need to be concerned about” (Neary et al. 2005). Additionally, soil erosion would be controlled using emergency stabilization treatments when necessary (JBLE – Langley 2021c). According to the WFMP, fire retardants would not be used within 300 feet of any drainage, wetland, vernal pool, or other water source, further limiting the impact on surface water resources from wildfire suppression. All pesticides used would be registered with the USEPA and applied in accordance with label instructions and existing VPDES permits.

In the long term, impacts on surface water and stormwater from implementation of the Preferred Alternative would be beneficial. The actions described in the WFMP would ultimately decrease the size, frequency, and severity of wildfires, which would reduce impacts on surface water and stormwater by decreasing post-wildfire soil erosion, runoff, and sedimentation.

Use of fire retardants for wildfire suppression has the potential to adversely impact surface water and groundwater in the short term. However, this impact would be minor due to the infrequency of use and not different than existing conditions because, given the developed nature of JBLE – Langley, any wildfire on the Installation would be suppressed even if the WFMP was not implemented.

There would be no impacts on groundwater from prescribed fire and mechanical fuel treatments. Impacts on groundwater from chemical treatments would be minor and minimized by infrequent application and application in accordance with pesticide label instructions and existing VPDES permits.

Short-term, minor adverse impacts on wetlands could occur from chemical fuel treatments and mechanical fuel treatments. Impacts on wetlands from these activities could include increased soil erosion, runoff, and sedimentation and inadvertent release of contaminants and chemicals to wetlands. All pesticides used would be registered with the USEPA and would be applied in accordance with label instructions and existing VPDES permits. Impacts on wetlands from the use of fire retardants would be negligible as these would not be used within 300 feet of any wetland or vernal pool. Additionally, according to the WFMP, Minimum Impact Suppression Techniques would be used to the greatest extent possible in or near wetlands.

The WFMP states that wetlands on JBLE – Langley would be burned to maintain a five-year MFRI where feasible, to mimic natural conditions. Prescribed fire would reduce nonnative and invasive wetland plant species and increase native wetland plant species. Prescribed fire would also temporarily increase soil erosion, runoff (including ash runoff), and sedimentation to wetlands. In in the short term, there would be adverse minor impacts on wetlands from prescribed burns. In the long term, there would be beneficial impacts on wetlands from prescribed burns.

3.7.5.2 Alternative 2

Adverse impacts on water resources would be similar to, but less than, those described for the Preferred Alternative because Alternative 2 would implement the proposed prescribed fire and mechanical (nonfire) fuels treatment included in the approved WFMP but only at the airfield on JBLE – Langley. No long-term beneficial impacts on wetlands would occur under Alternative 2.

3.7.5.3 Alternative 3

Adverse impacts on water resources would be similar to, but less than those described for the Preferred Alternative because Alternative 3 would implement the proposed prescribed fire and mechanical (nonfire) fuels treatment included in the approved WFMP but only at the golf course and within pine-oak hummocks on JBLE – Langley. No long-term beneficial impacts on wetlands would occur under Alternative 3.

3.7.5.4 Cumulative Effects

The Preferred Alternative would not result in significant cumulative long-term adverse impacts on water resources. Potential environmental impacts on water resources from the Preferred Alternative are negligible to minor on their own and when added to impacts on water resources from the other reasonably foreseeable future actions identified in **Appendix B.**

3.7.5.5 No Action Alternative

Under the No Action Alternative, implementation of the JBLE – Langley WFMP would not occur. There would be no change in existing fire management; therefore, no new impacts on water resources would occur. However, if the WFMP is not implemented, the risk of major water quality impacts following a large or severe wildfire would increase.

3.8 BIOLOGICAL RESOURCES

Biological resources include native or invasive plants and animals, sensitive and protected floral and faunal species, and the habitats, such as wetlands, forests, and grasslands, in which they exist. Habitat can be defined as the resources and conditions in an area that support a defined suite of organisms. The following is a description of the primary federal statutes that form the regulatory framework for the evaluation of the potential effect on biological resources.

3.8.1 Endangered Species Act

The ESA of 1973 (16 USC § 1531, et seq.) established protection over and conservation of threatened and endangered species and the ecosystems upon which they depend. Sensitive and protected biological resources include plant and animal species listed as threatened, endangered, or special status by the USFWS and National Marine Fisheries Service (NMFS). Under the ESA (16 USC § 1536), an “endangered species” is defined as any species in danger of extinction throughout all, or a large portion, of its range. A “threatened species” is defined as any species likely to become an endangered species in the foreseeable future. The USFWS maintains a list of species considered to be candidates for possible listing under the ESA. The ESA also allows the designation of geographic areas as critical habitat for threatened or endangered species. Although candidate species receive no statutory protection under the ESA, the USFWS has attempted to advise government agencies, industry, and the public that these species are at risk and may warrant protection under the ESA.

Section 9 of the ESA prohibits the take of federally listed species. “Take” as defined under the ESA means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” Section 7 of the ESA prohibits any federal agency from engaging in any action that is likely to "jeopardize" the continued existence of listed endangered or threatened species or that destroys or adversely affects the critical habitat of such species. Any federal agency proposing an action which may adversely impact an endangered or threatened species must "consult" with USFWS or NMFS (on an informal or formal basis, as appropriate) before carrying out that action would place a listed species and/or its critical habitat in jeopardy.

3.8.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) of 1918 makes it unlawful for anyone to take migratory birds or their parts, nests, or eggs unless permitted to do so by regulations. Per the MBTA, “take” is defined as to “pursue, hunt, shoot, wound, kill, trap, capture, or collect” (50 CFR 10.12). Migratory birds include nearly all species in the United States, with the exception of some upland game birds and nonnative species.

EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds,* requires all federal agencies undertaking activities that may negatively impact migratory birds to follow a prescribed set of actions to further implement the MBTA.

The National Defense Authorization Act for Fiscal Year 2003 (Public Law 107-314, 116 Stat. 2458) provided the Secretary of the Interior the authority to prescribe regulations to exempt the

armed forces from the incidental take of migratory birds during authorized military readiness activities. Congress defined military readiness activities as all training and operations of the US armed forces that relate to combat and the adequate and realistic testing of military equipment, vehicles, weapons, and sensors for proper operation and suitability for combat use.

In December 2017, the US Department of the Interior issued M-Opinion 37050 (US Department of Interior 2017), which concluded that the take of migratory birds from an activity is not prohibited by the MBTA when the underlying purpose of that activity is not the take of a migratory bird. The USFWS interprets the M Opinion to mean that the MBTA's prohibition on take does not apply when the take of birds, eggs, or nests occurs as a result of an activity, the purpose of which is not to take birds, eggs, or nests.

On 7 January 2021, the USFWS issued Final Rule (86 Federal Register 1134), effective 8 February 2021, determining that the MBTA's prohibitions on pursuing, hunting, taking, capturing, killing, or attempting to do the same, applies only to actions directed at migratory birds, their nests, or their eggs; however, the USFWS delayed the implementation of the final MBTA rule until 8 March 2021 in conformity with the Congressional Rule Act (86 Federal Register 8715). On 4 October 2021, the USFWS published a Final Rule (86 Federal Register 54642) revoking the 7 January 2021 Final Rule (86 Federal Register 1134) that limited the scope of the MBTA. This Final Rule went into effect on 3 December 2021. With the publication of this rule, the USFWS returned to "implementing the MBTA as prohibiting incidental take and applying enforcement discretion, consistent with judicial precedent and long-standing agency practice prior to 2017".

3.8.3 Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act of 1940 (16 USC § 668 to 668c) states it is prohibited to "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle (*Haliaeetus leucocephalus*) or golden eagle (*Aquila chrysaetos*), alive or dead, or any part, nest, or egg thereof." "Take" is defined as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb," and "disturb" is defined as "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, injury to an eagle, a decrease in productivity by substantially interfering with the eagle's normal breeding, feeding or sheltering behavior, or nest abandonment by substantially interfering with the eagle's normal breeding, feeding or sheltering behavior." The Bald and Golden Eagle Protection Act also prohibits activities around an active or inactive nest site that could result in an adverse impact on the eagle.

3.8.4 Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act of 1976 (16 USC § 1801, et seq.) and amended by the Sustainable Fisheries Act in 1996, requires the identification and conservation of Essential Fish Habitat (EFH). EFH includes those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. This can include areas that were historically used by fish. Federal agencies are required to consult with NMFS and prepare an EFH Assessment if potential adverse effects on EFH are anticipated from the Proposed Action.

3.8.5 Existing Conditions

3.8.5.1 Regional Biological Setting

Vegetation

Most of the Main Base consists of managed lawns and landscaped areas with ornamental trees and shrubs surrounding residential and industrial development (JBLE – Langley 2019). The two typical types of upland forests present on JBLE – Langley are maritime pine-hardwood forest and oak-pine forest. Maritime pine-hardwood forests are common on the Southeastern Coastal Plain along the estuarine marsh ecotone at lower elevations then other Coastal Plain upland communities. Oak-pine forests are uncommon on the Base, occurring on hummocks in the Tabbs Creek area. The typical forested area on Base consists of loblolly pine, southern red oak, white oak (*Quercus alba*), willow oak, black cherry (*Prunus serotina*), sweetgum, red maple (*Acer rubrum*), yellow poplar (*Liriodendron tulipfera*), and hickory (*Carya* spp.). Approximately 230 acres of JBLE – Langley, mainly located in the northwestern part of the Base, are second-growth forest, dominated by either pine (*Pinus* spp.) or sweet gum, and are characteristic of old field succession and growth that has occurred since the establishment of the federal use of the lands.

Fauna

Fauna species on JBLE – Langley are habitat generalists and are tolerant of disturbance, such as white-tailed deer (*Odocoileus virginianus*), raccoon (*Procyon lotor*), red fox (*Vulpes vulpes*), Virginia opossum (*Didelphis virginiana*), and river otter (*Lontra canadensis*). Acoustic surveys conducted in 2019 identified a potential for 10 to 11 species of bats on the Base, including the species identified on JBLE – Eustis, such as the Brazilian free-tailed bat (*Tadarida brasiliensis*) (Carver 2019). Also identified at JBLE – Langley was the Rafinesque's big-eared bat (*Corynorhinus rafinesquii*).

Reptiles that have been observed include the six-lined racerunner (*Cinemidophorus sexlineatus*), eastern hognose snake (*Heterodon platirhinos*), black racer (*Coluber constrictor*), canebrake rattlesnake (*Crotalus horridus*), diamondback terrapin (*Malaclemys terrapin*), and the black rat snake (*Elaphe obsolete*) (JBLE – Langley 2019). The common amphibians on JBLE – Langley include the American bullfrog (*Lithobates catesbeianus*), the green frog (*L. clamitans*), southern leopard frog (*L. sphenocephalus*), green tree frog (*Hyla cinerea*), and squirrel tree frog (*H. squirella*).

More than 150 species of birds have been observed on or near JBLE – Langley during surveys (JBLE – Langley 2019). Songbirds and perching birds observed include species such as savannah sparrow (*Passerculus sandwichensis*), blue jay (*Cyanocitta crista*), American crow (*Corvus brachyrhynchos*), northern cardinal (*Cardinalis cardinalis*), Carolina wren (*Thyothorus ludovicianus*), and pine warbler (*Dendroica pinus*). Shorebirds observed include species such as black-bellied plovers (*Pluvialis squatarola*), semipalmated plover (*Charadrius semipalmatus*), American oystercatcher (*Haematopus palliates*), greater yellowlegs (*Tringa melanoleuca*), willet (*Catoptrophorus semipalmatus*), upland sandpiper (*Bartramia longicauda*), and sanderling (*Calidris alba*). Common waterfowl observed include canvasbacks (*Aythya valisineria*), ruddy ducks (*Oxyura jamaicensis*), greater scaup (*Aythya marila*), lesser scaup (*A. affinis)*, bufflehead (*Bucephala islandica*), common goldeneye (*Bucephala clangula*), Canada goose, and mallard.

Habitat suitable for bald eagle (*Haliaeetus leucocephalus*) foraging, roosting, and/or nesting occurs among the loblolly pines (*Pinus taeda*) on the northern side of the Base. Recent surveys indicate that foraging by bald eagles occurred to a limited extent within creeks and marshes of JBLE – Langley and on the reservoir. The uniform age/size structure of loblolly pine stands may

limit the use of the Base as nesting or roosting habitat (JBLE – Langley 2019). One bald eagle nest is in the forested north marsh on the Main Base, and several other nests have been documented within 3 miles of the Base. For bald eagle nests that may be established near the airfield, JBLE – Langley undertakes nonlethal depredation actions to move the nest away from the airfield.

Fish commonly found in the estuarine waters surrounding JBLE – Langley include species such as anchovy (*Anchoa* spp.), silver perch (*Bairdiella chrysoura*), spotted sea trout (*Cynoscion nebulosus*), spot (*Leiostomus xanthurus*), Atlantic croaker (*Micropogonias undulatus*), Atlantic menhaden (*Brevoortia tyrannus*), Atlantic silverside (*Menidia menidia*), striped bass (*Morone saxatilis*), white mullet (*Mugil curema*), pigfish (*Orthaopristis chrysoptera*), and summer flounder (*Paralichthys dentatus*) (JBLE – Langley 2019). Blue crab (*Callinectes sapidus*) is also commonly found in tidal waters around the Base. Other aquatic species include fiddler crabs (*Uca* spp.), an important wildlife food source, as well as eastern oysters and the hard clam (*Mercenaria mercenaria*).

While there is no EFH within the proposed treatment areas, the Back River, which is adjacent to JBLE – Langley, is a tributary to the York River, which is designated by the NMFS as EFH. Within the York River, the New England/Mid-Atlantic Fishery Management Council identified EFH for Atlantic herring (*Clupea harengus*) and bluefish (*Pomatomus saltatrix*); the Northeast Multispecies Fisheries Management Plan (FMP) identified EFH for red hake (*Urophycis chuss*) and windowpane flounder (*Scophthalmus aquosus*); the Northeast Skate FMP identified EFH for clearnose skate (*Raja eglanteria*); the Atlantic Mackerel, Squid, and Butterfish FMP identified EFH for the Atlantic butterfish (*Peprilus triacanthus*); the Summer Flounder, Scup, Black Sea Bass FMP identified EFH for the scup (*Stenotomus chrysops*), summer flounder (*Paralichthys dentatus*), and black sea bass (*Centropristis striata*); and the sandbar shark (*Carcharhinus plumbeus*) is identified in the Consolidated Highly Migratory Species FMP (NOAA 2022).

Invasive Species

Twenty-one invasive vertebrate and invertebrate species have been identified at JBLE – Langley (Langley Air Force Base 2009). The primary invasive plants species of concern is common reed (*Phragmites australis*), Japanese honeysuckle (*Lonicera japonica*), privet (*Ligustrum* spp.) and Japanese stiltgrass (*Microstegium vimineum*) (JBLE – Langley 2019). An inventory of common reed was conducted in 2014, and treatment on 150 acres was conducted in 2017. This was the only treatment within the last 10 years, and the extent of common reed has expanded. Invasive vertebrate species also include nutria (*Myocastor coypus*) and European starling (*Sturnus vulgaris*), as well as mute swan (*Cygnus olor*) and snakehead fish (*Channa* spp.). Some of the invasive invertebrates identified, in addition to the Asian tiger mosquito (*Aedes albopictus*), include the emerald ash borer (*Agrilus planipennis*), gypsy moth (*Lymantria dispar*), and fire ant (*Solenopsis invicta* [*S. wagneri*]) (Langley Air Force Base 2009).

Threatened and Endangered Species and/or Species of Concern

A list of the federally listed species that could potentially occur in the ROI was obtained from the USFWS Information for Planning and Consultation website (USFWS 2021; **Appendix C**), Virginia Department of Wildlife Resources (VDWR), Fish and Wildlife Information Service (FWIS) (VDWR 2022), and JBLE – Langley INRMP (2019). The federal and state listed species with the potential to be present on or near and those documented on JBLE – Langley are provided in **Table 3-4.**

Table 3-4. Federal and State Listed Species Documented or with the Potential to Occur on or Adjacent to Joint Base Langley-Eustis – Langley Air Force Base, Virginia

Species	Federal Status	State Status	JBLE – Langley
Birds			
Eastern Black Rail (*Laterallus jamaicensis* ssp. *jamaicensis*)	T	E	Potential
Piping Plover (*Charadrius melodus*)	T	T	Potential[1]
Red Knot (*Calidris canutus rufa*)	T	T	Observed
Roseate Tern (*Sterna dougallii)*	E	E	Potential[1]
Loggerhead Shrike (*Lanius ludovicianus*)	--	T	Potential[1]
Loggerhead Shrike, Migrant (*L. ludovicianus migrans*)	--	T	Potential[1]
Peregrine Falcon (*Falco peregrinus*)	--	T	Potential[1]
Gull-Billed Tern (*Sterna niloticai*)	--	T	Observed
Wilson's Plover (*Charadrius wilsonia*)	--	E	Potential[1]
Henslow's Sparrow (*Ammodramus henslowii*)	--	T	Potential[1]
Mammals			
Northern Long-Eared Bat (*Myotis septentrionalis*)	T	T	Acoustic[2]
Indiana Bat (*Myotis sodalis*)	E	E	Acoustic[3]
Little Brown Bat (*Myotis lucifugus*)	--	E	Acoustic
Tricolored Bat (*Perimyotis subflavus*)	--	E	Potential[4]
Rafinesque's Eastern Big-Eared Bat (*Corynorhinus rafinesquii macrotis*)	--	E	Acoustic
West Indian Manatee (*Trichechus manatus*)	E	E	Unlikely[1]
Reptiles			
Kemp's (= Atlantic) Ridley Turtle (*Lepidochelys kempii*)	E	E	Unlikely[1]
Hawksbill Turtle (*Eretmochelys imbricata*)	E	E	Unlikely[1]
Leatherback Turtle (*Dermochelys coriacea*)	E	E	Unlikely[1]
Loggerhead Turtle (*Caretta caretta*)	T	T	Unlikely[1]
Green Turtle (*Chelonia mydas*)	T	T	Unlikely[1]
Canebrake rattlesnake (*Crotalus horridus*)	--	E	Potential
Amphibians			
Eastern Tiger Salamander (*Ambystoma tigrinum*)	--	E	Unlikely[5]
Mabee's Salamander (*Ambystoma mabeei*)	--	T	Unlikely[5]
Fish			
Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*)	E	E	Potential
Plants			
Harper's Fimbristylis (*Fimbristylis perpusilla*)	--	E	Unlikely[5]
Insects			
Northeastern Beach Tiger Beetle (*Cicindela dorsalis dorsalis*)	T	T	Unlikely[1]
Monarch Butterfly (*Danaus plexippus*)	C	--	Observed
Rusty Patched Bumblebee (*Bombus affinis*)	E	--	Unlikely[6]

Sources: JBLE – Langley 2019; USFWS 2021; VDWR 2022
JBLE – Langley – Joint Base Langley-Eustis, Langley Air Force Base; **E** – endangered; **T** – threatened; **C** – candidate

[1] These species were only identified in the VDWR FWIS (VDWR 2022) as potentially occurring within a 3-mile radius around the Base centers, but they are not identified in the Base Integrated Natural Resource Management Plans or the USFWS Information for Planning and Consultation website (for federally listed species).
[2] Due to weak call characteristics recorded during acoustical surveys, confidence in the positive identification of the northern long-eared bat is low; therefore, presence of this species should be categorized as possible but unconfirmed.
[3] Documented acoustically during past surveys; however, the most recent 2019 acoustic and mist-net surveys did not identify the presence of the Indiana bat.
[4] The tricolored bat has the potential to occur on Main Base Langley, but it was only observed visually at the Langley Big Bethel Reservoir during the 2019 acoustic and mist-net surveys.
[5] These species were only identified in the VDWR FWIS (VDWR 2022) as potentially occurring within a 3-mile radius of the Base; however, multiple surveys have not documented these species on the Base, and optimal habitat is not found on Main Base Langley.
[6] Listed in the 2017 *US Air Force Pollinator Conservation Reference Guide* as possibly present; however, its distribution in Virginia appears to be in counties north and west of the tidewater region of southeast Virginia (82 Federal Register 3186, *Endangered and Threatened Wildlife and Plants; Endangered Species Status for Rusty Patched Bumblebee; Final Rule*)

The red knot (*Calidris canutus rufa*) has been documented on the Base shoreline (JBLE – Langley 2019). This species may temporarily forage in this area as a transient during migration. The eastern black rail (*Laterallus jamaicensis* ssp. *jamaicensis*) may use the coastal marshes on and near JBLE – Langley but has not been documented. This species is a small, secretive bird and is limited to areas with dense wetland vegetation. There is no suitable nesting or foraging habitat on JBLE – Langley for the piping plover (*Charadrius melodus*) or roseate tern (*Sterna dougallii*).

State listed birds that may be present include the peregrine falcon (*Falco peregrinus*; delisted from the federal endangered species list), gull-billed tern (*Sterna nilotica*), Wilson's plover (*Charadrius wilsonia*), Henslow's sparrow (*Ammodramus henslowii*), and loggerhead shrike (*Lanius ludovicianus*), including the migrant subspecies (*L. l. migrans*). JBLE – Langley may be used by these bird species for foraging or roosting, but none are known to nest on the Base. To date, the gull-billed tern has been documented on the Main Base only as a transient (JBLE – Langley 2019).

Surveys have documented the potential presence of five species of federal and state listed bats on the Base, which include the northern long-eared, Indiana (*Myotis sodalis*), little brown (*Myotis lucifugus*), and tricolored (*Perimyotis subflavus*) bats, as well as the state endangered Rafinesque's eastern big-eared bat (*Corynorhinus rafinesquii macrotis)*. Of the bats identified on JBLE – Langley, only the tricolored bat has been netted, which occurred on the Big Bethel Reservoir (Carver 2019). Acoustic surveys did indicate northern long-eared bats on the Main Base, but because the call characteristics were not strong enough, the confidence in the positive identification of northern long-eared bat was low, and the presence of this species is considered as possible but unconfirmed. The Indiana bat was identified during acoustic modeling in past surveys but was not identified during the most recent survey in 2019. The VDWR FWIS also identifies the West Indies manatee as having the potential to occur near JBLE – Langley; however, Virginia is considered at the species' extralimital range, and records of its occurrence in the Chesapeake Bay are rare; the West Indies manatee was last documented in 2017 in the York River (Virginia Institute of Marine Sciences 2017).

The USFWS Information for Planning and Consultation website indicates that five species of federally listed sea turtle have the potential to occur at JBLE – Langley. While all these species have been occasionally documented in the waters around Hampton, Virginia, JBLE – Langley conducted surveys for sea turtles from 2016 to 2017 and did not document nesting or presence (JBLE – Langley 2019; Virginia Herpetological Society 2022). In addition, surveys on the Main

Base from 2016 to 2017 did not document the presence of the other reptiles and salamanders with the potential to occur on the Base.

The state-listed canebrake rattlesnake (*Crotalus horridus*) has the potential to occur on JBLE – Langley, although it has not been documented and optimal habitat on the Main Base is limited. This species prefers mature hardwood and mixed hardwood-pine forests, cane thickets, and the ridges and glades of swampy areas (Virginia Department of Game and Inland Fisheries 2011). Optimal habitat would also include numerous logs and plentiful leaf litter and humus. The western portion of FMU is located within 0.5 mile of the Canebrake Rattlesnake Peninsula Core Habitat Area.

The Atlantic sturgeon has the potential to occur in the York River and its tributaries. The York River is also designated as critical habitat for the Atlantic sturgeon.

While identified as having the potential to occur on JBLE – Langley, optimal habitat for the northeastern beach tiger beetle *(Cicindela dorsalis dorsalis*), which includes broad sandy beaches, is not found on the Base (JBLE – Langley 2019). In addition, while the northeastern beach tiger beetle has been documented along the shoreline of the Plumtree Island National Wildlife Refuge (USFWS 1994), this area is located over 2 miles from the ROI. Similarly, the rusty patched bumble bee is identified in the 2017 *US Air Force Pollinator Conservation Reference Guide* as possibly being present on JBLE – Langley (DAF 2017). However, the current distribution of the rusty patched bumble bee does not include the tidewater region of southeast Virginia. Surveys have identified the monarch butterfly (*Danaus plexippus*) on JBLE – Langley, and monarch host milkweed species (*Asclepias* spp.) have been documented near the Wetlands 6 and 7 Prescribed Fire Units (see **Figure 2-1**; A. Garcia, personal communication).

Other state-listed species with the potential to occur on JBLE – Langley are Harper's fimbristylis (*Fimbristylis perpusilla*), eastern tiger salamander (*Ambystoma tigrinum*), and Mabee's salamander (*A. mabeei*) (JBLE – Langley 2019). These species have not been documented, and optimal habitat for these species is not located on the Main Base (JBLE – Langley 2019).

3.8.6 Environmental Consequences

Evaluation criteria for potential impacts on biological resources are based on (1) importance (i.e., legal, commercial, recreational, ecological, or scientific) of the resource, (2) proportion of the resource that would be affected relative to its occurrence in the region, (3) sensitivity of the resource to the proposed activities, and (4) duration of potential ecological ramifications. The impacts on biological resources are adverse if species or habitats of high concern are negatively affected over relatively large areas. Impacts are also considered adverse if disturbances cause reductions in population size or distribution of a species of high concern.

3.8.6.1 Preferred Alternative

Under the Preferred Alternative, prescribed fire, mechanical, and chemical treatments would be used to reduce fuel loads and fire hazards, and to manage for forest and wildlife health. While ecosystems evolved with, and are adapted to, specific natural fire regimes, these regimes cannot be extended in unnatural communities (NWCG 2001). Past human actions such as harvesting, the accidental or deliberate introduction of exotic plants and animals, modification of historic fire patterns through active suppression, or other activities that change fuel continuity and loading, have altered many plant communities. Active fire suppression results in increased dead material either on the ground or retained on plants that create ladders between the surface and the overstory that allow fires to be carried into the overstory and intensify. Mechanical control of fuels would primarily include mastication or mowing of privet and large grassy areas where prescribed

burning may not be appropriate. Mechanical treatment would also occur for the areas surrounding facilities and infrastructure. Harvesting or thinning of forested areas would be limited to that needed to remove obstructions for airfield safety. Chemical treatment may also be used to control some areas of common reed and Japanese stiltgrass.

Vegetation

The Proposed Action would have short-term adverse direct impacts on the vegetation within treatment areas due to the removal of vegetation that would result from the implementation of fuel control methods. However, the Proposed Action would result in long-term beneficial impacts on vegetative communities. Accumulated fuels pose serious threats to forest resources and the proposed fuel treatments would reduce woody debris, leaves and needles, and understory shrubs and vines that prevents catastrophic wildland fires (Alabama Cooperative Extension 2018; Brown and Smith 2000; North Carolina Forest Service 2019; Wade and Lundsford 1990). The use of prescribed fire can increase biodiversity in several ecosystems (Brown and Smith 2000). Properly controlled prescribed fire controls low-quality, undesirable competing vegetation and controls destructive insects and disease (North Carolina Forest Service 2019; Wade and Lundsford 1990). While fire may injure part of a plant or kill the entire plant, many native plants are adapted to natural fire regimes having structural adaptations, specialized tissues, and/or reproductive features that allow them to thrive in an environment subject to regular fire. Fuel control treatments also allow increased sunlight to reach the ground, which promotes the growth of native grasses and herbaceous plants and prepares the seedbed for natural regeneration of native trees (North Carolina Forest Service 2019).

Fauna

Implementation of the Proposed Action may result in short-term direct and indirect minor adverse impacts on some fauna. Fuel treatments may destroy nesting sites and may rarely result in direct mortality. Most adverse impacts may be avoided through proper timing and, for prescribed fire, proper burn techniques (Wade and Lundsford 1990). In accordance with the JBLE – Langley WFMP, to the extent possible, prescribed burns would be scheduled and timed to closely approximate the natural fire variability and would be highly coordinated to minimize the potential for uncontrolled wildland fire. Species such as amphibians, some reptiles, and small mammals may be unable to flee the treated area; however, several of these species are able to survive in underground burrows and dens. Fuel treatment may also result in indirect short-term, minor adverse impacts on some species due to the temporary loss of habitat. Prescribed fire may negatively impact some hardwood trees that provide cover and forage for species such as squirrels, white-tailed deer, northern bobwhite (*Colinus virginianus*), wild turkeys (*Meleagris gallopavo*), bats, and cavity-nesting birds (Block et al. 2016). However, the prescribed fire used on JBLE – Langley for fuels reduction would likely not be of the intensity to kill mature hardwood trees.

Potential adverse impacts on bats that may be found within treatment areas would be direct mortality if roosting bats are unable to arouse during short-term torpor. To minimize potential impacts, the fire frequency, timing, and intensity in habitats bats may use for daytime roosting would be monitored. Risks to southeastern forest-dwelling bats from prescribed fires during the summer is considered low, as they can arouse quickly from short-term torpor (Carter et al. 2002). Bat pups not yet able to fly would be the most vulnerable to mortality or injury during prescribed burns. In a synthesis of literature to describe the role and impact of fire on southeastern bats, Carter et al. (2002) notes that most species of bats are able carry their young for some time after birth and several species can fly within three weeks of birth.

The Proposed Action would have long-term, beneficial impacts on fauna. While some hardwood trees may suffer scarring at the base after prescribed burns, which may lead to eventual death, these trees would become snags (standing dead trees), stumps, and deadfall that would provide future important habitat for many birds, mammals. reptiles, amphibians, and insects. Important benefits to fauna include an increase of forest edge, a more open midstory and understory, and an increase in the amount and quality of forage and browse (Alabama Cooperative Extension 2018; Block et al. 2016; North Carolina State Extension 2021; Wade and Lundsford 1990). Prescribed fire can also improve marshland habitat by increasing food production and availability. In addition, the reduction of fuel would reduce the potential for catastrophic fires that would be very detrimental to fauna and habitat. Short-term, negligible adverse impacts on fish and other aquatic organisms may occur from minor sedimentation of ash from prescribed fire activities near surface waters.

Invasive Species

Impacts on invasive plants from control efforts would be long term and beneficial. Prescribed burns and mechanical and chemical treatments would target specific areas to control invasive plants such as Johnson grass, common reed, Japanese stiltgrass, and privet to allow for native species recruitment. To avoid adverse impacts, care would be taken to ensure that the appropriate treatment type and timing is accomplished as outlined in the WFMP to ensure the treatment does not facilitate the spread of invasive species.

Threatened and Endangered Species and/or Species of Concern

The potential impacts on federal and state listed species that may be within treatment areas would be similar to the impacts on vegetation and fauna described above. There would be no impacts on the listed species that are unlikely to occur on JBLE – Langley (see **Table 3-4**) since ideal habitat is not located on the Main Base and they have not been documented during multiple surveys. There would be no impact on the Atlantic sturgeon or its designated critical habitat since the potential for minor sedimentation from ash would be localized and would be diluted prior to reaching the York River EFH.

No impacts would occur on piping plover, red knot, roseate tern, gull-billed tern, or Wilson's plover since these species use tidal flats, shores, and dunes and are therefore not expected to occur in the treatment areas (NatureServe 2022). While not documented on JBLE – Langley, the black rail may forage within marshes or along shorelines but is not known to nest on the Main Base. Potential adverse impacts on the black rail would be negligible as the birds would be able to escape treatment areas. Although there is habitat on JBLE – Langley for the state listed peregrine falcon, Henslow's sparrow, and the migrant loggerhead shrike, these areas would only be used as temporary stopovers during migration between breeding and winter grounds, and therefore the potential for adverse impacts would be negligible due to the potential temporary loss of habitat. Direct impacts on these species are not expected as they would be able to escape when treatment actions commence. While it has not been documented on JBLE – Langley, habitat for the year-round resident loggerhead shrike is found on the Base and includes open areas with short vegetation, scattered shrubs and low trees, pastures, riparian areas, and golf courses. Direct adverse impacts on the loggerhead shrike may occur if fuel treatment occurs during nesting and fledging season; however, as discussed above, potential impacts can be minimized by timing of treatment outside the species' primary nesting season. Furthermore, the loggerhead shrike has not been documented on JBLE – Langley. Therefore, the potential adverse impacts on the year-round resident loggerhead shrike would be short term and minor.

Impacts on listed bats that may be found within treatment areas would be similar to those described above for birds. As described, the timing of treatment would minimize the potential impacts on bats. Moreover, species such as the little brown bat and Rafinesque's eastern big-eared bat have large maternity colonies in abandoned buildings and well-lighted areas (Harvey et al. 1999), which would not be impacted by treatments The Final 4(d) Rule under the ESA for northern long-eared bats allows incidental take from otherwise lawful activities in areas not yet affected by white-nose syndrome (WNS) and sets protections during the periods when bats are vulnerable to infection (i.e., maternity and hibernacula sites) within the WNS-affected area. According to the most recent WNS zone map, all of Virginia lies within the WNS-affected areas (USFWS 2019). According to the Final Rule (81 Federal Register 1900), prescribed fire in any given year would impact only a small portion of the northern long-eared bats' range during their active period, and there are substantial benefits of prescribed fire in maintaining forest ecosystems. Therefore, the USFWS has determined that regulating incidental take would not meaningfully change the conservation or recovery potential of the northern long-eared bat.

The potential for adverse impacts on the canebrake rattlesnake would be negligible. While the canebrake rattlesnake has the potential to be on the Main Base, surveys completed in 2016-2017 for the rattlesnake did not document its presence. If it is present during treatment, there is the potential for direct impacts through mortality or injury; however, most snakes would likely escape underground or outside of the treatment areas (Ulev 2008). Since canebrake rattlesnake habitat includes forests with numerous logs and plentiful leaf litter, fuel treatments that have the potential to reduce or remove cover may cause adverse impacts. Intense fires may destroy dens located in root masses of fallen trees and could increase chances of predation. However, this adverse impact would be short term, as rattlesnakes evolved in habitats that undergo frequent natural disturbance. Long-term beneficial impacts would include a more open canopy that increases the availably of basking sites and stump holes and the stimulation of vegetative growth that improves the habitat for prey species.

Impacts on the monarch butterfly would be long term and beneficial provided the treatment is planned while monarch eggs, larvae, pupae, or adults are not present on host milkweed, which is typically between late April and near the end of October (Monarch Joint Venture 2022). Prescribed fires can be instrumental in managing milkweed habitat and increasing habitat for nectar and milkweed by maintaining areas of grass and shrubs and allowing a higher diversity of flowering plants and shrubs in canopy forests (Monarch Joint Venture 2022). While some species of milkweed thrive in fire-adapted ecosystems, the impact of fire on common milkweed (*Asclepias syriaca*) are less clear (Leone et al. 2019). Some studies found that common milkweed declined after summer fire, while other studies showed an increase in plants. Other milkweed species common to Virginia are butterfly weed (*A. tuberosa*) and swamp milkweed (*A. incarnata*). While butterfly weed is adapted to fires and relatively impervious to fire once its roots have become established, swamp milkweed is believed to be sensitive to fires due to its shallow roots and may only be able to survive a cool surface fire (NatureServe 2022; Pavek 1992). Therefore, monarch butterfly host plants may be damaged depending on the timing, intensity, and species of milkweed present within the treatment areas.

The Air Force has made a *no effect* determination for the red knot, roseate tern, the listed sea turtles, Indiana bat, West Indian manatee, Atlantic sturgeon, northeastern beach tiger beetle, and rusty patched bumblebee. The Air Force has made a *may affect, but not likely to adversely affect* determination for the eastern black rail and monarch butterfly. There would be no impacts on Atlantic sturgeon or its critical habitat physical or biological features. The Section 7 self-certification package was completed through the USFWS Virginia Ecological Services Field Office online project review process during preparation of this EA.

3.8.6.2 Alternative 2

Impacts on biological resources would be similar to, but less than those described for the Preferred Alternative because Alternative 2 would implement the proposed prescribed fire and mechanical (nonfire) fuels treatment included in the approved WFMP but only at the airfield on JBLE – Langley.

3.8.6.3 Alternative 3

Impacts on biological resources would be similar to, but less than, those described for the Preferred Alternative because Alternative 3 would implement the proposed prescribed fire and mechanical (nonfire) fuels treatment included in the approved WFMP but only at the golf course and within pine-oak hummocks on JBLE – Langley.

3.8.6.4 Cumulative Effects

Potential environmental impacts on biological resources from the Preferred Alternative are negligible to minor on their own as well as when added to impacts on biological resources from the other reasonably foreseeable future actions (**Appendix B**). Potential cumulative impacts may occur from the aerial treatment of common reed combined with fuels treatments in wetland areas that may temporarily reduce marsh habitat, but this would result in long-term, beneficial habitat improvement from the recruitment of native marsh vegetation.

3.8.6.5 No Action Alternative

Under the No Action Alternative, fuels treatments would not occur. A more natural disturbance regime would not occur, and excessive fuels would continue to accumulate, which could result in catastrophic crown fires that kill the majority of trees and shrubs and consume most of the surface organic layer (Stanturf et al. 2002). In addition, crown fires are intense, are fast moving, threaten resources, and often result in large, burned areas (US Forest Service 2003). Under the No Action Alternative, none of the benefits to biological resources from more natural disturbance would occur, such as invasive species and disease control and increased regeneration of desirable species and increases in beneficial habitat.

3.9 HEALTH AND SAFETY

A safe environment is necessary to prevent or reduce the potential for death, serious injury and illness, or property damage. Human health and safety addresses potential health risks to public and occupational receptors under routine and accidental exposure scenarios.

3.9.1 Existing Conditions

The safety of Installation and cooperator firefighters is of the utmost importance in all wildland fire operations. **Table 3-5** identifies safety considerations relevant to individual FMUs on JBLE – Langley.

Table 3-5. Safety Consideration by Fire Management Unit at Joint Base Langley-Eustis, Langley Air Force Base

Safety Concern	Fire Management Unit 1
Entrapment	X
Heat Stress	X
Smoke Exposure	X
Fatigue	X
WUI Firefighting	X

Safety Concern	Fire Management Unit 1
Entrapment	X
Driving	X
Traffic and Public Safety	X
Public Evacuation Routes	X
Powerlines	X
Fuel Storage Areas	X
Munitions Storage Areas	X
Firing Ranges	X
UXO Area	X
HAZMAT Storage Area	X
Difficulty of Moment	X
Chainsaw Usage	X
Poisonous Plants	X
Venomous Animals	X
Predatory Animals	X
Smoke Impacts	X

WUI – Wildland Urban Interface; **UXO** – unexploded ordnance; **HAZMAT**– hazardous materials

3.9.1.1 Unexploded Ordnance Areas

A number of DoD mission considerations affect firefighter safety. The most critical is the issue of UXO. Because of the Installation's history, encountering UXO is a possibility anywhere on JBLE – Langley. A map of safety considerations at JBLE – Langley can be found in **Figure 3-3.**

3.9.1.2 Wildland Urban Interface

The WUI is the area where built infrastructure is located proximate to areas with flammable vegetation. During a wildfire in the WUI, firefighter and public safety would be the top priority, with protection of structures and other values at risk as a secondary goal. Defensible space would be created around structures and other values at risk as a mitigation measure to reduce the risk of a future wildfire impacting them. Firefighters in the WUI would make all decisions on anticipated fire behavior based upon fuels, topography, predicted weather, and other information. Fires in the WUI can be mitigated through implementation of education programs.

3.9.1.3 Wildland Fire Management Unit Fire Risk Mitigation Strategies

Several wildfire risk mitigation strategies are included in the Proposed Action in addition to implementing fire and nonfire fuels treatments (see **Table 2-2**).

3.9.2 Environmental Consequences

Impacts that pose a long-term risk on human health or safety are evaluated. Impacts would be considered significant if federal civilian, military, or contractor personnel do not comply with established Occupational Safety and Health Administration (OSHA) and DAF safety guidelines. There are potential health and safety concerns with wildfire management. The health and safety of on-site military and civilian workers are safeguarded by numerous DoD and military branch-specific requirements designed to comply with standards issued by federal OSHA, USEPA, and

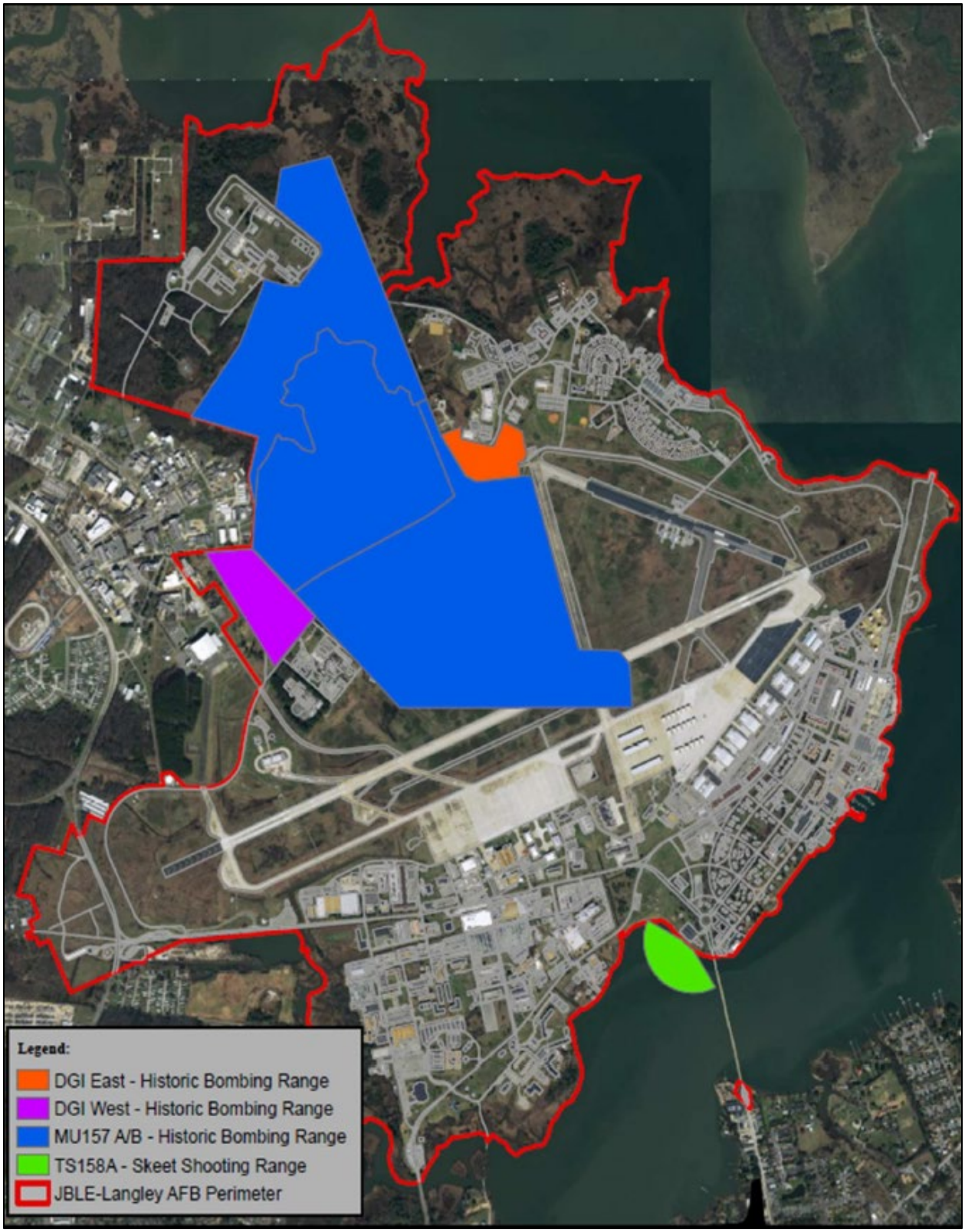

Figure 3-3. Safety Considerations at Joint Base Langley-Eustis, Langley Air Force Base

state occupational safety and health agencies. These standards specify health and safety requirements, the amount and type of training required for workers, the use of personal protective equipment, administrative controls, engineering controls, and permissible exposure limits for workplace stressors.

3.9.3 Environmental Consequences

Impacts that pose a long-term risk on human health or safety are evaluated. Impacts would be considered significant if federal civilian, military, or contractor personnel do not comply with established Occupational Safety and Health Administration (OSHA) and DAF safety guidelines. There are potential health and safety concerns with wildfire management. The health and safety of on-site military and civilian workers are safeguarded by numerous DoD and military branch-specific requirements designed to comply with standards issued by federal OSHA, USEPA, and state occupational safety and health agencies. These standards specify health and safety requirements, the amount and type of training required for workers, the use of personal protective equipment, administrative controls, engineering controls, and permissible exposure limits for workplace stressors.

3.9.3.1 Preferred Alternative

Areas with highest UXO potential include the golf course on JBLE – Langley. Fires can cause some UXO to explode, as can tractors and plows used in suppression activities, posing a serious risk to firefighter safety. Therefore, UXO areas would not be entered for wildfire suppression or natural resource management activities unless the area is cleared by trained UXO detection specialists. Assuming such clearance, extreme caution would still be exercised by personnel operating heavy equipment, and all engines would stay on existing roads or cleared fuel and firebreaks. Personnel must refrain from disturbing UXO if any is found.

Minor, short-term impacts on the health and safety of firefighting personal would be expected during firefighting activities. In particular, smoke from prescribed fires or wildland fires could have minor, short-term adverse impacts on health and safety. Several national requirements, including the National Incident Management System: Wildland Fire Qualification System Guide (NWCG 2020) are in place to aid in conducting safe fire operations. All firefighters would have the training and experience for their positions and equipment they operate. The JBLE – Langley WSM would ensure all personnel are properly equipped with fire-resistant clothing, a hard hat with chinstrap, fire shelter, leather gloves, leather boots a minimum of 8 inches tall, eye protection, and hearing protection. Personnel must use the personal protective equipment appropriate for their assigned task. Additionally, chainsaw chaps would be available and required for sawyer assignments. All proposed actions included in the Preferred Alternative would be implemented and mitigated, as necessary, according to the DAF, VDEQ, and WWCG guidance.

The Preferred Alternative would have a long-term, beneficial effects on health and safety as all of the proposed actions in the WFMP are designed to reduce and suppress wildfire with the goal of minimizing fire size, frequency, and severity while supporting the training mission of JBLE – Langley. Not only would the Preferred Alternative help keep JBLE – Langley lands and personnel safe, but it would also help to protect the surrounding area and communities. As part of the Preferred Alternative, harvesting and thinning on JBLE – Langley would serve the primary purpose of airfield safety. Further, the Air Force Wildland Fire Branch has coordinated, reviewed, and approved the WFMP with the Installation to ensure consistency with approved land management plans, values to be protected, and natural and cultural resource management plans and confirm that it addresses public health issues related to smoke and air quality. Military mission activity and associated safety footprints would be in place to limit access for prescribed fire and

for wildfire suppression. The Air Force Safety Center – Bird/Wildlife Aircraft Strike Hazard Team would continue to assist and advise on safety matters to maintain compliance with federal and DoD regulations.

3.9.3.2 Alternative 2

Adverse impacts on health and safety would be similar to, but less than those described for the Preferred Alternative because Alternative 2 would implement the proposed prescribed fire and mechanical (nonfire) fuels treatment included in the approved WFMP but only at the airfield on JBLE – Langley. Beneficial impacts on health and safety would be similar to those described for the Preferred Alternative.

3.9.3.3 Alternative 3

Adverse impacts on health and safety would be similar to, but less than those described for the Preferred Alternative because Alternative 3 would implement the proposed prescribed fire and mechanical (nonfire) fuels treatment included in the approved WFMP but only at the golf course and within pine-oak hummocks on JBLE – Langley. Beneficial impacts on health and safety would be similar to those described for the Preferred Alternative.

3.9.3.4 Cumulative Effects

When combined with proposed projects on JBLE – Langley, the Proposed Action's minor, short-term, adverse impacts on health and safety would not result in any significant cumulative effects on these resources. The Proposed Action would result in future significant beneficial cumulative impacts on JBLE – Langley when combined with other reasonably foreseeable projects planned at the Installation.

3.9.3.5 No Action Alternative

Under the No Action Alternative, unexpected wildfires and/or fire suppression operations could lead to an increase in firefighter and public safety risks in the long term if the approved WFMP is not implemented. Wildland fire may compromise public and firefighter safety, especially during severely hot, dry years. Wildland fires represent a direct and indirect threat to the public, JBLE – Langley personnel, and firefighters. Smoke from unexpected wildfires could also reduce health and safety. In a worst-case scenario, smoke from wildfires could potentially lead to hospitalization and death for people with severe respiratory ailments or contribute to accidents that lead to injury or death.

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4.0 LIST OF PREPARERS

This EA has been prepared under the direction of the DAF Civil Engineer Center, DAF, and JBLE – Langley. The individuals who contributed to the preparation of this EA are listed in **Table 4-1**.

Table 4-1. List of Preparers

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Appendix A

Early Public Notice and Agency and Tribal Correspondence

FORMAT PAGE

Early Public Notice

FORMAT PAGE

VIRGINIA MEDIA

Sold To:
VERNADERO GROUP INCORPORATED - CU80055195
3400 S Carrollton Ave, Unit 850752
New Orleans, LA 70185

Bill To:
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3400 S Carrollton Ave, Unit 850752
New Orleans, LA 70185

Affidavit of Publication

State of Illinois
County of Cook

Order Number: 7145507
Purchase Order:

This day, Jeremy Gates appeared before me and, after being duly sworn, made oath that:

1) He/she is affidavit clerk of Daily Press, a newspaper published by Daily Press, LLC in the city of Newport News and the state of Virginia
2) That the advertisement hereto annexed has been published in said newspaper on the dates stated below
3) The advertisement has been produced on the websites classifieds.pilotonline.com and https://www.publicnoticevirginia.com

Published on: **Feb 11, 2022; Feb 12, 2022.**

Jeremy Gates

Subscribed and sworn to before me in my city and state on the day and year aforesaid this 13 day of February, 2022

My commission expires November 23, 2024

Notary Signature

BRENDAN KOLASA
OFFICIAL SEAL
Notary Public, State of Illinois
My Commission Expires
November 23, 2024

Notary Stamp

VIRGINIA MEDIA

EARLY NOTICE OF A PROPOSED ACTIVITY WITH POTENTIAL TO IMPACT FLOODPLAINS AND WETLANDS JOINT BASE LANGLEY-EUSTIS LANGLEY AIR FORCE BASE, VIRGINIA

The Department of the Air Force (DAF) is preparing a Draft Environmental Assessment (EA) to evaluate potential environmental impacts associated with the proposed implementation of the Wildland Fire Management Plan (WFMP) at Joint Base Langley-Eustis – Langley Air Force Base (JBLE – Langley), Virginia. The purpose of the Proposed Action is to implement a coordinated approach to wildfire response and wildfire risk mitigation that includes JBLE – Langley's 633d Civil Engineer Squadron Fire and Emergency Services and natural resources staff, as well as the Fire Chief of the Air Force Wildland Fire Branch. The Proposed Action is needed to assure achievement of fire-related resource management, mission support objectives, and protection of significant values at JBLE – Langley from wildfire risk, including structures and infrastructure, natural resources, and cultural resources.

The proposed project is subject to Executive Order (EO) 11988, Floodplain Management, and EO 11990, Protection of Wetlands, requirements and objectives because planned fuels treatments, and prescribed fire treatments, as well as chemical and mechanical fuels treatments, are proposed within wetlands on JBLE – Langley as part of the Proposed Action. The proposed fuels management schedule for burn units on JBLE – Langley includes nine wetland areas. The mechanical fuels treatments proposed for implementation include mastication/mowing of areas that contain the invasive plant species privet (Ligustrum spp.), which could occur in wetlands. As part of the Proposed Action, chemical control of invasive plant species, such as common reed (Phragmites australis) and Japanese stiltgrass (Microstegium vimineum), would be implemented on portions of JBLE – Langley which include wetlands.

The DAF requests advance public comment to determine if there are public concerns regarding the project's potential impacts on floodplains or wetlands. The DAF would also like to solicit public input or comments on potential project alternatives. The proposed project will be analyzed in the forthcoming EA, and the public will have the opportunity to comment on the Draft EA when it is released.

The public comment period is 11 February 2022 to 13 March 2022. Please submit comments or requests for more information to the 633 Civil Engineer Squadron (CES) Environmental Element organization email at 633CES.CEIE.NEPAPublicComment@us.af.mil.

2/11 & 2/12/22 7145507

Agency Coordination

FORMAT PAGE

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 633D AIR BASE WING
JOINT BASE LANGLEY-EUSTIS VA

11 March 2022

Frances Greenway
Environmental Services Section
Virginia Department of Wildlife Resources
4010 West Broad Street
Richmond, Virginia 23230-3916

Submitted via email to ESSProjects@dwr.virginia.gov.

Dear Ms. Greenway,

We are contacting you in hopes of obtaining inputs on the potential impacts from our Department of the Air Force (DAF) proposal to implement the approved Wildland Fire Management Plan (WFMP) at Joint Base Langley-Eustis – Langley Air Force Base (JBLE – Langley), Virginia (Figure 1). In accordance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code 4321, *et seq.*), the Council of Environmental Quality NEPA Implementing Regulations (40 Code of Federal Regulations [CFR] Parts 1500-1508), and the DAF's Environmental Impact Analysis Process (32 CFR 989), the DAF is in the process of preparing an Environmental Assessment (EA) to assess the potential environmental impacts of the Proposed Action.

The purpose of the Proposed Action is to implement the JBLE– Langley's approved WFMP, which outlines a coordinated approach to wildfire response and wildfire risk mitigation that includes JBLE – Langley 633d Civil Engineer Squadron Fire and Emergency Services and natural resources staff, as well as the Fire Chief, Air Force Wildland Fire Branch. The Proposed Action is needed to assure achievement of fire-related resource management, mission support objectives, and protection of significant values at JBLE – Langley from wildfire risk, including structures and infrastructure, natural resources, and cultural resources.

The Proposed Action would implement the approved WFMP at JBLE-Langley. Implementation of the WFMP on the lands of the 633 Air Base Wing at JBLE – Langley is driven by a need to manage natural resources and to minimize the effects of wildfire on the Installation's significant values, which include structures and infrastructure and natural and cultural resources. The Proposed Action would meet the requirements of the USEPA's *Interim Air Quality Policy on Wildland and Prescribed Fires* and *Prescribed Fire on Wildland that May Influence Ozone and Particulate Matter Concentrations*". The Proposed Action would comply with all applicable laws and regulations and would meet the requirements of the US Environmental Protection Agency's *Interim Air Quality Policy on Wildland and Prescribed Fires* and *Prescribed Fire on Wildland that May Influence Ozone and Particulate Matter Concentrations.*

The EA will analyze the potential range of environmental impacts that would result from the Proposed Action. The DAF is currently considering two proposed alternatives (the Proposed Action and the No Action Alternative). The Proposed Action includes implementation of prescribed fire within established Fire Management Units (Figure 2), mechanical (nonfire) fuels treatments, wildfire risk management strategies, and improvements to land and firefighting resources. The No Action Alternative, which reflects the status quo, is analyzed as a benchmark against which effects of the Proposed Action can be evaluated.

JBLE-Langley would implement the WFMP within established FMUs. FMUs are areas defined by similar overall fire management objectives with consideration for specific (or dominant) constraints, requirements, and guidelines for implementation. Unique characteristics, such as topography, fuels, and natural resource concerns, would also be considered. On JBLE – Langley, there would be only one single, contiguous FMU (FMU 1), which would consist of the entirety of the Installation (2,895 acres), including 2,081 acres that are burnable (Figure 2). While nearly 72 percent of FMU 1 is considered burnable, a large proportion of this burnable area consists of lawns, the golf course, ornamental trees, and other maintained vegetation. Remaining areas consist of wetlands and forests (Figure 2), which would be available for consumption by fire. Topography in FMU 1 is generally level or slightly sloping with varying aspects toward the adjacent branches of the Back River.

As part of this EA, we request your assistance in identifying any potential areas of environmental impact to be assessed in this analysis. This information and your comments on the Proposed Action will help us develop the scope of our environmental review.

Please forward any comments or questions about this proposal to Ms. Sherry Johnson at sherry.johnson.4@us.af.mil within 30 days of receipt of this letter.

DAVID M JENNINGS
Chief, Environmental Element
633d Civil Engineer Squadron

2 Attachments:

1. Figure 1. Regional Location of Joint Base Langley-Eustis, Virginia
2. Figure 2. Proposed Adult Mosquito Treatment Areas at JBLE-Eustis

Figure 1. Location of Joint Base Langley-Eustis-Langley Air Force Base and Surrounding Area

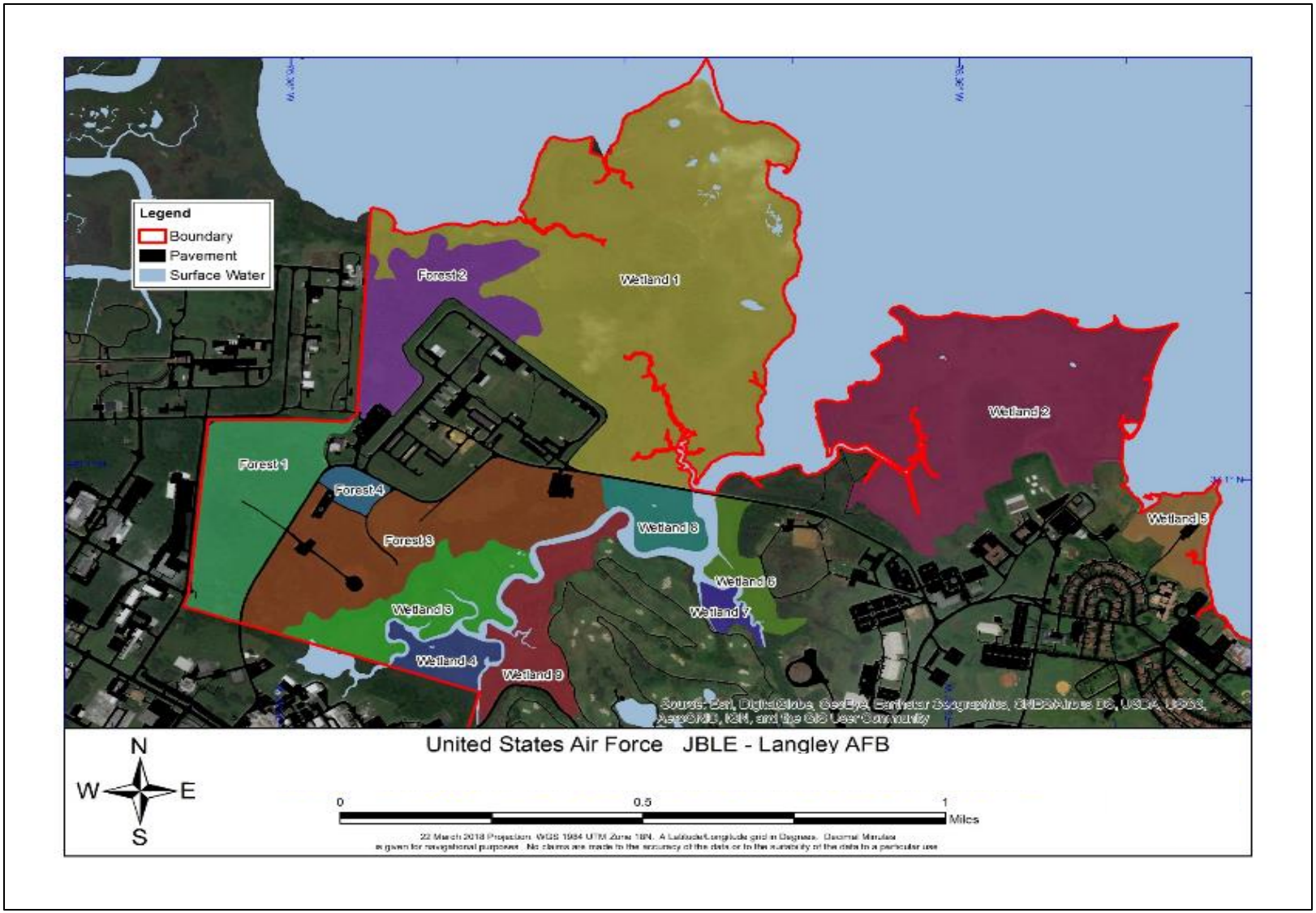

Figure 2. Prescribed Fire Units within Fire Management Unit 1 on Joint Base Langley Eustis – Langley Air Force Base

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 633D AIR BASE WING
JOINT BASE LANGLEY-EUSTIS VA

11 March 2022

Christopher DeHart
Environmental Services Manager
419 North Armistead Avenue
Hampton, Virginia 23669-3475

Dear Mr. DeHart,

We are contacting you in hopes of obtaining inputs on the potential impacts from our Department of the Air Force (DAF) proposal to implement the approved Wildland Fire Management Plan (WFMP) at Joint Base Langley-Eustis – Langley Air Force Base (JBLE – Langley), Virginia (Figure 1). In accordance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code 4321, *et seq.*), the Council of Environmental Quality NEPA Implementing Regulations (40 Code of Federal Regulations [CFR] Parts 1500-1508), and the DAF's Environmental Impact Analysis Process (32 CFR 989), the DAF is in the process of preparing an Environmental Assessment (EA) to assess the potential environmental impacts of the Proposed Action.

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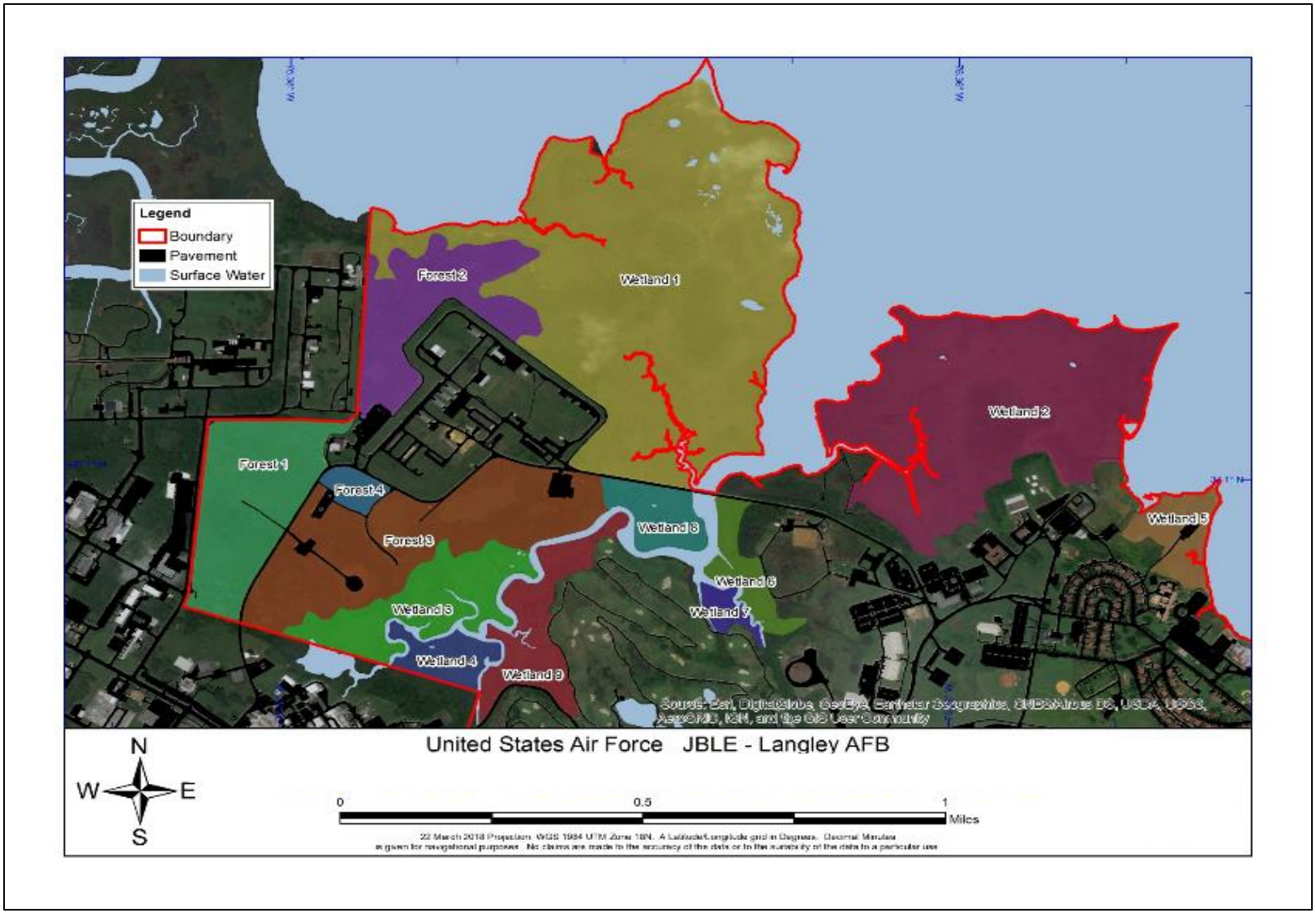

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DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 633D AIR BASE WING
JOINT BASE LANGLEY-EUSTIS VA

11 March 2022

Andrew Griffey
Hampton Wetland Board
22 Lincoln Street
Hampton, Virginia 23669-3522

Dear Mr. Griffey,

We are contacting you in hopes of obtaining inputs on the potential impacts from our Department of the Air Force (DAF) proposal to implement the approved Wildland Fire Management Plan (WFMP) at Joint Base Langley-Eustis – Langley Air Force Base (JBLE – Langley), Virginia (Figure 1). In accordance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code 4321, *et seq.*), the Council of Environmental Quality NEPA Implementing Regulations (40 Code of Federal Regulations [CFR] Parts 1500-1508), and the DAF's Environmental Impact Analysis Process (32 CFR 989), the DAF is in the process of preparing an Environmental Assessment (EA) to assess the potential environmental impacts of the Proposed Action.

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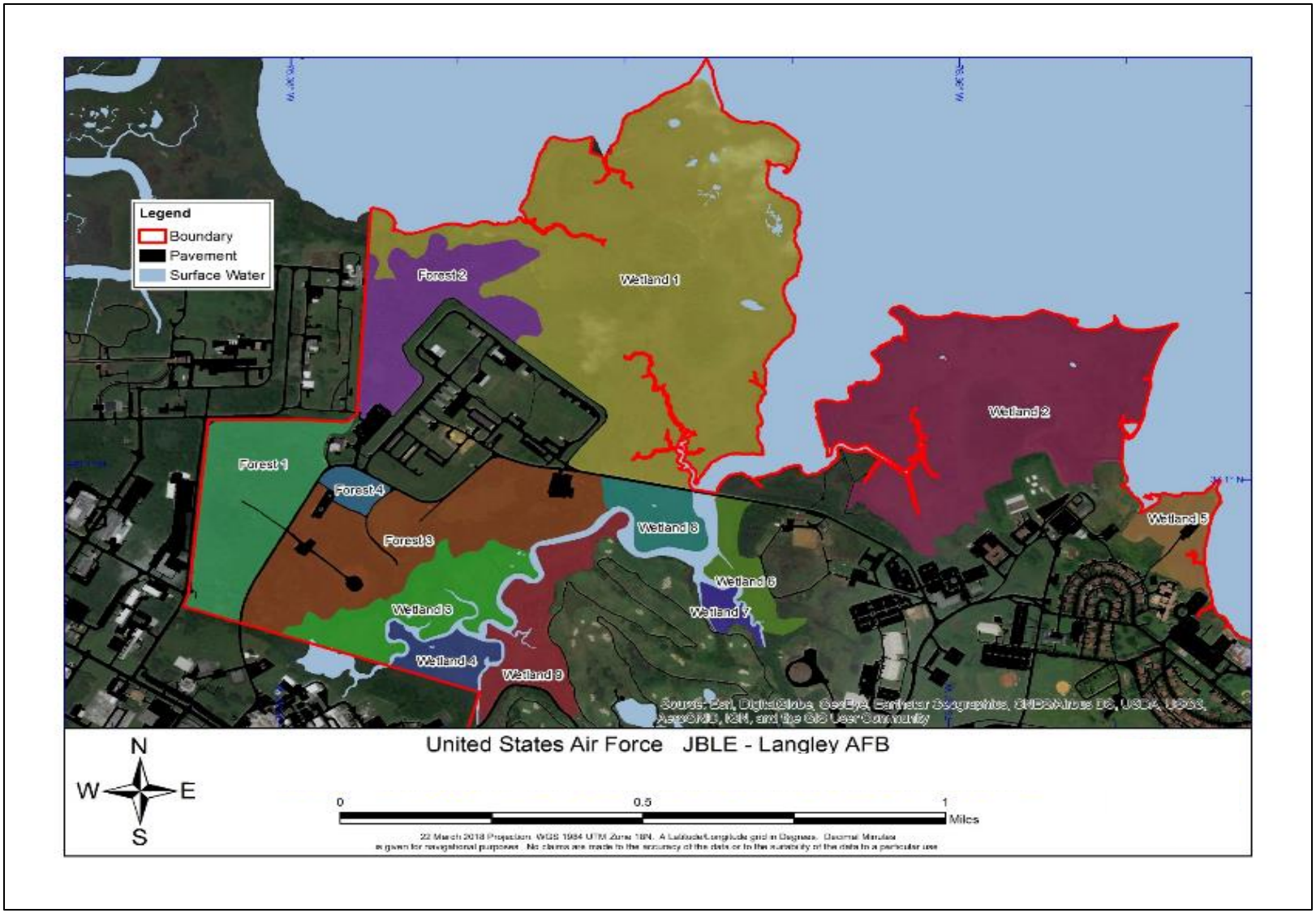

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DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 633D AIR BASE WING
JOINT BASE LANGLEY-EUSTIS VA

11 March 2022

Mayor Gordon Helsel
City of Poquoson, Virginia
500 City Hall Avenue
Poquoson, Virginia 23662-1996

Dear Mayor Helsel,

We are contacting you in hopes of obtaining inputs on the potential impacts from our Department of the Air Force (DAF) proposal to implement the approved Wildland Fire Management Plan (WFMP) at Joint Base Langley-Eustis – Langley Air Force Base (JBLE – Langley), Virginia (Figure 1). In accordance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code 4321, *et seq.*), the Council of Environmental Quality NEPA Implementing Regulations (40 Code of Federal Regulations [CFR] Parts 1500-1508), and the DAF's Environmental Impact Analysis Process (32 CFR 989), the DAF is in the process of preparing an Environmental Assessment (EA) to assess the potential environmental impacts of the Proposed Action.

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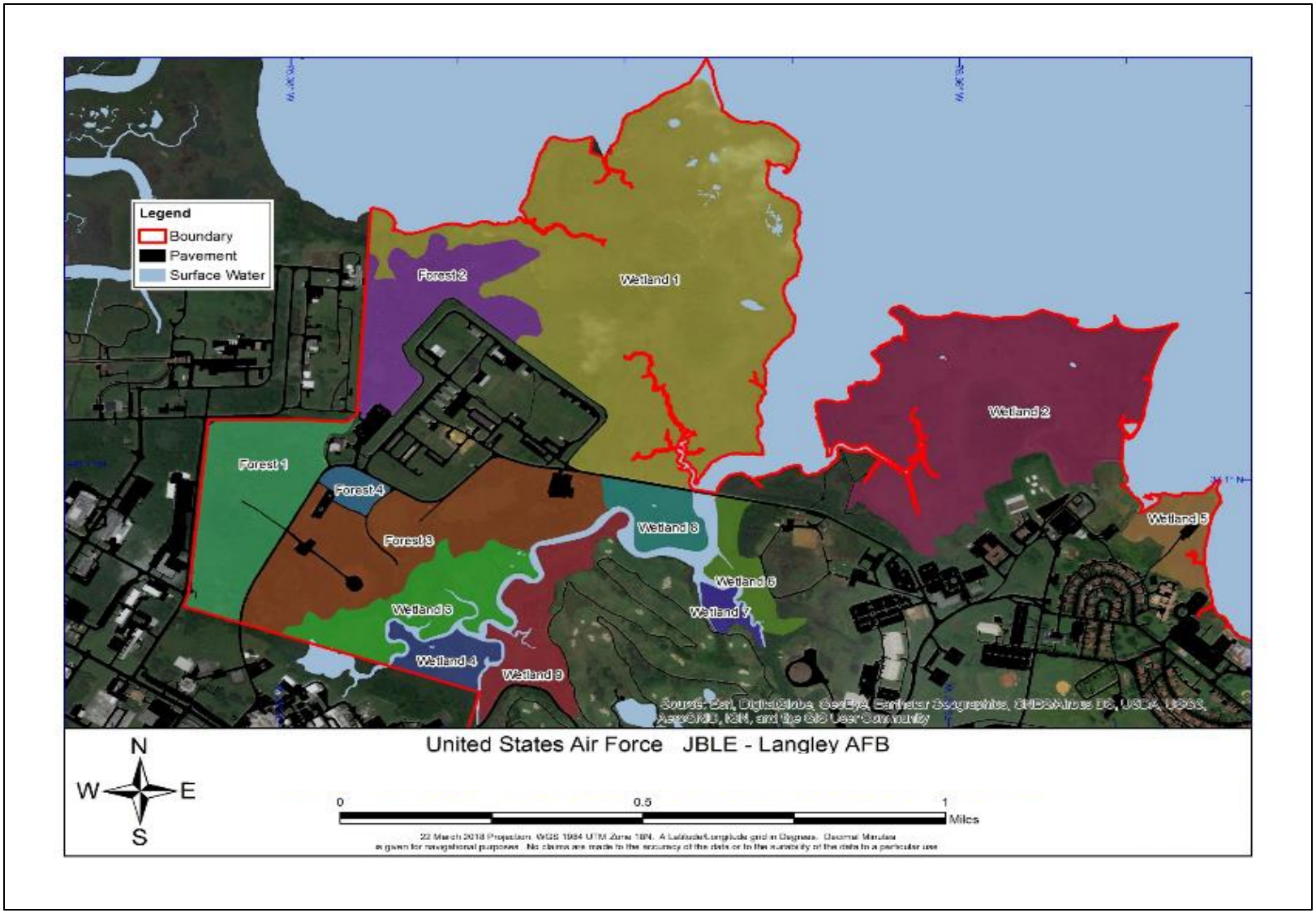

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DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 633D AIR BASE WING
JOINT BASE LANGLEY-EUSTIS VA

11 March 2022

J. Randall Wheeler
City Manager
500 City Hall Avenue
Poquoson, Virginia 23662-1996

Dear Mr. Wheeler,

We are contacting you in hopes of obtaining inputs on the potential impacts from our Department of the Air Force (DAF) proposal to implement the approved Wildland Fire Management Plan (WFMP) at Joint Base Langley-Eustis – Langley Air Force Base (JBLE – Langley), Virginia (Figure 1). In accordance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code 4321, *et seq.*), the Council of Environmental Quality NEPA Implementing Regulations (40 Code of Federal Regulations [CFR] Parts 1500-1508), and the DAF's Environmental Impact Analysis Process (32 CFR 989), the DAF is in the process of preparing an Environmental Assessment (EA) to assess the potential environmental impacts of the Proposed Action.

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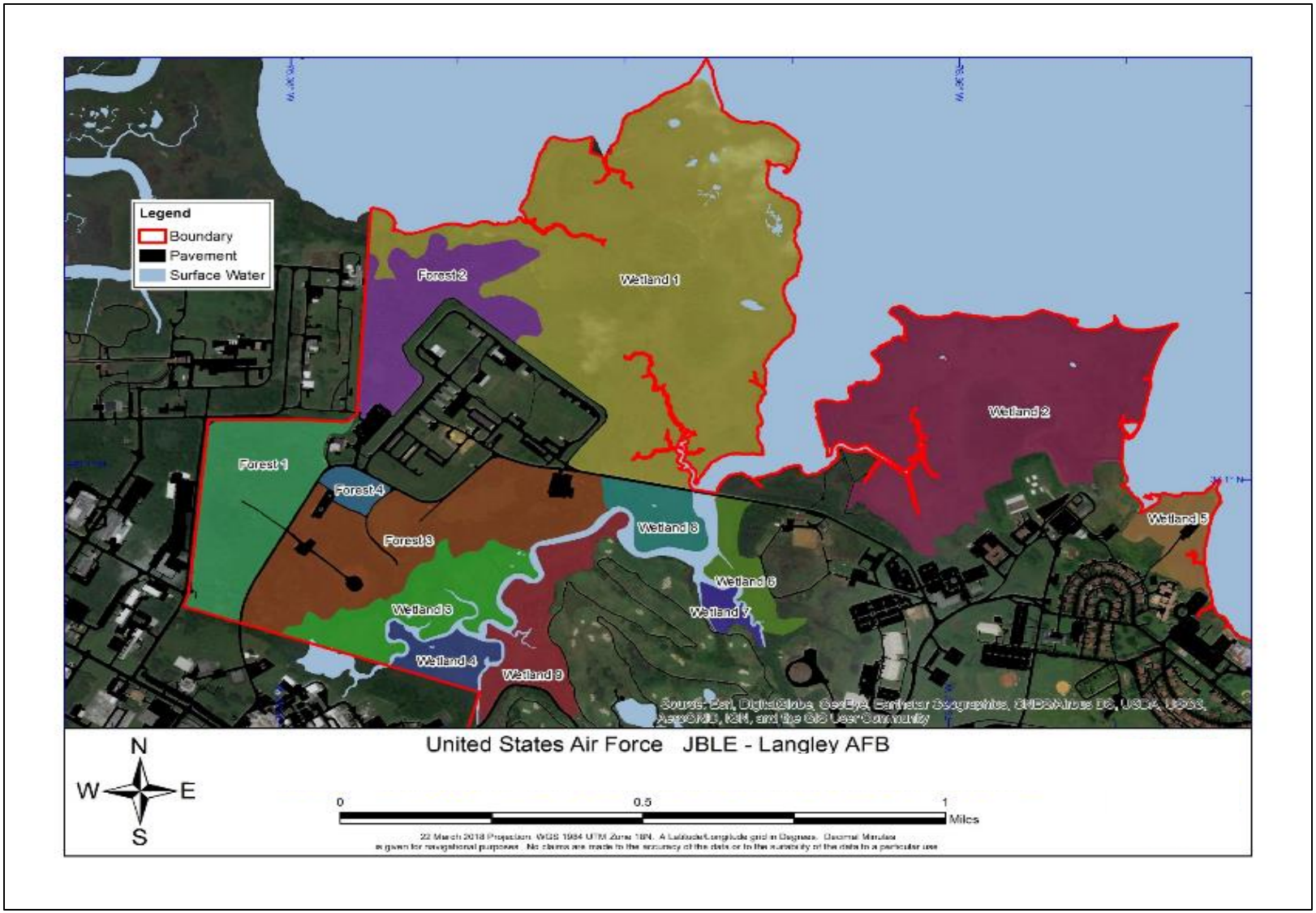

Figure 2. Prescribed Fire Units within Fire Management Unit 1 on Joint Base Langley Eustis – Langley Air Force Base

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 633D AIR BASE WING
JOINT BASE LANGLEY-EUSTIS VA

11 March 2022

Nicole Woodward
Regulatory Branch
US Army Corps of Engineers
803 Front Street
Norfolk, Virginia 23510-1011

Dear Ms. Woodward,

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DAVID M JENNINGS
Chief, Environmental Element
633d Civil Engineer Squadron

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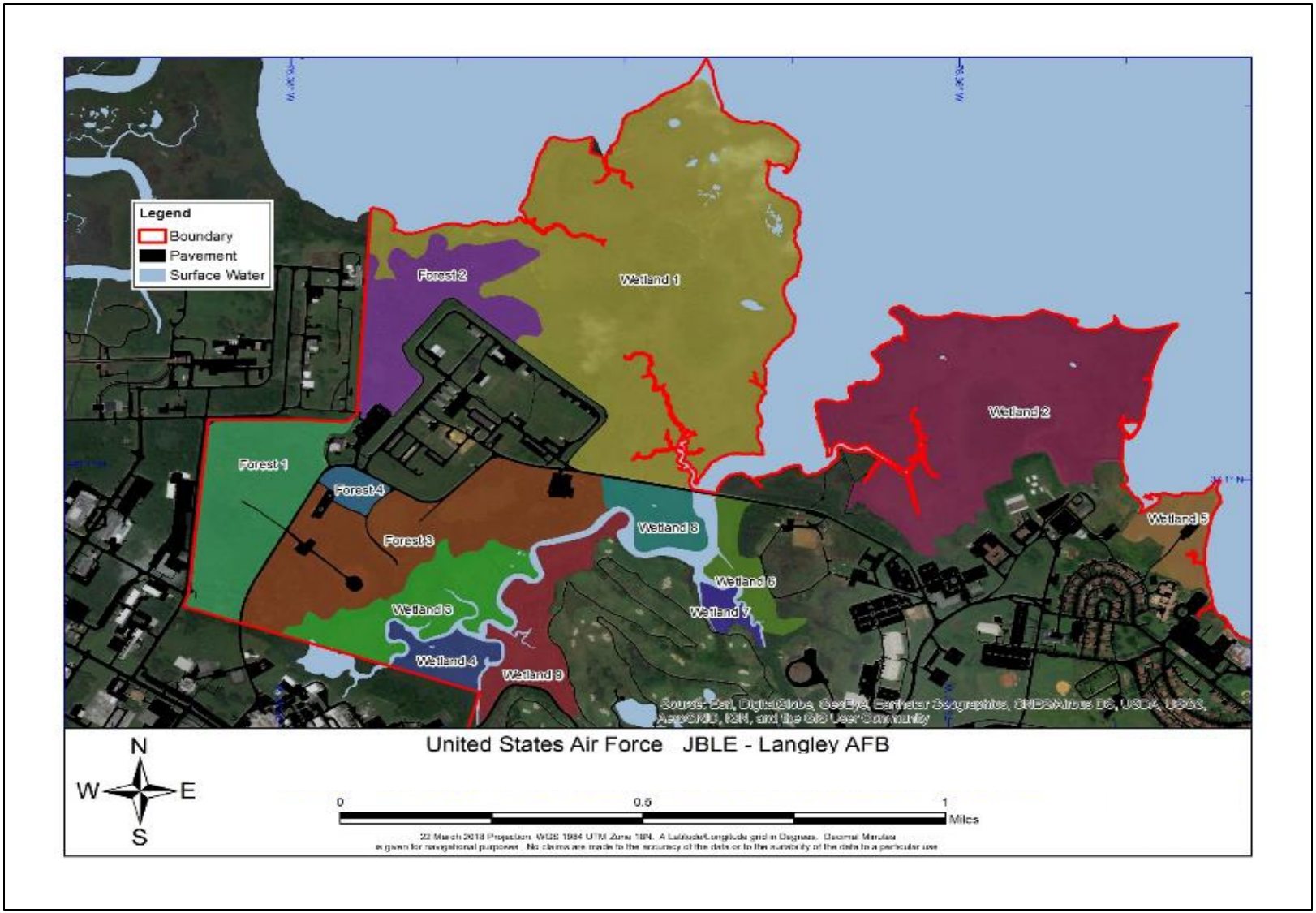

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DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 633D AIR BASE WING
JOINT BASE LANGLEY-EUSTIS VA

11 March 2022

Keith Boyd
USDA-NRCS
203 Wimbledon Lane
Smithfield, Virginia 23460-0620

Dear Mr. Boyd,

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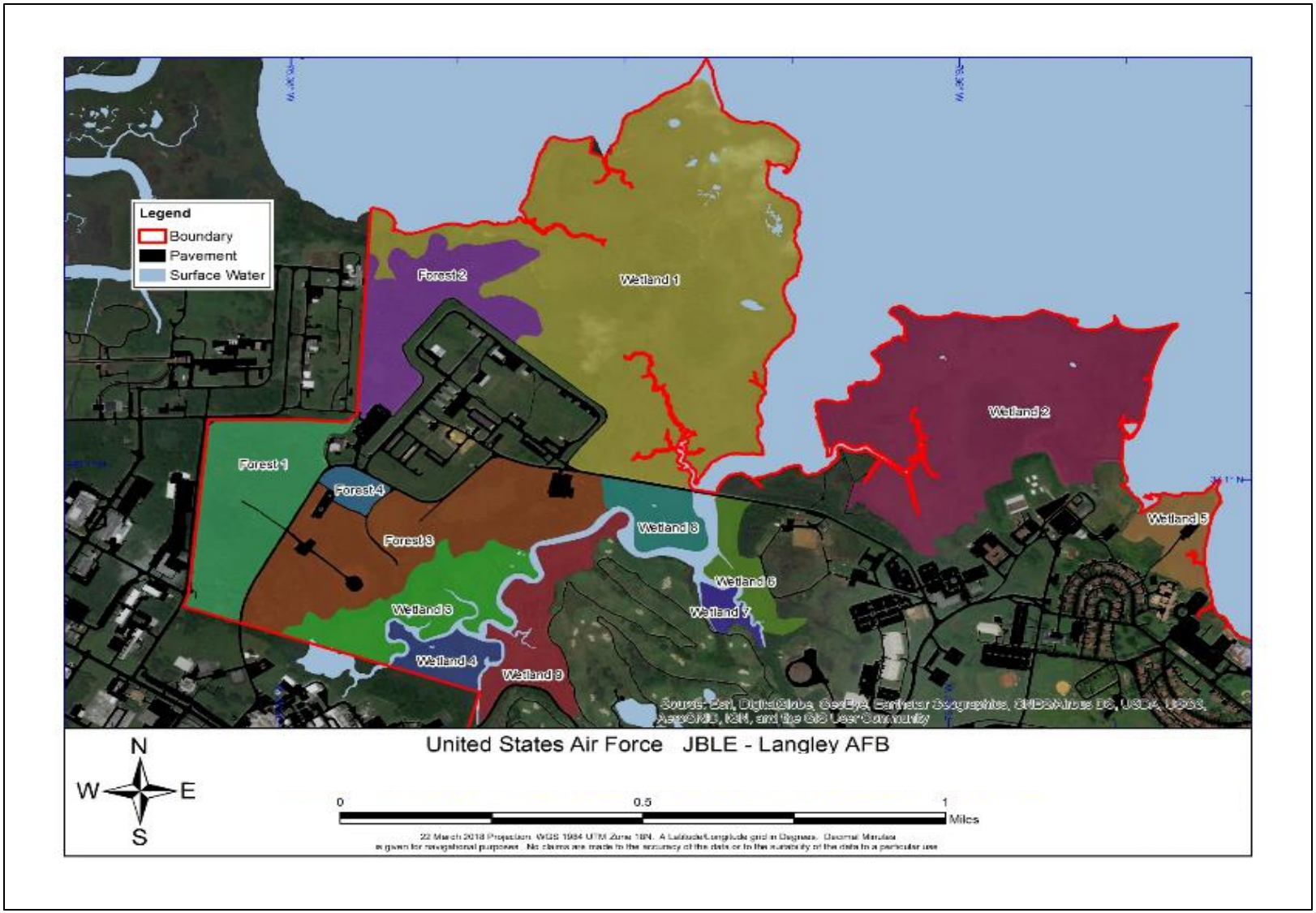

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DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 633D AIR BASE WING
JOINT BASE LANGLEY-EUSTIS VA

11 March 2022

Stepan Nevshehirlian
Environmental Assessment Branch
US EPA Mid-Atlantic Region
1650 Arch Street (3RA12)
Philadelphia, Pennsylvania 19103-2029
Submitted via email to Nevshehirlian.Stepan@epa.gov.

Dear Mr. Nevshehirlian,

We are contacting you in hopes of obtaining inputs on the potential impacts from our Department of the Air Force (DAF) proposal to implement the approved Wildland Fire Management Plan (WFMP) at Joint Base Langley-Eustis – Langley Air Force Base (JBLE – Langley), Virginia (Figure 1). In accordance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code 4321, *et seq.*), the Council of Environmental Quality NEPA Implementing Regulations (40 Code of Federal Regulations [CFR] Parts 1500-1508), and the DAF's Environmental Impact Analysis Process (32 CFR 989), the DAF is in the process of preparing an Environmental Assessment (EA) to assess the potential environmental impacts of the Proposed Action.

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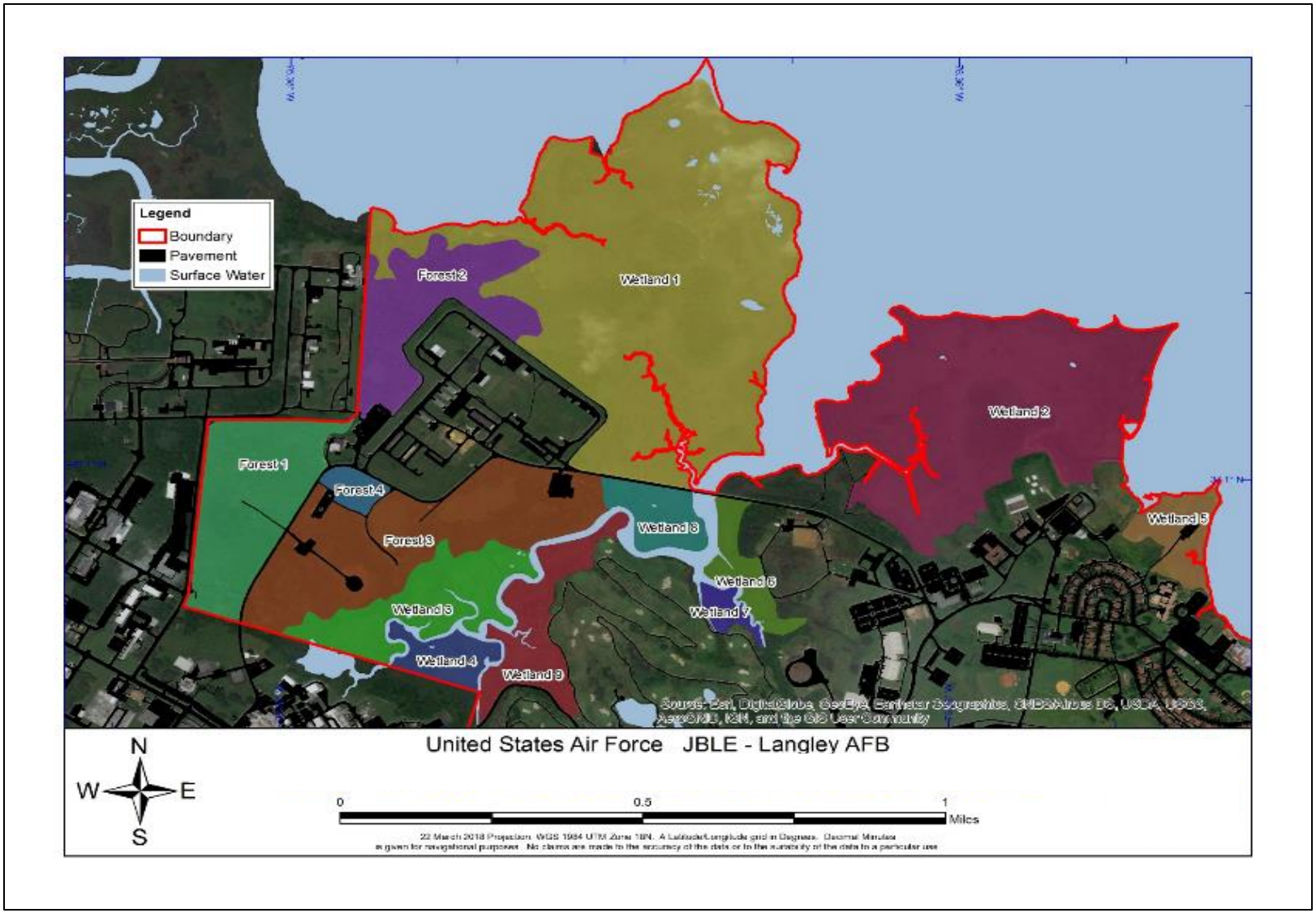

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DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 633D AIR BASE WING
JOINT BASE LANGLEY-EUSTIS VA

11 March 2022

Tony Watkinson
Chief
Habitat Management Division
Virginia Marine Resources Commission
380 Fenwick Road, Building 96
Fort Monroe, Virginia 23651-1064

Dear Mr. Watkinson,

We are contacting you in hopes of obtaining inputs on the potential impacts from our Department of the Air Force (DAF) proposal to implement the approved Wildland Fire Management Plan (WFMP) at Joint Base Langley-Eustis – Langley Air Force Base (JBLE – Langley), Virginia (Figure 1). In accordance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code 4321, *et seq.*), the Council of Environmental Quality NEPA Implementing Regulations (40 Code of Federal Regulations [CFR] Parts 1500-1508), and the DAF's Environmental Impact Analysis Process (32 CFR 989), the DAF is in the process of preparing an Environmental Assessment (EA) to assess the potential environmental impacts of the Proposed Action.

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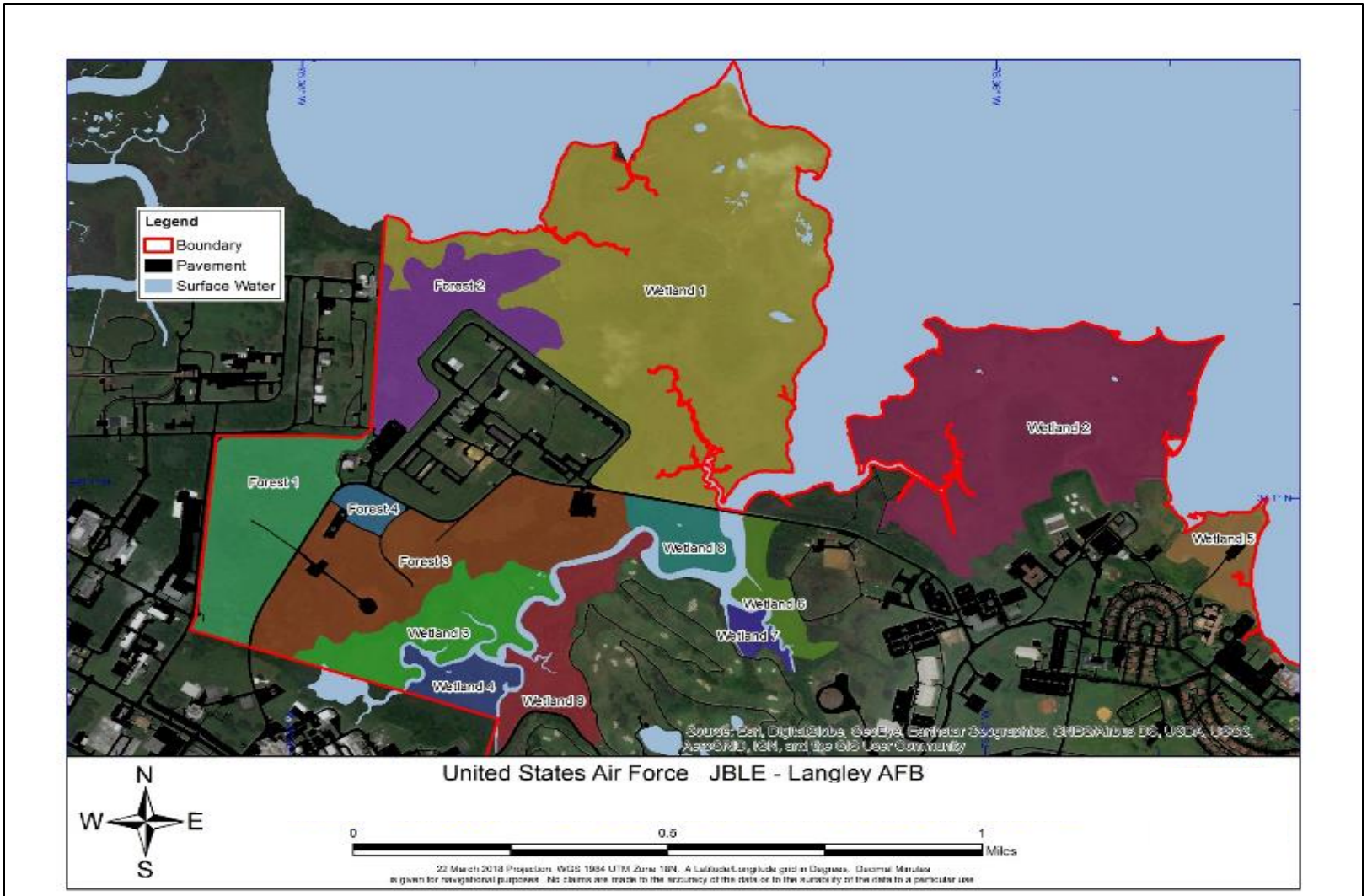

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DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 633D AIR BASE WING
JOINT BASE LANGLEY-EUSTIS VA

11 March 2022

Bettina Rayfield
Virginia Department of Environmental Quality
Office of Environmental Impact Review
629 East Main Street
Richmond, Virginia 23219-2405

Dear Ms. Rayfield,

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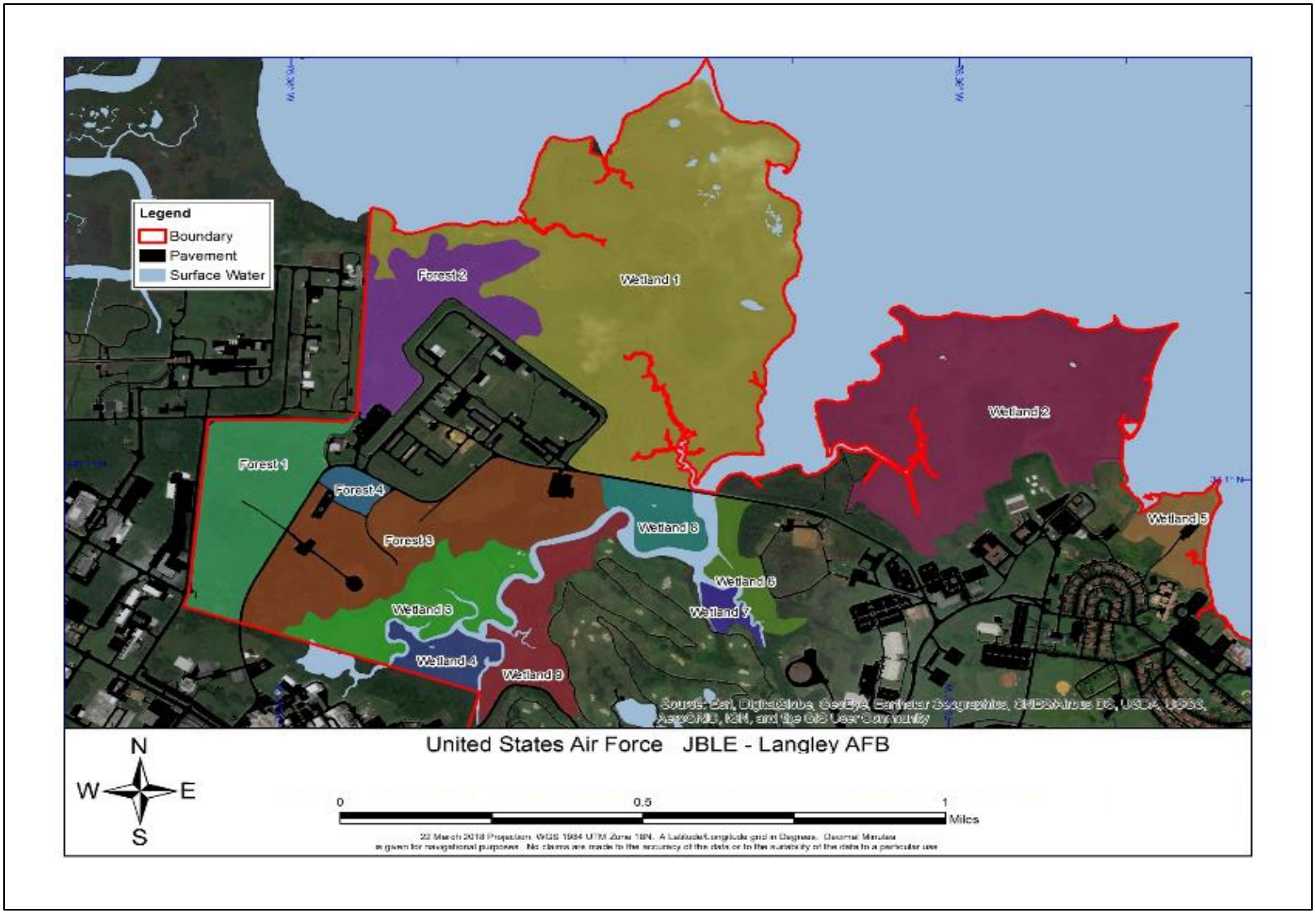

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DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 633D AIR BASE WING
JOINT BASE LANGLEY-EUSTIS VA

11 March 2022

Neil Morgan
York County Commissioner
P.O. Box 532
Yorktown, Virginia 23690-0532

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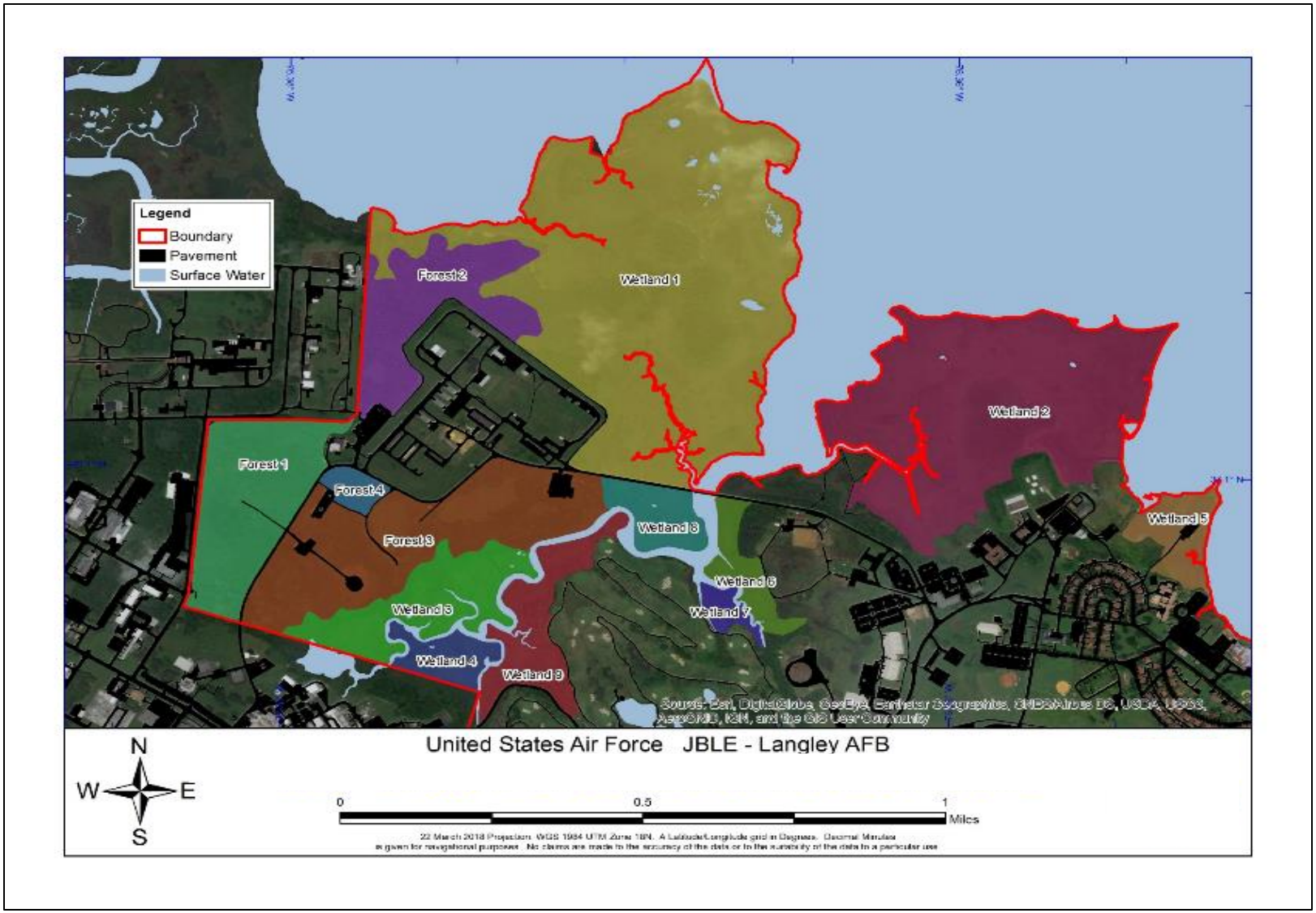

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DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 633D AIR BASE WING
JOINT BASE LANGLEY-EUSTIS VA

11 March 2022

Cindy Schulz
U.S. Fish and Wildlife Service - Virginia Field Office
6669 Short Lane
Gloucester, VA 23061
Submitted via email to cindy_schulz@fws.gov and virginiafieldoffice@fws.gov.

Dear Ms. Schulz,

We are contacting you in hopes of obtaining inputs on the potential impacts from our Department of the Air Force (DAF) proposal to implement the approved Wildland Fire Management Plan (WFMP) at Joint Base Langley-Eustis – Langley Air Force Base (JBLE – Langley), Virginia (Figure 1). In accordance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code 4321, *et seq.*), the Council of Environmental Quality NEPA Implementing Regulations (40 Code of Federal Regulations [CFR] Parts 1500-1508), and the DAF's Environmental Impact Analysis Process (32 CFR 989), the DAF is in the process of preparing an Environmental Assessment (EA) to assess the potential environmental impacts of the Proposed Action.

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The EA will analyze the potential range of environmental impacts that would result from the Proposed Action. The DAF is currently considering two proposed alternatives (the Proposed Action and the No Action Alternative). The Proposed Action includes implementation of prescribed fire within established Fire Management Units (FMU), mechanical (non-fire) fuels treatments, wildfire risk management strategies, and improvements to land and firefighting resources. The No Action Alternative, which reflects the status quo, is analyzed as a benchmark against which effects of the Proposed Action can be evaluated.

JBLE-Langley would implement the WFMP within established FMUs. FMUs are areas defined by similar overall fire management objectives with consideration for specific (or

dominant) constraints, requirements, and guidelines for implementation. Unique characteristics, such as topography, fuels, and natural resource concerns, would also be considered. On JBLE – Langley, there would be only one single, contiguous FMU (FMU 1), which would consist of the entirety of the Installation (2,895 acres), including 2,081 acres that are burnable (Figure 2). While nearly 72 percent of FMU 1 is considered burnable, a large proportion of this burnable area consists of lawns, the golf course, ornamental trees, and other maintained vegetation. Remaining areas consist of wetlands and forests (Figure 2), which would be available for consumption by fire. Topography in FMU 1 is generally level or slightly sloping with varying aspects toward the adjacent branches of the Back River.

In preparation of the EA, we will obtain details of federally listed, proposed, and candidate species or designated or proposed critical habitats that may be in the action area from the US Fish and Wildlife Service Information for Planning and Consultation website. Pursuant to Section 7 of the Endangered Species Act, we request additional information or any comments that may be beneficial in the development of the EA and for determination of potential impacts to listed species or critical habitat. This information and your comments on the Proposed Action will help us develop the scope of our environmental review.

Please forward any comments or questions about this proposal to Ms. Sherry Johnson at sherry.johnson.4@us.af.mil within 30 days of receipt of this letter.

DAVID M JENNINGS
Chief, Environmental Element
633d Civil Engineer Squadron

2 Attachments:

1. Figure 1. Location of Joint Base Langley-Eustis-Langley Air Force Base and Surrounding Area
2. Figure 2. Prescribed Fire Units within Fire Management Unit 1 on Joint Base Langley Eustis – Langley Air Force Base

Figure 1. Location of Joint Base Langley-Eustis-Langley Air Force Base and Surrounding Area

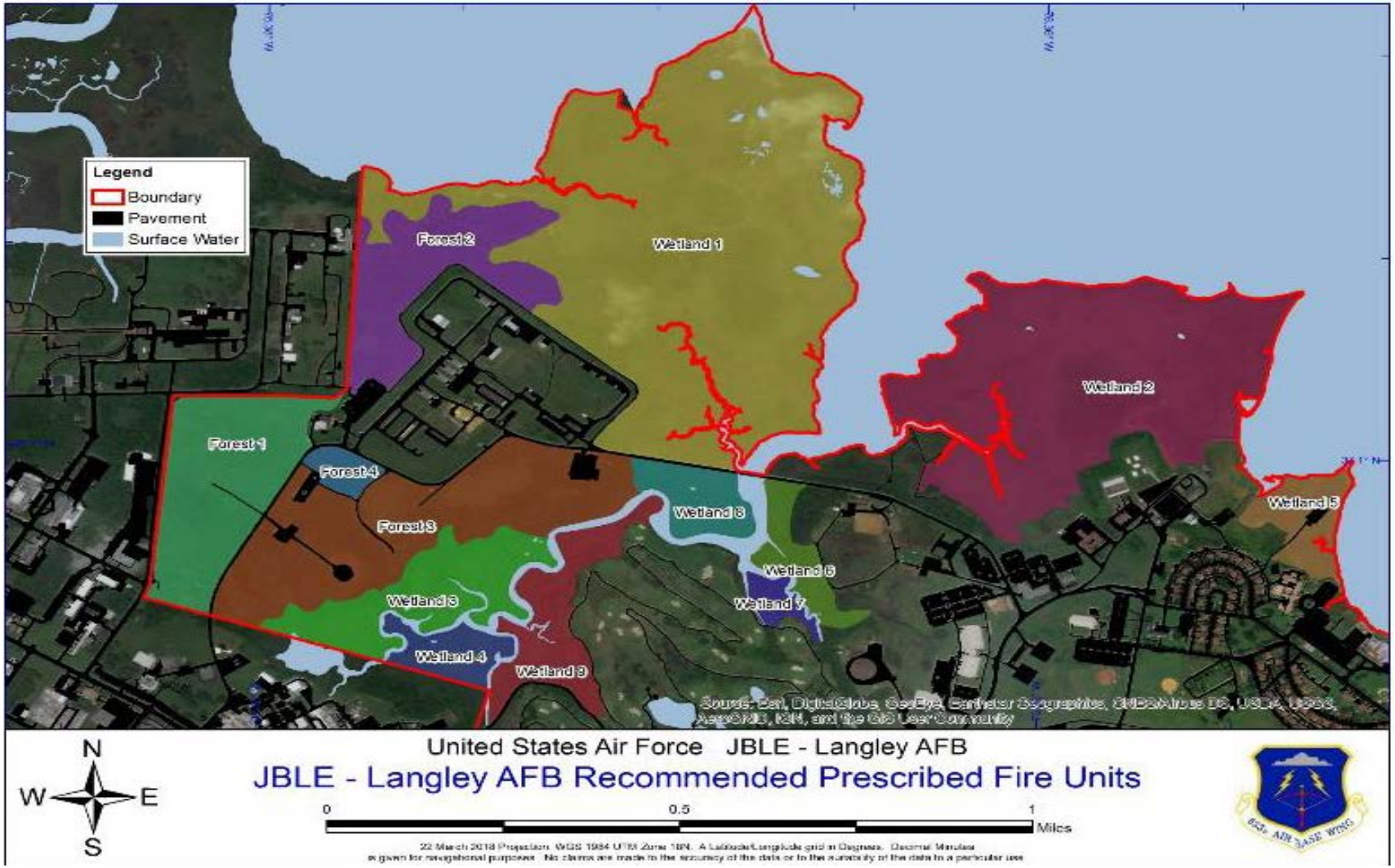

Figure 2. Prescribed Fire Units within Fire Management Unit 1 on Joint Base Langley Eustis – Langley Air Force Base

Agency Responses

FORMAT PAGE

CITY OF POQUOSON
OFFICE OF THE CITY MANAGER

500 CITY HALL AVENUE
POQUOSON, VA 23662
(757) 868-3000 *TELEPHONE*
(757) 868-3101 *FAX*

March 24, 2022

Department of the Air Force
Attn: David M. Jennings, Chief, Environmental Element
Headquarters 633D Air Base Wing
Joint Base Langley-Eustis VA

Dear Chief Jennings:

Thank you for the opportunity to provide input on the Department of the Air Force proposal to implement the approved Wildland Fire Management Plan at Joint Base Langley-Eustis – Langley Air Force Base. The City of Poquoson has no comments at this time.

Thank you for your continuing efforts in support of Joint Base Langley-Eustis, our local communities and our nation.

Sincerely,

J. Randall Wheeler, City Manager
City of Poquoson

From: Traver, Carrie <Traver.Carrie@epa.gov>
Sent: Thursday, April 7, 2022 11:29 AM
To: JOHNSON, SHERRY M GS-12 USAF ACC 633 CES/CEIE <sherry.johnson.4@us.af.mil>
Cc: Nevshehirlian, Stepan <Nevshehirlian.Stepan@epa.gov>
Subject: [URL Verdict: Neutral][Non-DoD Source] FW: Early Agency Notification -- Department of the Air Force Proposed WFMP Implementation at JBLE - Langley, VA

Hello Ms. Johnson:

I am currently coordinating with EPA's Air and Radiation Division as their input may be helpful for the Study. However, they are unable to provide comments by 4/11. Would your project timeline accommodate a short extension for their comments? (Perhaps 1-2 weeks?) We could provide other scoping comments in advance of the Air comments.

Please let me know if a slight extension for the Air Quality comments is feasible as soon as possible.

Thank you,
Carrie

Carrie Traver
Life Scientist
Office of Communities, Tribes, & Environmental Assessment
U.S. Environmental Protection Agency, Region 3
1650 Arch Street – 3RA12
Philadelphia, PA 19103
215-814-2772
traver.carrie@epa.gov

From: Traver, Carrie <Traver.Carrie@epa.gov>
Sent: Saturday, April 9, 2022 12:30 PM
To: JOHNSON, SHERRY M GS-12 USAF ACC 633 CES/CEIE <sherry.johnson.4@us.af.mil>
Cc: Nevshehirlian, Stepan <Nevshehirlian.Stepan@epa.gov>
Subject: [URL Verdict: Neutral][Non-DoD Source] Early Agency Notification -- Department of the Air Force Proposed WFMP Implementation at JBLE - Langley, VA

Dear Ms. Johnson:

Thank you for providing notice that the Department of the Air Force (DAF) is preparing an Environmental Assessment (EA or Study) to evaluate the impacts associated with implementation of the approved Wildland Fire Management Plan (WFMP) at Joint Base Langley-Eustis–Langley (JBLE – Langley). The Proposed Action would implement the approved WFMP at JBLE-Langley.

We have several recommendations for your consideration in the development of the EA in compliance with the National Environmental Policy Act (NEPA) of 1969, the CEQ regulations implementing NEPA (40 CFR 1500-1508) and Section 309 of the Clean Air Act.

Purpose and Need
The purpose and need for the action should be clearly stated in the EA. The letter indicates that purpose of the Proposed Action "is to implement JBLE–Langley's approved WFMP, which outlines a coordinated approach to wildfire response and wildfire risk mitigation…" Implementation of the plan appears to describe the Proposed Action. We recommend that the EA define the purpose of the Proposed Action in light of the need.

Identification of the purpose and need should allow the range of alternatives to be fully evaluated. The Purpose and Need section in the EA should:

- Describe the underlying problems or deficiencies, including the potential risk of wildfire damage to structures and resources and other vulnerabilities.
- Discuss specific resource management needs.
- Outline mission objectives, including references to specific guidance and planning documents.
- Identify how the Proposed Action will meet the purpose and need by resolving problems or deficiencies.

Proposed Action
WFMP
As described, the Proposed Action includes implementation of prescribed fire, mechanical fuels treatment, wildfire management strategies, and improvements to land and firefighting resources.

- We recommend discussing how the plan was developed and explaining why it is appropriate to have a single Fire Management Unit (FMU) across the installation and how the Prescribed Fire Units were determined.
- We recommend indicating the management strategies, success criteria, implementation schedule, and timelines.
- The duration of the WFMP should be indicated. Frequent periodic review is recommended as ecological conditions, landscape management, or law or policy may change.

- It would be helpful to make the approved WFMP for JBLE-Langley available along with the EA. We recommend including it as an appendix and linking to appropriate sections of the plan.

We recommend that the Study clearly outline both positive and negative potential impacts of the management techniques proposed. Specific detail on how and when the various management strategies in the plan would be selected and implemented and flexibilities and best management practices (BMPs) to minimize potential adverse impacts should be fully explained.

Roads and Skid Trails
Access is a critical component of vegetation management activities and is a potential source of impact. The EA should indicate whether existing roads and trails would be used, improved (e.g., widened, surfaced, or graded), or created to access the areas needed for vegetation management.

- We recommend the EA include a map showing existing or proposed roads, skid trails, or other access in relation to resources, such as surface waters, forests, and other habitat.

- To reduce adverse impacts, EPA recommends minimizing road construction, as well as siting roads and skid trails to limit impacts to surface waters or other sensitive resources.

Biological Resources

It is critical that potential resource impacts and tradeoffs be fully evaluated. We recommend tailoring fire management strategies in natural lands to avoid adverse impacts to native flora and fauna and to promote healthy ecosystems. We recommend that the EA evaluate how prescribed fire and other proposed management actions can be used to advance restoration goals for native plant communities while avoiding adverse impacts.

Vegetation

- We recommend that the natural communities be characterized in each Prescribed Fire Unit in accordance with the Natural Communities of Virginia Ecological Community Groups (https://www.dcr.virginia.gov/natural-heritage/natural-communities/nctoc). Maps showing these communities would be helpful.

- The EA should provide a complete description of how these plant communities would be impacted by the proposed activities. To assess potential impacts, tree removal and vegetation conversion from the components of the project should be fully evaluated and quantified.

- To characterize impacts to forested areas, it would be helpful to assess the general age and size of trees, species composition of the various strata, presence of other stressors, such as invasive insect pests, and fire ecology/tolerance.

Figure 2 shows 8 wetlands and 4 forests as Prescribed Fire Units within Fire Management Unit 1. We recommend clarifying whether the forested areas have been investigated for wetlands and the acreage of wetlands determined or estimated in these units.

Fauna

Impacts from the proposed activities to fauna that may be present should be fully evaluated. Such impacts include but are not limited to direct mortality or injury (especially for less mobile organisms), habitat alteration, noise, and disturbance.

Impacts on the plant communities and ecological processes that support fauna should be carefully evaluated. Habitat at JBLE-Langley is important for migratory birds, including a number of Birds of Conservation Concern (BCC), and portions of JBLE-Langley are mapped as important habitat to imperiled species by Nature's Network. (This tool analyzes habitats used by over 600 Species of Greatest Conservation Need in the Mid-Atlantic and Northeast.) We recommend discussing important habitat types or features in the EA and identifying these areas on maps in relation to the proposed activities.

Potential impacts to federal and state species of special concern are a critical issue; we recommend that consultation with the USFWS and VA Department of Conservation and Recreation be conducted as early as possible to avoid adverse impacts to species. We recommend that consultation and commitments to mitigation be documented in the EA.

In addition to listed species, potential impact minimization on sensitive species and life stages, including migratory species and BCC, forest interior dwelling species (FIDs), bats, and herptiles should be fully evaluated. Such species are experiencing significant population declines. Avoidance of adverse impacts to breeding or nesting species, including any impacts to vernal pools and other breeding habitat for amphibians and reptiles should be fully considered.

Timing of prescribed burns or mechanical treatment, access for management, areas that will not be burned or disturbed, buffers around sensitive resources, and other BMPs should be described.

Invasive Species

We recommend listing significant invasive species on the installation, describing existing monitoring or management, and indicate how prescribed burning or other actions may be used as part of invasive species management.

The EA should also describe how management actions will avoid introducing or spreading invasive species, including appropriate BMPs.

Aquatic Resources

EPA considers the protection of aquatic resources to be a critical issue. Given the extensive wetlands at JBLE-Langley, the Proposed Action has the potential to adversely impact aquatic resources; therefore, resource management should be carefully evaluated, planned, and monitored.

Existing resource conditions provide the basis for the analysis of potential impacts and should be thoroughly addressed in the NEPA analysis. We recommend the EA include comprehensive resource information regarding the wetlands in each Prescribed Fire Unit, such as vegetation, soils, hydrology, and acreage of each type of wetland. Detailed maps are helpful. Where impacts, including restoration or enhancement are proposed, conditional and functional assessment of wetlands is appropriate.

- The EA should indicate the most recent delineation of resources in accordance with the 1987 Corps of Engineers Wetland Delineation Manual and the Atlantic and Gulf Coastal Plain Regional Supplement. We recommend including this information in the appendices. If a recent delineation has not been conducted, EPA recommends obtaining an updated delineation to determine impacts and appropriate permitting.

- EPA recommends identifying all aquatic resources including streams or channels that may be impacted along with appropriate data regarding stream stability, sediment loads, aquatic life, water quality, and impairments.

The EA should assess each alternative's potential negative impacts and benefits to aquatic resources, including impacts to water quality, stream and wetland processes, and fish and benthic invertebrates and

their habitat. Preventing degradation in the aquatic resources on and adjacent to the site is important to reduce the potential for adverse impacts to both habitat and water quality. Adverse impacts may occur from vegetation loss, accelerated erosion/soil loss, soil compaction, increased surface storm flows, decreased infiltration, and changes in water temperature associated with loss of shade or channel widening.

- We recommend indicating specific design criteria, minimization, and monitoring measures that will be used to reduce the potential for water resource impacts. Examples of minimization measures include: using existing impervious locations for staging, using existing roads or disturbed areas for access, establishing special protection areas such as exclusion or buffer zones, and selection of equipment to reduce compaction and other impacts.

- We recommend that the EA indicate any temporary or permanent impacts associated with access roads/trails and discuss design criteria and BMPs that will reduce the potential for negative effects such as compaction and disruption of hydrology. We suggest considering potential improvements such as replacing inadequate existing culverts or relocating roads to minimize impacts, if appropriate.

- Acreage of all permanent and temporary impacts to wetlands and linear feet of stream including restoration, conversion, hydrological modification, crossings, or fill should be estimated. In accordance with the CWA 404 and Executive Order 11990**,** adverse impacts should be avoided to the maximum extent practicable.

Mitigation

For temporary impacts, restoration plans should specify how disturbed areas will be reestablished and monitored to confirm full restoration of structure and function, including adaptive management measures. Permanent impacts, including conversion of forested wetlands to emergent marsh, may require compensatory mitigation. We recommend including a plan of how such impacts will be offset in the watershed.

Climate Change

EPA recommends that the EA quantify greenhouse (GHG) emissions from the Proposed Action and alternatives, discuss opportunities to reduce those emissions, and address climate impacts and strategies for resilience. EPA encourages use of the Council on Environmental Quality *Final Guidance for Federal Departments and Agencies on the Consideration of Greenhouse Gas (GHG) Emissions and the Effects of Climate Change in NEPA Reviews* (August 1, 2016).

EPA recommends discussing climate adaptation strategies for changing environmental conditions, such as sea level rise and increased coastal flooding risk. The EA should discuss effects of the vulnerability of ecological communities and anticipated shifts of species under projected climate conditions.

Consistent with the goals of Executive Order 14008, EPA encourages measures to provide for diverse, healthy ecosystems that are resilient to climate stressors, effective mitigation to offset adverse impacts of projects or actions, and reduction of greenhouse gas emissions to the lowest practical levels.

Environmental Justice

The presence of communities of potential environmental justice concern (EJ) in proximity to the Proposed Action should be evaluated. EPA recommends the use of the EJSCREEN, (https://www.epa.gov/ejscreen), an online mapping tool that combines environmental and demographic data to indicate populations that may be vulnerable to adverse environmental impacts. In addition to data concerning communities of color and low-income populations, the tool provides demographic data regarding linguistic isolation, education, and age, which may enhance EJ-related analyses and outreach.

The EA should address any potential impacts to communities, such as smoke and localized air quality impacts, traffic, and noise. We note impacts to local air quality may have the potential to be disproportionately high to EJ communities as these communities may already have high existing environmental and health burdens.

EPA encourages the DAF to conduct or continue community outreach for meaningful public engagement and participation. We recommend including plans to provide for community feedback and notices to affected communities, including public notification of pending burns.

Air Quality
Our Air and Radiation Division will be providing additional comments in the near future.

Again, thank you for soliciting early feedback for consideration in the development of the Study. Please let me know if you would like to discuss any of these comments. I would like to request a copy of the draft EA by email when it is available.

Thank you,

Carrie

Carrie Traver
Life Scientist
Office of Communities, Tribes, & Environmental Assessment
U.S. Environmental Protection Agency, Region 3
1650 Arch Street – 3RA12
Philadelphia, PA 19103
215-814-2772
traver.carrie@epa.gov

COMMONWEALTH of VIRGINIA

Marine Resources Commission
380 Fenwick Road
Bldg 96
Fort Monroe, VA 23651-1064

Justin D. Worrell
Acting Commissioner

May 6, 2022

Department of the Air Force
Attn: Sherry Johnson

Re: Environmental Assessment / Air Force / Hampton

Dear Ms. Johnson,

This will respond to the request for comments regarding the Environmental Assessment for the Wildland Fire Management Plan, prepared by the Department of the Air Force (DAF). Specifically, the DAF has proposed the implementation of prescribed fire within established Fire Management Units, mechanical (nonfire) fuels treatments, wildfire risk management strategies, and improvements to land and fire fighting resources in the City of Hampton, Virginia.

We reviewed the provided project documents and found the proposed project may be outside the jurisdictional areas of the Virginia Marine Resources Commission (VMRC). However, authorization from the City of Hampton may be required.

Please be advised that the VMRC pursuant to Chapters 12, 13 and 14 of Title 28.2 of the Code of Virginia, administers permits required for submerged lands, tidal wetlands, and beaches and dunes. Any jurisdictional impacts will be reviewed by the VMRC during the Joint Permit Application process. Should the proposed project change, a new review by this agency may be required relative to these jurisdictional areas.

Please contact me at (757) 247-2250 or by email at lauren.chartrand@mrc.virginia.gov if you have questions. Thank you for the opportunity to comment

Sincerely,

Lauren Chartrand
Environmental Engineer, Habitat Management

LC/cg
HM

Tribal Coordination

FORMAT PAGE

Sent via email to wayne.adkins@chickahominytribe.org

Dear Chief Adkins,

The Department of Air Force (DAF) is preparing an Environmental Assessment (EA) to analyze the potential impacts associated with the proposed implementation of the approved Wildland Fire Management Plan (WFMP) at Joint Base Langley-Eustis – Langley Air Force Base (JBLE – Langley), Virginia. Figure 1 (see attached) shows the regional location of JBLE-Langley. The purpose of the Proposed Action is to implement the JBLE– Langley's approved WFMP, which outlines a coordinated approach to wildfire response and wildfire risk mitigation that includes JBLE – Langley 633d Civil Engineer Squadron Fire and Emergency Services and natural resources staff, as well as the Fire Chief, Air Force Wildland Fire Branch.

The purpose of the Proposed Action is to implement the JBLE– Langley's approved WFMP, which outlines a coordinated approach to wildfire response and wildfire risk mitigation. The Proposed Action is needed to assure achievement of fire-related resource management, mission support objectives, and protection of significant values at JBLE – Langley from wildfire risk, including structures and infrastructure, natural resources, and cultural resources. The Proposed Action includes implementation of prescribed fire within established Fire Management Units (FMU), mechanical (non-fire) fuels treatments, wildfire risk management strategies, and improvements to land and firefighting resources. JBLE-Langley would implement the WFMP within established FMUs. FMUs are areas defined by similar overall fire management objectives with consideration for specific (or dominant) constraints, requirements, and guidelines for implementation. Unique characteristics, such as topography, fuels, and natural resource concerns, would also be considered. On JBLE – Langley, there would be only one single, contiguous FMU (FMU 1), which would consist of the entirety of the Installation (2,895 acres), including 2,081 acres that are burnable (see attached Figure 2). While nearly 72 percent of FMU 1 is considered burnable, a large proportion of this burnable area consists of lawns, the golf course, ornamental trees, and other maintained vegetation. Remaining areas consist of wetlands and forests (see attached Figure 2), which would be available for consumption by fire.

The EA will be prepared in compliance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code [USC] 4321, *et seq.*), the Council of Environmental Quality NEPA Implementing Regulations (40 Code of Federal Regulations [CFR] Parts 1500-1508), and the Air Force Environmental Impact Analysis Process (32 CFR 989). We invite you to engage in government-to-government consultation and request your concurrence with the Area of Potential Effects (APE) as defined in Figure 2 (see attached). We also ask your assistance in identifying historic properties or areas of religious and cultural significance to your tribe within the APE.

Please forward any comments or questions about this proposal to Ms. Sherry Johnson at sherry.johnson.4@us.af.mil. Providing any comments to Ms. Johnson at your earliest convenience will provide us the opportunity to consider your input more fully.

Sincerely,

Sherry M. Johnson
NEPA & Cultural Resources Program Manager
633rd Civil Engineer Squadron
Joint Base Langley-Eustis
Office Phone: (757) 225-4223

Sent via email to epaden@delawarenation-nsn.gov

Dear Erin Paden,

The Department of Air Force (DAF) is preparing an Environmental Assessment (EA) to analyze the potential impacts associated with the proposed implementation of the approved Wildland Fire Management Plan (WFMP) at Joint Base Langley-Eustis – Langley Air Force Base (JBLE – Langley), Virginia. Figure 1 (see attached) shows the regional location of JBLE-Langley. The purpose of the Proposed Action is to implement the JBLE– Langley's approved WFMP, which outlines a coordinated approach to wildfire response and wildfire risk mitigation that includes JBLE – Langley 633d Civil Engineer Squadron Fire and Emergency Services and natural resources staff, as well as the Fire Chief, Air Force Wildland Fire Branch.

The purpose of the Proposed Action is to implement the JBLE– Langley's approved WFMP, which outlines a coordinated approach to wildfire response and wildfire risk mitigation. The Proposed Action is needed to assure achievement of fire-related resource management, mission support objectives, and protection of significant values at JBLE – Langley from wildfire risk, including structures and infrastructure, natural resources, and cultural resources. The Proposed Action includes implementation of prescribed fire within established Fire Management Units (FMU), mechanical (non-fire) fuels treatments, wildfire risk management strategies, and improvements to land and firefighting resources. JBLE-Langley would implement the WFMP within established FMUs. FMUs are areas defined by similar overall fire management objectives with consideration for specific (or dominant) constraints, requirements, and guidelines for implementation. Unique characteristics, such as topography, fuels, and natural resource concerns, would also be considered. On JBLE – Langley, there would be only one single, contiguous FMU (FMU 1), which would consist of the entirety of the Installation (2,895 acres), including 2,081 acres that are burnable (see attached Figure 2). While nearly 72 percent of FMU 1 is considered burnable, a large proportion of this burnable area consists of lawns, the golf course, ornamental trees, and other maintained vegetation. Remaining areas consist of wetlands and forests (see attached Figure 2), which would be available for consumption by fire.

The EA will be prepared in compliance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code [USC] 4321, *et seq.*), the Council of Environmental Quality NEPA Implementing Regulations (40 Code of Federal Regulations [CFR] Parts 1500-1508), and the Air Force Environmental Impact Analysis Process (32 CFR 989). We invite you to engage in government-to-government consultation and request your concurrence with the Area of Potential Effects (APE) as defined in Figure 2 (see attached). We also ask your assistance in identifying historic properties or areas of religious and cultural significance to your tribe within the APE.

Please forward any comments or questions about this proposal to Ms. Sherry Johnson at sherry.johnson.4@us.af.mil. Providing any comments to Ms. Johnson at your earliest convenience will provide us the opportunity to consider your input more fully.

Sincerely,

Sherry M. Johnson
NEPA & Cultural Resources Program Manager
633rd Civil Engineer Squadron
Joint Base Langley-Eustis
Office Phone: (757) 225-4223

Sent via email to klucas@delawarenation-nsn.gov

Dear Katelyn Lucas,

The Department of Air Force (DAF) is preparing an Environmental Assessment (EA) to analyze the potential impacts associated with the proposed implementation of the approved Wildland Fire Management Plan (WFMP) at Joint Base Langley-Eustis – Langley Air Force Base (JBLE – Langley), Virginia. Figure 1 (see attached) shows the regional location of JBLE-Langley. The purpose of the Proposed Action is to implement the JBLE– Langley's approved WFMP, which outlines a coordinated approach to wildfire response and wildfire risk mitigation that includes JBLE – Langley 633d Civil Engineer Squadron Fire and Emergency Services and natural resources staff, as well as the Fire Chief, Air Force Wildland Fire Branch.

The purpose of the Proposed Action is to implement the JBLE– Langley's approved WFMP, which outlines a coordinated approach to wildfire response and wildfire risk mitigation. The Proposed Action is needed to assure achievement of fire-related resource management, mission support objectives, and protection of significant values at JBLE – Langley from wildfire risk, including structures and infrastructure, natural resources, and cultural resources. The Proposed Action includes implementation of prescribed fire within established Fire Management Units (FMU), mechanical (non-fire) fuels treatments, wildfire risk management strategies, and improvements to land and firefighting resources. JBLE-Langley would implement the WFMP within established FMUs. FMUs are areas defined by similar overall fire management objectives with consideration for specific (or dominant) constraints, requirements, and guidelines for implementation. Unique characteristics, such as topography, fuels, and natural resource concerns, would also be considered. On JBLE – Langley, there would be only one single, contiguous FMU (FMU 1), which would consist of the entirety of the Installation (2,895 acres), including 2,081 acres that are burnable (see attached Figure 2). While nearly 72 percent of FMU 1 is considered burnable, a large proportion of this burnable area consists of lawns, the golf course, ornamental trees, and other maintained vegetation. Remaining areas consist of wetlands and forests (see attached Figure 2), which would be available for consumption by fire.

The EA will be prepared in compliance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code [USC] 4321, *et seq.*), the Council of Environmental Quality NEPA Implementing Regulations (40 Code of Federal Regulations [CFR] Parts 1500-1508), and the Air Force Environmental Impact Analysis Process (32 CFR 989). We invite you to engage in government-to-government consultation and request your concurrence with the Area of Potential Effects (APE) as defined in Figure 2 (see attached). We also ask your assistance in identifying historic properties or areas of religious and cultural significance to your tribe within the APE.

Please forward any comments or questions about this proposal to Ms. Sherry Johnson at sherry.johnson.4@us.af.mil. Providing any comments to Ms. Johnson at your earliest convenience will provide us the opportunity to consider your input more fully.

Sincerely,

Sherry M. Johnson
NEPA & Cultural Resources Program Manager
633rd Civil Engineer Squadron
Joint Base Langley-Eustis
Office Phone: (757) 225-4223

Sent via email to keith.anderson@nansemond.org

Dear Chief Anderson,

The Department of Air Force (DAF) is preparing an Environmental Assessment (EA) to analyze the potential impacts associated with the proposed implementation of the approved Wildland Fire Management Plan (WFMP) at Joint Base Langley-Eustis – Langley Air Force Base (JBLE – Langley), Virginia. Figure 1 (see attached) shows the regional location of JBLE-Langley. The purpose of the Proposed Action is to implement the JBLE– Langley's approved WFMP, which outlines a coordinated approach to wildfire response and wildfire risk mitigation that includes JBLE – Langley 633d Civil Engineer Squadron Fire and Emergency Services and natural resources staff, as well as the Fire Chief, Air Force Wildland Fire Branch.

The purpose of the Proposed Action is to implement the JBLE– Langley's approved WFMP, which outlines a coordinated approach to wildfire response and wildfire risk mitigation. The Proposed Action is needed to assure achievement of fire-related resource management, mission support objectives, and protection of significant values at JBLE – Langley from wildfire risk, including structures and infrastructure, natural resources, and cultural resources. The Proposed Action includes implementation of prescribed fire within established Fire Management Units (FMU), mechanical (non-fire) fuels treatments, wildfire risk management strategies, and improvements to land and firefighting resources. JBLE-Langley would implement the WFMP within established FMUs. FMUs are areas defined by similar overall fire management objectives with consideration for specific (or dominant) constraints, requirements, and guidelines for implementation. Unique characteristics, such as topography, fuels, and natural resource concerns, would also be considered. On JBLE – Langley, there would be only one single, contiguous FMU (FMU 1), which would consist of the entirety of the Installation (2,895 acres), including 2,081 acres that are burnable (see attached Figure 2). While nearly 72 percent of FMU 1 is considered burnable, a large proportion of this burnable area consists of lawns, the golf course, ornamental trees, and other maintained vegetation. Remaining areas consist of wetlands and forests (see attached Figure 2), which would be available for consumption by fire.

The EA will be prepared in compliance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code [USC] 4321, *et seq.*), the Council of Environmental Quality NEPA Implementing Regulations (40 Code of Federal Regulations [CFR] Parts 1500-1508), and the Air Force Environmental Impact Analysis Process (32 CFR 989). We invite you to engage in government-to-government consultation and request your concurrence with the Area of Potential Effects (APE) as defined in Figure 2 (see attached). We also ask your assistance in identifying historic properties or areas of religious and cultural significance to your tribe within the APE.

Please forward any comments or questions about this proposal to Ms. Sherry Johnson at sherry.johnson.4@us.af.mil. Providing any comments to Ms. Johnson at your earliest convenience will provide us the opportunity to consider your input more fully.

Sincerely,

Sherry M. Johnson
NEPA & Cultural Resources Program Manager
633rd Civil Engineer Squadron
Joint Base Langley-Eustis
Office Phone: (757) 225-4223

Sent via email to shaleigh.howells@pamunkey.org

Dear Shaleigh Howells,

The Department of Air Force (DAF) is preparing an Environmental Assessment (EA) to analyze the potential impacts associated with the proposed implementation of the approved Wildland Fire Management Plan (WFMP) at Joint Base Langley-Eustis – Langley Air Force Base (JBLE – Langley), Virginia. Figure 1 (see attached) shows the regional location of JBLE-Langley. The purpose of the Proposed Action is to implement the JBLE– Langley's approved WFMP, which outlines a coordinated approach to wildfire response and wildfire risk mitigation that includes JBLE – Langley 633d Civil Engineer Squadron Fire and Emergency Services and natural resources staff, as well as the Fire Chief, Air Force Wildland Fire Branch.

The purpose of the Proposed Action is to implement the JBLE– Langley's approved WFMP, which outlines a coordinated approach to wildfire response and wildfire risk mitigation. The Proposed Action is needed to assure achievement of fire-related resource management, mission support objectives, and protection of significant values at JBLE – Langley from wildfire risk, including structures and infrastructure, natural resources, and cultural resources. The Proposed Action includes implementation of prescribed fire within established Fire Management Units (FMU), mechanical (non-fire) fuels treatments, wildfire risk management strategies, and improvements to land and firefighting resources. JBLE-Langley would implement the WFMP within established FMUs. FMUs are areas defined by similar overall fire management objectives with consideration for specific (or dominant) constraints, requirements, and guidelines for implementation. Unique characteristics, such as topography, fuels, and natural resource concerns, would also be considered. On JBLE – Langley, there would be only one single, contiguous FMU (FMU 1), which would consist of the entirety of the Installation (2,895 acres), including 2,081 acres that are burnable (see attached Figure 2). While nearly 72 percent of FMU 1 is considered burnable, a large proportion of this burnable area consists of lawns, the golf course, ornamental trees, and other maintained vegetation. Remaining areas consist of wetlands and forests (see attached Figure 2), which would be available for consumption by fire.

The EA will be prepared in compliance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code [USC] 4321, *et seq.*), the Council of Environmental Quality NEPA Implementing Regulations (40 Code of Federal Regulations [CFR] Parts 1500-1508), and the Air Force Environmental Impact Analysis Process (32 CFR 989). We invite you to engage in government-to-government consultation and request your concurrence with the Area of Potential Effects (APE) as defined in Figure 2 (see attached). We also ask your assistance in identifying historic properties or areas of religious and cultural significance to your tribe within the APE.

Please forward any comments or questions about this proposal to Ms. Sherry Johnson at sherry.johnson.4@us.af.mil. Providing any comments to Ms. Johnson at your earliest convenience will provide us the opportunity to consider your input more fully.

Sincerely,

Sherry M. Johnson
NEPA & Cultural Resources Program Manager
633rd Civil Engineer Squadron
Joint Base Langley-Eustis
Office Phone: (757) 225-4223

Sent via email to environment@umitribe.org

Dear Leigh Mitchell,

The Department of Air Force (DAF) is preparing an Environmental Assessment (EA) to analyze the potential impacts associated with the proposed implementation of the approved Wildland Fire Management Plan (WFMP) at Joint Base Langley-Eustis – Langley Air Force Base (JBLE – Langley), Virginia. Figure 1 (see attached) shows the regional location of JBLE-Langley. The purpose of the Proposed Action is to implement the JBLE– Langley's approved WFMP, which outlines a coordinated approach to wildfire response and wildfire risk mitigation that includes JBLE – Langley 633d Civil Engineer Squadron Fire and Emergency Services and natural resources staff, as well as the Fire Chief, Air Force Wildland Fire Branch.

The purpose of the Proposed Action is to implement the JBLE– Langley's approved WFMP, which outlines a coordinated approach to wildfire response and wildfire risk mitigation. The Proposed Action is needed to assure achievement of fire-related resource management, mission support objectives, and protection of significant values at JBLE – Langley from wildfire risk, including structures and infrastructure, natural resources, and cultural resources. The Proposed Action includes implementation of prescribed fire within established Fire Management Units (FMU), mechanical (non-fire) fuels treatments, wildfire risk management strategies, and improvements to land and firefighting resources. JBLE-Langley would implement the WFMP within established FMUs. FMUs are areas defined by similar overall fire management objectives with consideration for specific (or dominant) constraints, requirements, and guidelines for implementation. Unique characteristics, such as topography, fuels, and natural resource concerns, would also be considered. On JBLE – Langley, there would be only one single, contiguous FMU (FMU 1), which would consist of the entirety of the Installation (2,895 acres), including 2,081 acres that are burnable (see attached Figure 2). While nearly 72 percent of FMU 1 is considered burnable, a large proportion of this burnable area consists of lawns, the golf course, ornamental trees, and other maintained vegetation. Remaining areas consist of wetlands and forests (see attached Figure 2), which would be available for consumption by fire.

The EA will be prepared in compliance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code [USC] 4321, *et seq.*), the Council of Environmental Quality NEPA Implementing Regulations (40 Code of Federal Regulations [CFR] Parts 1500-1508), and the Air Force Environmental Impact Analysis Process (32 CFR 989). We invite you to engage in government-to-government consultation and request your concurrence with the Area of Potential Effects (APE) as defined in Figure 2 (see attached). We also ask your assistance in identifying historic properties or areas of religious and cultural significance to your tribe within the APE.

Please forward any comments or questions about this proposal to Ms. Sherry Johnson at sherry.johnson.4@us.af.mil. Providing any comments to Ms. Johnson at your earliest convenience will provide us the opportunity to consider your input more fully.

Sincerely,

Sherry M. Johnson
NEPA & Cultural Resources Program Manager
633rd Civil Engineer Squadron
Joint Base Langley-Eustis
Office Phone: (757) 225-4223

Figure 1. Location of Joint Base Langley-Eustis-Langley Air Force Base and Surrounding Area

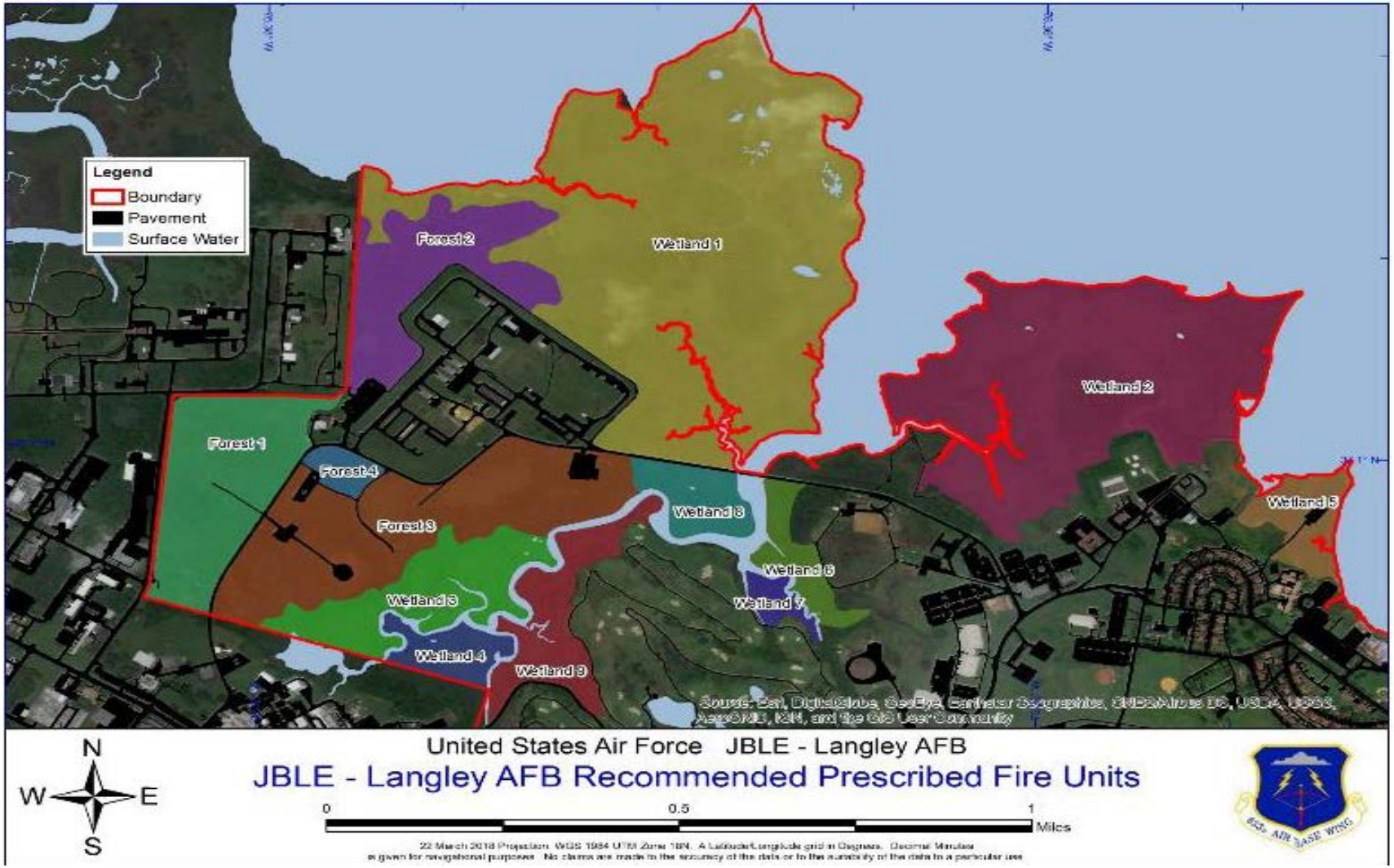

Figure 2. Prescribed Fire Units within Fire Management Unit 1 on Joint Base Langley Eustis – Langley Air Force Base

Tribal Responses

FORMAT PAGE

CITY OF POQUOSON
OFFICE OF THE CITY MANAGER

500 CITY HALL AVENUE
POQUOSON, VA 23662
(757) 868-3000 *TELEPHONE*
(757) 868-3101 *FAX*

March 24, 2022

Department of the Air Force
Attn: David M. Jennings, Chief, Environmental Element
Headquarters 633D Air Base Wing
Joint Base Langley-Eustis VA

Dear Chief Jennings:

Thank you for the opportunity to provide input on the Department of the Air Force proposal to implement the approved Wildland Fire Management Plan at Joint Base Langley-Eustis – Langley Air Force Base. The City of Poquoson has no comments at this time.

Thank you for your continuing efforts in support of Joint Base Langley-Eustis, our local communities and our nation.

Sincerely,

J. Randall Wheeler, City Manager
City of Poquoson

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Appendix B

Reasonably Foreseeable Future Actions

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This section identifies reasonably foreseeable future and recently completed nearby projects that could cumulatively affect environmental resources in conjunction with the Proposed Action. Actions identified in **Table B-1** would not interact with all resources; therefore, resources that could potentially result in direct or indirect cumulative impacts with the addition of the Proposed Action are noted in **Table B-1.**

Table B-1. Reasonably Foreseeable Project at and near Joint Base Langley – Eustis — Langley

Project	Project Summary	Time Frame	Relevance to Proposed Action	Resource Interaction
On Base Actions				
Fighter Ramp Weather Shelters	Project would construct five weather shelters in the fighter ramp area of JBLE – Langley.	Future	Would primarily affect land use, aesthetics and visual resources, earth resources, transportation, infrastructure and utilities, and potential fish and wildlife habitat on JBLE – Langley.	Aesthetics and Visual Resources, Air Quality, Earth Resources, Biological Resources
Aerial Application of Pesticides	Project would apply pesticides using aerial application methods for control of mosquitos and invasive plant species at JBLE – Langley.	Future (EA is currently being prepared)	Would primarily affect air quality, water resources, and potential fish and wildlife habitat on JBLE – Langley.	Water Resources, Air Quality, Biological Resources
FTU F-22 Weather Shelters	Project would construct 19 weather shelters on JBLE – Langley.	Present (project is 10 percent complete)	Would primarily affect land use, aesthetics and visual resources, earth resources, transportation, infrastructure and utilities, and potential fish and wildlife habitat on JBLE – Langley.	Aesthetics and Visual Resources, Air Quality, Earth Resources, Biological Resources
Taxiway Repair	Project would make repairs to Taxiway Alpha, including the removal of concrete slabs, on JBLE –Langley.	Present (project is 5 percent complete)	Would primarily affect earth resources, transportation, infrastructure and utilities, and potential fish and wildlife habitat on JBLE – Langley.	Air Quality, Earth Resources, Water Resources, Biological Resources

Project	Project Summary	Time Frame	Relevance to Proposed Action	Resource Interaction
Fifth Generation Formal Training Unit Optimization	Project would implement two proposed actions: 1) beddown of the F-22 FTU mission at JBLE-Langley consisting of 28 Primary Aerospace Vehicle Authorized (PAA) and three Backup Aerospace Vehicle Inventory (BAI) F-22 aircraft and 16 PAA T-38 aircraft; 2) beddown of an additional F-35A FTU squadron at Eglin AFB consisting of 26 F-35A aircraft (24 PAA and two BAI).	Future (EIS was finalized in February 2021)	Would primarily affect land use, aesthetics and visual resources, earth resources, transportation, infrastructure and utilities, and potential fish and wildlife habitat on JBLE – Langley.	Aesthetics and Visual Resources, Air Quality, Earth Resources, Biological Resources
ISR Campus Development Project	Project includes consolidation of ISR functions into one walkable campus and connected quads. It is in the planning stages for future development. Several proposed projects include new facility construction, upgrades to roadways, and repurposing of facilities.	Future (Development Plan Final completed in 2019)	Would primarily affect land use, aesthetics and visual resources, earth resources, transportation, infrastructure and utilities, and potential fish and wildlife habitat on JBLE – Langley.	Air Quality, Water Resources (wetlands), Earth Resources, Biological Resources
Off Base Actions				
NASA Langley Research Center Launches and Landings	NASA's Langley Research Center has at least eight launches scheduled for 2022 and include the Axiom-1 mission to the International Space Station, NASA's SpaceX Crew-4 mission to the International Space Station, the first flight of NASA's X-57, small, experimental electric airplane, the CAPSTONE CubeSat Pathfinder mission, the Boeing Orbital Flight Test-2, the Artemis I launch, the launch of Psyche, and the Surface Water and Ocean Topography mission.	April through November 2022 dates are currently available	Would primarily affect visual and aesthetic resources, air quality, noise, transportation, infrastructure, and utilities, and biological resources.	Aesthetics and Visual Resources, Air Quality, Noise, Transportation, Infrastructure, and Utilities, Biological Resources
US Navy Atlantic Fleet Training and Testing	Navy proposal to conduct military readiness training activities using active sonar and explosives within existing range complexes and areas located in the Atlantic Ocean, Caribbean Sea, and the Gulf of Mexico.	Present (Final EIS was completed in 2018.)	Would primarily affect visual and aesthetic resources, air quality, noise, transportation, infrastructure, and utilities, and biological resources.	Aesthetics and Visual Resources, Air Quality, Noise, Transportation, Infrastructure, and Utilities, Biological Resources

Project	Project Summary	Time Frame	Relevance to Proposed Action	Resource Interaction
VDOT Wythe Creak Road (Route 172 Widening Project)	The Hampton portion of the project includes widening Wythe Creek Road to three lanes, curb and gutter installation, and a 10-foot sidewalk to the east side of the expanded roadway. This project also includes widening the causeway and bridge over Wythe Creek. In Poquoson, an 8-foot sidewalk will be constructed on the east side of the road and a 5-foot sidewalk will be constructed on the west side of the road from the Cary's Chapel intersection to the northern project limit of the project approximately, 2000 feet south of Victory Boulevard.	Present (estimated completion in Fall 2025)	Would primarily affect air quality, noise, transportation, infrastructure, and utilities, and biological resources.	Air Quality, Noise, Transportation, Infrastructure, and Utilities, Biological Resources
VDOT Hampton Roads Bridge-Tunnel Expansion Project	This project is the largest highway construction project in Virginia's history. It will widen the current four-lane segments along nearly 10 miles of the Interstate 64 corridor in Norfolk and Hampton, with new twin tunnels across the harbor. The expansion will increase capacity, ease major congestion, and enhance travel time reliability.	Present (estimated completion in November 2025)	Would primarily affect air quality, noise, transportation, infrastructure, and utilities, and biological resources.	Air Quality, Noise, Transportation, Infrastructure, and Utilities, Biological Resources
VDOT Denbigh Boulevard Bridge Replacement	This project will replace the Denbigh Boulevard Bridge over Interstate 64 and CSX Railway between Warwick Boulevard and Jefferson Avenue in Newport News with a new bridge that meets current geometric and design standards. The project includes demolition of the existing bridge and construction of a new bridge with four 12-foot lanes, a 16-foot raised median and two 8.5-foot sidewalks, as well as new roadway approaches and stormwater management facilities.	Present (estimated completion in Spring 2023)	Would primarily affect air quality, noise, transportation, infrastructure, and utilities, and biological resources.	Air Quality, Noise, Transportation, Infrastructure, and Utilities, Biological Resources

JBLE – Langley – Joint Base Langley-Eustis, Langley Air Force Base; **EA** – Environmental Assessment; **NASA** – National Aeronautics and Space Administration; **EIS** – Environmental Impact Statement; **VDOT** – Virginia Department of Transportation

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Appendix C

National Environmental Policy Act Supporting Documentation

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Air Quality Emissions Calculations and Air Conformity Applicability Analysis

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Air Quality Emissions Calculations

1. Emissions Estimates: JBLE-Langley: Wildfire Management Plan Controlled Burns

Source Data Tables for Emissions Estimation

Table 1. Data on Acreage of Burnable Portion of JBLE-Langley Wildland Fire Management Unit

Burn Unit[1,2]	Acres
Forest 1	35.9
Forest 2	28.83
Forest 3	52.99
Forest 4	3.891
Forest Total[3]	**121.611**
Wetland 1	171.26
Wetland 2	104.61
Wetland 3	26.46
Wetland 4	8.98
Wetland 5	10.13
Wetland 6	8.36
Wetland 7	3.32
Wetland 8	10.39
Wetland 9	19.24
Wetland Total[4]	**362.75**

Source: Email from Carey Lynn Perry (Vernadero) on March 9, 2022.

Notes:

1. "The fuel model for JBLE-Langley is primarily NB1, GR1, GS1, and TL2" (Source: Section 3.3 of JBLE-Langley's Wildfire Management Plan)
2. "The dominant fuel types in FMU 1 include an unburnable FBFM in developed areas, a short grass FBFM and a grass-shrub FBFM in the developed areas and wetlands, and a timber litter FBFM in forested areas." (Source: Section 3.3.2.2 of JBLE-Langley's Wildfire Management Plan)
3. Assume all of forest land is TL2
4. Assume 50% of wetland is GR1 and 50% is GS1

Table 2. Data on Fuel Load by Vegetation Type (ton/acre)

FM Code	Fuel Model Name	Fuel Load (ton/acre)
GR1	Short, sparse dry climate grass	0.4
GS1	Low load dry climate grass-shrub	1.4
TL2	Low load broadleaf litter	5.9

Source: https://www.nwcg.gov/publications/pms437/fuels/surface-fuel-model-descriptions

Table 3. Emission Factors

Emission Factors (g/kg)					
	PM-2.5	**PM-10**	**CO**	**NMOC**	**NOx[1]**
Chapparal Shrub	10	11	101	12.5	4
Chapparal Grasslands	8	9	62	3.5	4
Palmetto		15	150		4

Source: For all pollutants except for NOx, AP-42, Table 13.1-3. EFs are for Fire phase.

Notes:

[1]: NOx EFs not included in the Fire phase for any of the vegetation types. However, EPA, Section 13.1, Page 13.1-6 states “Nitrogen oxides are emitted at rates of from 1 to 4 g/kg burned, depending on combustion temperatures.” Have assumed maximum 4 for all vegetation types.

2: USEPA indicates that emissions from sulfur oxides are negligible.

Emissions Calculations:

Emissions (lb) = acres * ton/acre * (lb/ton)

Using Source Data Tables, “acres” are from Table 1; “Ton/acre” are from Table 2; “lb/ton” are from Table 3 (converted g/kg to lb/ton)

Sample Calculation for $PM_{2.5}$ emissions from GR1

lb of $PM_{2.5}$ = (Wetland Total Acres/2) * tons/acre * (g/kg x2-conversion factor g/kg to lb/ton) lb/ton
= (362.75/2) acres * 0.4 ton/acre * (10x2) lb/ton
= 1,451

tons of $PM_{2.5}$ = (lb of $PM_{2.5}$) x (1ton/2000lb-conversion factor pounds to tons) = 1,451 * 1/2000 = 0.725

Emissions Estimates:

Table 4. Emissions Estimates for Wildfire Management Plan Controlled Burns

FM Code	Area	Fuel Load	PM-2.5	PM-10	CO	NMOC	NOx
	(Acres)	(Ton/acre)	(lb)	(lb)	(lb)	(lb)	(lb)
GR1	181	0	1,451	1,596	14,655	1,814	580
GS1	181	1	4,063	4,571	31,487	1,777	2,031
TL2	122	6	-	21,525	215,251	-	5,740
Total (lb/yr)			5,513.8	27,691.9	261,393.3	3,591.2	8,351.8
Total (ton/yr)			2.76	13.85	130.70	1.80	4.18

2. ASSUMPTIONS

The following are assumptions used in the air quality analysis for the Proposed Action:

1. Manual emission calculations were performed for the prescribed fire operations as this activity is not in the Air Force’s Air Conformity Applicability Model (ACAM). AP-42, Section 13.1 Wildfires And Prescribed Burning, Table 13.1-3 (USEPA, 2000) was used to estimate emissions. Emissions calculation methodology, sample calculations, and emissions estimates are provided in Section 1 above. Note, emissions from airfield area are not estimated as data on acreage of burnable portion was not available and was assumed to be relatively small.
2. ACAM was used to estimate emissions from the vehicular operations associated with prescribed burn activity for the Proposed Action. Grading activity in ACAM was used to estimate off-road vehicle emissions. All grading input data (such as area graded, materials hauled) was zeroed out and default settings for vehicles were changed to fit the assumptions used for the Proposed Action. Vehicle use data for the WLFM was not available. Emissions were estimated in ACAM using the following assumptions:
    a. Prescribed burns will occur during a single week in any year when the burns are scheduled to occur
    b. The activity will be conducted for 5 days during that week
    c. 2 non-highway vehicles will be used each day
    d. Each vehicle will be used for 4 hours each day
3. Emissions are assumed to occur in 2023. All burn events, as proposed, are conservatively assumed to occur in one single calendar year. The prescribed fire events for the burn units in the Proposed Action are scheduled to take place, in rotation, over several years. Only about half of the burn events are proposed for implementation in the same year. Thus, emissions from the Proposed Action are likely to be only a portion of the total emissions estimated for each pollutant.
4. No emission factors were available in AP-42 for estimating GHG (or CO_2) emissions from prescribed burning. They are generally considered to be biogenic sources and are not considered to be part of the carbon cycle to be included in emissions inventories. GHG from vehicular operations are estimated.

5. No construction activities or installation of permanent structures would be associated with the Preferred Alternative at JBLE-Langley. This includes no demolition, earth moving, hauling, or paving.
6. Pieces of equipment commonly used for prescribed fires could include Four-wheelers, ATV's, Side-by-sides or UTV's, drip torches, chainsaws, and leaf blowers. Emissions from these types of equipment, that may use diesel or gasoline, are assumed to be nominal and are not estimated for the Proposed Action.

3 REFERENCES

USEPA, 2000. U.S. Environmental Protection Agency. *Compilation of Air Pollutant Emission Factors - Volume I, (AP-42)*, 5th Edition. Office of Air Quality Planning and Standards. Research Triangle Park, NC. August 2000. Section 13.1 Wildfires And Prescribed Burning.

ACAM Summary Report

1. General Information: The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

a. Action Location:
Base: LANGLEY AFB
State: Virginia
County(s): York
Regulatory Area(s): Norfolk-Virginia Beach-Newport News (Hampton Roads), VA

b. Action Title: Wildland Fire Management Plan Implementation at JBLE-Langley AFB, Virginia

c. Project Number/s (if applicable): N/A

d. Projected Action Start Date: 3 / 2023

e. Action Description:

The Proposed Action would implement the WFMP on JBLE-Langley within established Fire Management Units (FMUs). On JBLE-Langley, there would be only one single, contiguous FMU, which would consist of the entirety of the Installation (2,895 acres), including 2,081 acres that are burnable. All JBLE – Langley buildings and other infrastructure are located inside this FMU. Due to the presence of infrastructure and a high human population, all wildfires in this FMU would be fully suppressed under the Proposed Action. A large proportion of the burnable area consists of lawns, the golf course, ornamental trees, and other maintained vegetation. Remaining areas consist of wetlands and forests, which would be available for consumption by fire. Under the Proposed Action, planned fuels treatments would include prescribed fire treatments, as well as chemical and mechanical fuels treatments.

f. Point of Contact:
Name: Radhika Narayanan
Title: Envionmental Scientist
Organization: Versar Inc
Email: rnarayanan@versar.com
Phone Number:

2. Analysis: Total combined direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the "worst-case" and "steady state" (net gain/loss upon action fully implemented) emissions. General Conformity under the Clean Air Act, Section 1.76 has been evaluated for the action described above according to the requirements of 40 CFR 93, Subpart B.

Based on the analysis, the requirements of this rule are: _____ applicable
__X__ not applicable

Conformity Analysis Summary:

2023

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
Norfolk-Virginia Beach-Newport News (Hampton Roads), VA			
VOC	0.003	100	No
NOx	0.012	100	No
CO	0.012		

SOx	0.000		
PM 10	0.000		
PM 2.5	0.000		
Pb	0.000		
NH3	0.000		
CO2e	5.3		

2024 - (Steady State)

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
Norfolk-Virginia Beach-Newport News (Hampton Roads), VA			
VOC	0.000	100	No
NOx	0.000	100	No
CO	0.000		
SOx	0.000		
PM 10	0.000		
PM 2.5	0.000		
Pb	0.000		
NH3	0.000		
CO2e	0.0		

None of estimated emissions associated with this action are above the conformity threshold values established at 40 CFR 93.153 (b); Therefore, the requirements of the General Conformity Rule are not applicable.

_____

_____

Radhika Narayanan, Envionmental Scientist DATE

ACAM Detail Report

1. General Information

- Action Location

Base: LANGLEY AFB
State: Virginia
County(s): York
Regulatory Area(s): Norfolk-Virginia Beach-Newport News (Hampton Roads), VA

- Action Title: Wildland Fire Management Plan Implementation at JBLE-Langley AFB, Virginia

- Project Number/s (if applicable): N/A

- Projected Action Start Date: 3 / 2023

- Action Purpose and Need:

The purpose of the Proposed Action is to implement the JBLE– Langley's approved WFMP (JBLE– Langley 2021), which outlines a coordinated approach to wildfire response and wildfire risk mitigation that includes JBLE – Langley FES and natural resources staff, as well as AFCEC/CZOF. The Proposed Action is needed to assure achievement of fire-related resource management, mission support objectives, and protection of significant values at JBLE – Langley from wildfire risk, including structures and infrastructure, natural resources, and cultural resources.

- Action Description:

The Proposed Action would implement the WFMP on JBLE-Langley within established Fire Management Units (FMUs). On JBLE-Langley, there would be only one single, contiguous FMU, which would consist of the entirety of the Installation (2,895 acres), including 2,081 acres that are burnable. All JBLE – Langley buildings and other infrastructure are located inside this FMU. Due to the presence of infrastructure and a high human population, all wildfires in this FMU would be fully suppressed under the Proposed Action. A large proportion of the burnable area consists of lawns, the golf course, ornamental trees, and other maintained vegetation. Remaining areas consist of wetlands and forests, which would be available for consumption by fire. Under the Proposed Action, planned fuels treatments would include prescribed fire treatments, as well as chemical and mechanical fuels treatments.

- Point of Contact

Name: Radhika Narayanan
Title: Envionmental Scientist
Organization: Versar Inc
Email: rnarayanan@versar.com
Phone Number:

- Activity List:

Activity Type		Activity Title
2.	Construction / Demolition	JBLE -Langley WLFM Prescribed Burn Vehicular Emissions

Emission factors and air emission estimating methods come from the United States Air Force's Air Emissions Guide for Air Force Stationary Sources, Air Emissions Guide for Air Force Mobile Sources, and Air Emissions Guide for Air Force Transitory Sources.

2. Construction / Demolition

2.1 General Information & Timeline Assumptions

- Activity Location
County: York
Regulatory Area(s): Norfolk-Virginia Beach-Newport News (Hampton Roads), VA

- Activity Title: JBLE -Langley WLFM Prescribed Burn Vehicular Emissions

- Activity Description:
The follwing data is assumed for the operation of vehicles/equipment for fuels treatment:
Type of vehicle: Off-highway trucks
Number of vehicles: 2;
Duration of Operation (vehicle): 1 week per year; 5 days/week; 4 hours per day
ACAM default settings for Off-Road Equipment data is changed to input above data.

- Activity Start Date
Start Month: 3
Start Month: 2023

- Activity End Date
Indefinite: False
End Month: 3
End Month: 2023

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.002574
SO_x	0.000053
NO_x	0.011844
CO	0.011928
PM 10	0.000378

Pollutant	Total Emissions (TONs)
PM 2.5	0.000378
Pb	0.000000
NH_3	0.000006
CO_2e	5.3

2.1 Site Grading Phase

2.1.1 Site Grading Phase Timeline Assumptions

- Phase Start Date
Start Month: 3
Start Quarter: 1
Start Year: 2023

- Phase Duration
Number of Month: 0
Number of Days: 5

2.1.2 Site Grading Phase Assumptions

- General Site Grading Information
Area of Site to be Graded (ft^2): 0
Amount of Material to be Hauled On-Site (yd^3): 0
Amount of Material to be Hauled Off-Site (yd^3): 0

- Site Grading Default Settings
Default Settings Used: No
Average Day(s) worked per week: 5

- Construction Exhaust

Equipment Name	Number Of Equipment	Hours Per Day
Off-Highway Trucks Composite	2	4

- Vehicle Exhaust

Average Hauling Truck Capacity (yd^3): 20
Average Hauling Truck Round Trip Commute (mile): 20

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.1.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour)

Off-Highway Trucks Composite								
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	CH_4	CO_2e
Emission Factors	0.1243	0.0026	0.5880	0.5421	0.0188	0.0188	0.0112	260.35

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.282	000.002	000.220	003.283	000.007	000.006		000.023	00323.276
LDGT	000.358	000.003	000.388	004.597	000.009	000.008		000.024	00417.298
HDGV	000.706	000.005	001.021	015.119	000.022	000.019		000.045	00770.239
LDDV	000.112	000.003	000.133	002.524	000.004	000.004		000.008	00313.527
LDDT	000.253	000.004	000.380	004.330	000.007	000.006		000.008	00445.483
HDDV	000.493	000.013	004.921	001.743	000.169	000.155		000.028	01496.485
MC	002.436	000.003	000.747	012.951	000.027	000.024		000.054	00397.607

2.1.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase
$PM10_{FD} = (20 * ACRE * WD) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase
$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)

(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

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U.S. Fish and Wildlife Service List of Threatened and Endangered Species that may Occur in the Proposed Project Location or may be affected by the Proposed Project

FORMAT PAGE

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 27, 2021
Consultation Code: 05E2VA00-2022-SLI-0461
Event Code: 05E2VA00-2022-E-01596
Project Name: Aerial Dispersal of Pesticide for Mosquito and Invasive Species Control at JBLE, VA

Subject: List of threatened and endangered species that may occur in your proposed project location 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: 05E2VA00-2022-SLI-0461
Event Code: Some(05E2VA00-2022-E-01596)
Project Name: Aerial Dispersal of Pesticide for Mosquito and Invasive Species Control at JBLE, VA
Project Type: VEGETATION MANAGEMENT
Project Description: The Proposed Action supports management of mosquito populations under conditions of disease risk and intolerable levels as well as management of invasive plant species, particularly common reed, at JBLE. The Proposed Action includes control of adult mosquitoes over all of JBLE – Eustis' approximately 7,900 acres and over approximately 3,600 acres of JBLE – Langley. The Proposed Action also includes the control of common reed on approximately 600 acres at JBLE – Eustis and on approximately 145 acres on JBLE – Langley. Aerial dispersal of pesticides for adult mosquito control would not exceed three applications per year and would typically occur from May through October. Herbicides are most effective on common reed in late summer to early fall (August through October) because the plant continues to grow while other plants in adjacent areas begin to go dormant, which reduces the risk of damage to nontarget plant species.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@37.08753285,-76.35723027426434,14z

Counties: Hampton County, Virginia

Endangered Species Act Species

There is a total of 2 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 Fisheries[1], 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.

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

Birds

NAME	STATUS
Eastern Black Rail *Laterallus jamaicensis ssp. jamaicensis*	Threatened

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/10477

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus*	Candidate

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/9743

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 National Wildlife Refuge 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.

Appendix D

Coastal Zone Management Act Consistency Determination

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Coastal Zone Management Act Consistency Determination

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Coastal Zone Management Act Federal Consistency Determination for Wildland Fire Management Plan Implementation at Joint Base Langley-Eustis – Langley Air Force Base, Virginia

This document provides the Commonwealth of Virginia with a Consistency Determination under the Coastal Zone Management Act (CZMA) section 307(c)(1) (or [2]) and 15 Code of Federal Regulations (CFR) Part 930, subpart C, for the proposed implementation of the Wildland Fire Management Plan (WFMP) at Joint Base Langley-Eustis – Langley AFB (JBLE – Langley), Virginia. The information in this Consistency Determination is provided pursuant to 15 CFR § 930.39. The federally approved Virginia Coastal Management Program is a network of Virginia state agencies and local governments that administers enforceable laws, regulations, and policies that protect the state's coastal resources and fosters sustainable development. The Commonwealth of Virginia can require that federal actions are consistent with the state's Coastal Zone Management Program's laws and enforceable policies. The Virginia Department of Environmental Quality (DEQ) is the lead agency for Virginia's networked Coastal Zone Management Program.

Proposed Federal Agency Activity

A Draft Environmental Assessment (EA) and proposed Finding of No Significant Impact (FONSI) is being prepared by the Department of the Air Force (DAF) to analyze the impacts of the implementation of the Wildland Fire Management Plan (WFMP) at JBLE-Langley, Virginia. The purpose of the Proposed Action is to implement the JBLE– Langley's approved WFMP, which outlines a coordinated approach to wildfire response and wildfire risk mitigation.

The Proposed Action would implement the WFMP on JBLE – Langley within established Fire Management Units (FMUs). FMUs are areas defined by similar overall fire management objectives with consideration for specific (or dominant) constraints, requirements, and guidelines for implementation (JBLE – Langley 2021). Unique characteristics, such as topography, fuels, and natural resource concerns, would also be considered.

On JBLE – Langley, there would be only one single, contiguous FMU (FMU 1), which would consist of the entirety of the Installation (2,895 acres). Under the Proposed Action, planned fuels treatments would include prescribed fire treatments, as well as chemical and mechanical fuels treatments. These treatments may be conducted throughout the FMU, where appropriate (**Figure 1**). Fuels treatments would be identified and prioritized based upon the anticipated treatment outcomes in relation to the objectives of the Integrated Natural Resources Management Plan (INRMP) to enhance and develop the Installation's natural resources. Projects to improve public safety would be prioritized above all others, with projects supporting the military mission following in order of prioritization. The JBLE – Langley Wildland Fire Program Coordinator (WFPC) would meet with the assigned Wildland Support Module (WSM) Lead to identify and prioritize projects and fuels treatments needed to support INRMP and WFMP objectives.

Due to the presence of infrastructure and a high human population, all wildfires in FMU 1 would be fully suppressed under the Proposed Action. All JBLE – Langley buildings and other infrastructure are located inside FMU 1. The structures, powerline poles, and some scattered sensitive areas would require protection during fire operations. While nearly 72 percent of FMU 1 is considered burnable, a large proportion of this burnable area consists of lawns, the golf course, ornamental trees, and other maintained vegetation. Remaining areas consist of wetlands and forests, which would be available for consumption by fire. The dominant fuel types in FMU 1 include unburnable developed areas, short grass and grass-shrub in the developed areas, and wetlands and timber litter in forested areas (JBLE – Langley 2021).

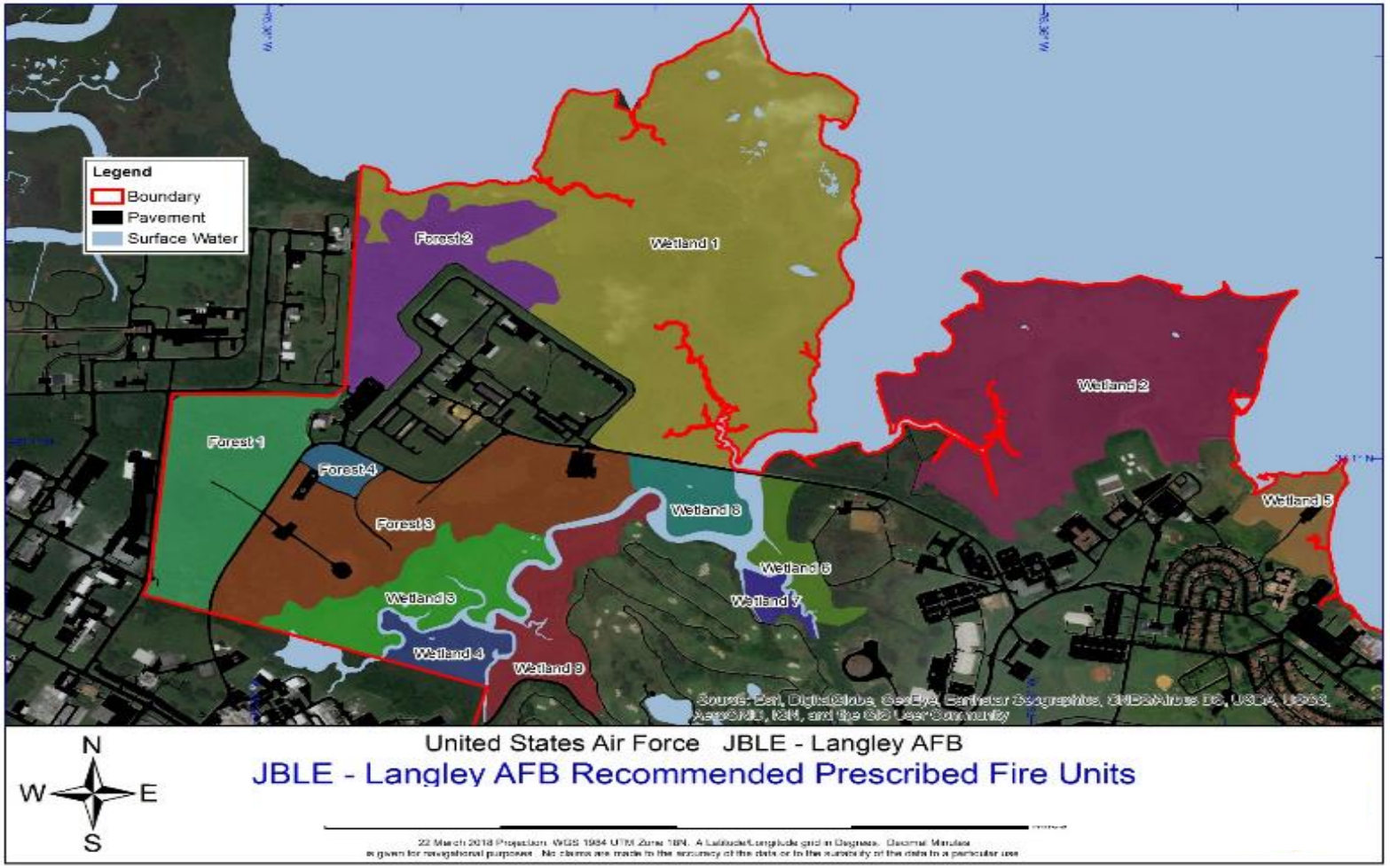

Figure 1. Prescribed Fire Units within Fire Management Unit 1 on Joint Base Langley Eustis – Langley Air Force Base

Prescribed Fire

There are approximately 2,081 acres on JBLE – Langley on which prescribed burns may be used (see **Figure 1**). Prescribed fire is one cost-effective tool that can be used to manage wildland fire risk. Prescribed fires improve floral and faunal diversity, improve forest habitat quality, control certain invasive species, and reduce hazardous fuels that could intensify destructive wildfires. Nonfire fuel treatments, as well as preparedness and readiness actions, are also important for minimizing the effects of wildfire and are recommended as part of the JBLE – Langley's WFMP (JBLE – Langley 2021).

Recommended prescribed fire treatments included in the Proposed Action would be based upon the natural fire regimes that existed prior to European settlement. The primary vegetation classification on JBLE – Langley is Northern Atlantic Coastal Plain Maritime Forest, which has a mean fire return interval (MFRI) for surface-severity fire of about 10 years. There are several minor classifications that represent different wetland/riparian vegetation types, but the dominant wetland/riparian class on JBLE – Langley is Gulf and Atlantic Coastal Plain Tidal Marsh Systems, which has an MFRI of about five years. Given these estimated MFRIs, the Proposed Action would conduct surface-severity prescribed fire in undisturbed forested areas on JBLE – Langley every 10 years and replacement-severity prescribed fire in wetland areas every five years (see **Figure 1**). Wetlands on JBLE – Langley (**Figure 2**) would be burned to maintain a five-year MFRI where feasible. Additional prescribed fire could be implemented for other purposes, such as an integrated pest management effort to control the common reed (*Phragmites australis*), or in efforts to remove fuels on the JBLE – Langley airfield in preparation for pyrotechnics used during the Air Power Over Hampton Roads event.

A regular burn schedule is proposed that would result in the airfield being burned twice on a five-year rotation. The proposed schedule provides guidance but offers flexibility and accounts for the possibility that some combination of the proposed events may be selected and implemented. Additional small areas adjacent to the units could also be added at the discretion of the fire managers. Additional small areas adjacent to the units could also be added at the discretion of the fire managers. After a few rotations on this schedule, it could be desirable to vary the schedule and season of burning to approximate the natural variability more closely in timing of burns or to better meet certain airfield operations and ecological objectives. In particular, annual burning of the airfield could be needed to assist with Bird/Wildlife Aircraft Strike Hazard (BASH) and airshow operations.

As part of the Proposed Action, unit treatments could be delayed or moved up from one to three years without greatly compromising burn objectives. Delays could be due to unfavorable weather conditions, contingency factors, missions, protection of sensitive resources, or funding deficits. **Table 1** provides the proposed fuels management schedule for burn units on JBLE – Langley.

Mechanical Treatment

The Proposed Action also includes mechanical fuels treatments. These treatments would primarily involve mastication/mowing of areas containing privet (*Ligustrum* spp.) and large grassy areas where fire may not be the appropriate treatment. There are no commercial timber tracts on JBLE – Langley, so harvesting and thinning of forested areas on JBLE – Langley would serve the primary purpose of airfield safety. Mechanical fuels treatment in priority areas, such as those areas adjacent to buildings and structures and the airfield, would also serve to mitigate hazardous fuels.

Figure 2. Wetlands on Joint Base Langley Eustis – Langley Air Force Base

Table 1. Proposed Fuels Management Schedule for Burn Units on Joint Base Langley-Eustis – Langley

Burn Unit	Year						
	2022	2023	2024	2025	2026	2027	2028
Airfield		Burn	Burn	Burn		Burn	
Forest 1		Burn			Burn		
Forest 2	Burn			Burn			
Forest 3		Burn			Burn		
Forest 4		Burn			Burn		
Wetland 1	Burn			Burn			
Wetland 2			Burn			Burn	
Wetland 3		Burn			Burn		
Wetland 4		Burn			Burn		
Wetland 5			Burn			Burn	
Wetland 6			Burn				Burn
Wetland 7			Burn				Burn
Wetland 8			Burn				Burn
Wetland 9			Burn				Burn

Source: JBLE – Langley 2021

As part of the Proposed Action, routine mechanical fuels treatments would include annual vegetation maintenance extending at least 30 feet from buildings and structures, fuel storage areas, hazardous waste generator or storage areas, powerline poles, flightlines, sensitive resource areas, munitions storage areas, firing ranges, and fire range danger zones, and adjacent private lands. No new firebreaks are proposed at this time; however, all new firebreaks would follow previous disturbance where possible to minimize resource damage and soil disturbance.

Chemical Treatment

The recommended chemical fuels treatments included in the Proposed Action would be limited to chemical control of invasive species, such as common reed and Japanese stiltgrass (*Microstegium vimineum*). These treatments would serve the primary purpose of habitat improvement. Priority areas would include those that would also serve to mitigate hazardous fuels, such as areas adjacent to improved portions of the Installation.

Wildlife Risk Management Strategies

Several wildfire risk mitigation strategies are included in the Proposed Action in addition to implementing fire and nonfire fuels treatments. These strategies would primarily consist of efforts to prevent wildfire ignitions and to create defensible space in the Wildland Urban Interface (WUI) areas of JBLE-Langley to reduce the probabilities of a wildfire spreading to buildings and structures in the developed areas. Table 2 provides the proposed wildfire risk mitigation strategies.

Improvements to Land and Firefighting Resources

JBLE – Langley would implement improvements to its land and firefighting resources that would enhance the response capabilities of firefighters. Paramount among these improvements would be formally establishing the JBLE – Langley Fire and Emergency Services as the primary initial attack responders. Under the Proposed Action, JBLE – Langley would work to increase the operational qualifications of FES personnel and would primarily focus on the preparedness and

readiness actions of the WFMP. Implementation of the Proposed Action would also establish the WFPC on JBLE – Langley, which would be held by the Natural Resources Manager, to oversee the planning and implementation of wildland fire projects.

Table 2. Proposed Wildfire Risk Mitigation Strategies

Strategy	Responsible Party	Proposed Schedule
Firebreak Maintenance: No firebreaks exist on the Installation.	N/A	If firebreaks are created in the future, they would be maintained as needed
Prescribed Fire: Prescribed fire would be used to manage hazardous fuels near values to protect.	AFCEC/CZOF, JBLE – Langley FES (if NWCG qualified)	Every 5 to 10 years; Airfield every 2 to 4 years
Outreach/Notification: Public outreach and notification would be conducted.	633 ABW/PA, NR staff, FES	Annually
Preposition/Patrol: Wildland firefighting resources would be prepositioned in areas most at risk from wildfire on high fire danger days. Patrols for wildfire starts would be conducted during the peak fire activity period of the day (1200-1800) when known ignition sources are present.	JBLE – Langley FES	Daily when high fire danger exists
Fire-Resistant Construction: Fire-resistant materials would be chosen for new construction and renovation and for outdoor fixtures, such as outdoor furniture.	633 CES	During new construction or renovations or as fixtures are replaced
Eliminate Ember Traps: Holes, gaps, or other openings in buildings that may allow embers to enter would be screened or closed.	633 CES	Conduct initial inspection within 1 year and maintain annually or as needed
Native Plantings: Only plant native vegetation with high moisture content. Consider using “xeriscaping” landscaping where adequate irrigation of vegetation is not available.	NR staff, 633 CES	N/A
Manage WUI Fuels: Flammable vegetation and debris would be removed within 30 feet of WUI structures. This zone is known as the “Structure Ignition Zone.”	JBLE – Langley building tenants	Conduct initial removal within 1 year and maintain annually or as needed
Reduce Ladder Fuels: Trees would be pruned 6 feet above the ground to eliminate ladder fuels.	NR staff, 633 CES	Annually
Powerline Maintenance: Vegetation under powerlines would be mowed.	633 CES	Annually

Source: JBLE – Langley 2021
N/A – not applicable; **AFCEC/CZOF** – Air Force Wildland Fire Branch; **JBLE** – **Langley** – Joint Base Langley-Eustis – Langley Air Force Base; **JBLE** – **Langley FES** – 633d Civil Engineer Squadron Fire and Emergency Services; **NWCG** – National Wildfire Coordinating Group; **633 ABW/PA** – 633d Air Base Wing Public Affairs; **NR**– natural resources; **633 CES** – 633d Civil Engineer Squadron; **WUI** – Wildland Urban Interface

Environmental Consequences of the Proposed Action

Potential effects on the land or water uses or natural resources of Virginia from the Proposed Action are provided in the EA in the following:

Section 3.2 Air Quality and Climate Change.

Implementation of the Proposed Action would generate air emissions that would impact air quality in an adverse way, but these emissions are expected to be short term and minor. Under the

Proposed Action, the primary source of air emissions would be from the prescribed fire treatments. Mechanical fuel treatments, such as mowing and cutting, are relatively nominal sources of air pollutants, and are not considered here further.

Prescribed fires generate smoke, which emit hazardous particulate matter and gaseous compounds. Particulate matter, mainly that less than 2.5 microns, is the most significant of the regulated criteria pollutants that would be emitted from prescribed fires. Particulate matter less than 10 microns, carbon monoxide (CO) and ozone also may be important under certain circumstances. These pollutants, in high levels, can adversely impact human health and can lead to reduced visibility in the vicinity of the fire. The planned prescribed burning for the Proposed Action would increase particulate matter in the air and has the potential to reduce visibility (or haze). Emissions from CO and hydrocarbons would also impact air quality adversely, however, they would not exceed air quality standards. Estimated volatile organic compounds and nitrogen oxide emissions from prescribed fires and related activities are well below the 100 tons per year *de minimis* threshold for General Conformity. Emissions from all other remaining criteria pollutants are well below their relevant insignificance indicator emission levels.

Emissions of carbon dioxide (CO_2) from prescribed fire sources are considered biogenic sources that are part of the carbon cycle, and as such, no emission factors to estimate emissions were available. However, greenhouse gas (GHG) emissions from vehicular operations associated with prescribed fires were estimated to be 5.3 tons of CO_2 equivalent. These emissions are minor and would not add to the regional GHG levels in any meaningful way.

Section 3.3 Aesthetics and Visual Resources.

Smoke from prescribed fires could have minor, short-term adverse impacts on the visual character of JBLE – Langley and surrounding areas. Once smoke clears, the visual character of the area would return to post-fire conditions. Under the Preferred Alternative, prescribed fire would be used to manage hazardous fuel loads within existing wetland areas, native vegetation would be planted, and flammable vegetation and debris would be removed within 30 feet of WUI areas; these actions would support visual aesthetics and result in beneficial impacts.

Section 3.4 Geological Resources.

Implementation of the Preferred Alternative could affect soil erosion, soil chemistry, and related processes. Short term minor adverse impacts to soils could occur from prescribed fires, chemical fuel treatments, mechanical fuel treatments, and wildfire suppression. Impacts to soils from these activities could include increased soil erosion, increased soil temperature, changes in soil chemistry (loss of nitrogen), consumption of organic matter, and soil contamination from fire retardants and the use of pesticides. Soil erosion would be controlled using emergency stabilization treatments when necessary. Additionally, low intensity fires, like prescribed burns, would remove above-ground biomass from plants, but root systems would remain intact and hold the soil in place. Re-growth from low intensity fires is also generally rapid, resulting in a quick improvement in soil retention. Increases in soil temperature would be minor and short lived. The duration and intensity of heat generated during prescribed fires are not anticipated to consume more than the surface litter layer, thereby minimizing the loss of soil organic matter. Prescribed fires also enhance nutrient availability for plants by promoting phosphorus cycling and reducing soil acidity.

Use of fire retardants for wildfire suppression has the potential to adversely impact soils. However, this impact would be minor due to the infrequency of use and because this impact is not different than existing conditions as, given the developed nature of JBLE – Langley, any wildfire on the installation would be suppressed even if the WFMP was not implemented.

In the long term, impacts to soils from implementation of the Preferred Alternative would be beneficial. The actions described in the WFMP would ultimately decrease the size, frequency, and severity of wildfires which would reduce soil erosion, runoff, and sedimentation. Beneficial long-term impacts to soils would also result from the re-establishment of a natural fire-driven nutrient cycle and increased stability of the soil strata, given increased native herbaceous ground cover and the reduced threat of severe wildland fire.

Section 3.5 Water Resources.

Short term minor adverse impacts on surface water and stormwater could occur from prescribed fires, chemical fuel treatments, mechanical fuel treatments, and wildfire suppression. Impacts to surface water from these activities could include short term ash runoff, increased soil erosion, runoff, and sedimentation, and inadvertent release of contaminants and chemicals. The effects of low severity fires, such as small-scale prescribed burns, on water resources are generally minimal and short lived. Further, soil erosion would be controlled using emergency stabilization treatments when necessary (JBLE – Langley 2021). Short term minor adverse impacts to wetlands could occur from chemical fuel treatments and mechanical fuel treatments. Impacts to wetlands from these activities could include increased soil erosion, runoff, and sedimentation and inadvertent release of contaminants and chemicals to wetlands. Fire retardant would not be used within 300 feet of any drainage, wetland, vernal pool, or other water source further limiting the impact to surface water resources from wildfire suppression. All pesticides used would be registered with the US Environmental Protection Agency (EPA) and applied in accordance with label instructions and existing Virginia Pollutant Discharge Elimination System (VPDES)permits. Additionally, according to the WFMP, Minimum Impact Suppression Techniques (MIST) would be used to the greatest extent possible in or near wetlands.

In the long term, impacts on surface water and stormwater from implementation of the Preferred Alternative would be beneficial. The actions described in the WFMP would ultimately decrease the size, frequency, and severity of wildfires which would reduce impacts to surface water and stormwater by decreasing soil erosion, runoff, and sedimentation. The WFMP states that wetlands on JBLE – Langley would be burned to maintain a five-year MFRI where feasible, to mimic natural conditions. Prescribed fire would reduce non-native and invasive wetland plant species and increase native wetland plant species. Prescribed fire would also temporarily increase soil erosion, runoff (including ash runoff), and sedimentation to wetlands. In in the short term, there would be adverse minor impacts to wetlands from prescribed burns. In the long term, there would be beneficial impacts to wetlands from prescribed burns.

There would be no impacts on groundwater from prescribed fire and mechanical fuel treatments. Impacts to groundwater from chemical treatments would be minor and minimized by infrequent application and application in accordance with pesticide label instructions and existing VPDES permits.

There would be no impacts on floodplains from implementation of the Preferred Alternative. In terms of flooding impacts, given the relatively small areas of prescribed burning and fuel treatment, the increased flood risk from removed vegetation would be minimal. However, in the long term, the fuel treatment actions described in the WFMP would decrease the size, frequency, and severity of wildfires which would ultimately reduce flooding impacts from wildfires installation wide.

Section 3.6 Biological Resources.

The Proposed Action would have short-term adverse impacts on the vegetation within treatment areas due to the removal of vegetation that would result from the implementation of fuel control methods; however, the Proposed Action would result in long-term beneficial impacts to vegetative

communities. The use of prescribed fire can increase biodiversity in several ecosystems and controls low-quality, undesirable competing vegetation and controls destructive insects and disease (Brown and Smith 2000, North Carolina Forest Service 2019, Wade and Lundsford 1990). Implementation of the Proposed Action may result in short-term direct and indirect minor adverse impacts on some fauna from mortality during treatments and potential loss of nesting sites. Most adverse impacts may be avoided through proper timing and, for prescribed fire, proper burn techniques (Wade and Lundsford 1990). To the extent possible prescribed burns would be scheduled and timed to closely approximate the natural variability and they would be highly coordinated to minimize the potential for uncontrolled wildland fire. While some species such as amphibians, some reptiles, and small mammals may be unable to flee the treated area, several of these species are able to survive in underground burrows and dens. Fuel treatment may also result in indirect short-term minor adverse impact to some species due to the temporary loss of habitat.

Impacts to invasive plant control efforts would be long-term and beneficial. Prescribed burns, mechanical treatments, and chemical treatments would target specific areas to control invasive plants such as Johnson grass, common reed, Japanese stiltgrass, and privet to allow for native species recruitment. To avoid adverse impacts, care would be taken to ensure that the appropriate treatment type and timing is accomplished as outlined in the WFMP to ensure the treatment does not facilitate the spread of invasive species.

The Proposed Action would have long-term, beneficial impacts on fauna. While some hardwood trees may suffer scarring at the base after prescribed burns, which may lead to eventual death, these trees would become snags (standing dead trees), stumps and dead fall that would provide future important habitat for many birds, mammals. reptiles, amphibians, and insects. Prescribed fire can also improve marshland habitat by increasing food production and availability. In addition, the reduction of fuel would reduce the potential for catastrophic fires that would be very detrimental to fauna and habitat. Short-term, negligible adverse impacts to fish and other aquatic organisms may occur from minor sedimentation of ash from prescribed fire activities near surface waters.

The potential impacts to federal and state listed species that may be within treatment areas would be similar to impacts to vegetation and fauna described above. There would be no impacts to the listed species that are unlikely to occur on JBLE – Langley (**Table 2**) since ideal habitat is not located on the Main Base and they have not been documented during multiple surveys.

While not documented on JBLE-Langley, the black rail may forage in within marshes or along shorelines but are not known to nest on the Main Base and would be able to escape treatment areas. No impacts would occur to piping plover, red knot, roseate tern, gull-billed tern, or Wilson's plover since these species use tidal flats, shores, and dunes and are therefore not expected to occur in the treatment areas. Although there is habitat on JBLE-Langley for the state-listed peregrine falcon, Henslow's sparrow, and the migrant loggerhead shrike, these areas would only be used as temporary stopovers during migration between breeding and winter grounds, and as such, the potential for adverse impacts from the temporary loss of habitat would be negligible. While it has not been documented on JBLE – Langley, habitat for the year-round resident loggerhead shrike is found on base and includes open areas with short vegetation, scattered shrubs and low trees, pastures, riparian areas, and golf courses. Direct adverse impacts to the loggerhead shrike may occur if fuel treatment occurs during nesting and fledging season; however, as discussed above, potential impacts can be minimized by timing of treatment outside its primary nesting season. Impacts to listed bats that may be found within treatment areas would be similar to those described above for birds. The timing of treatment would minimize the potential impacts to bats. Moreover, species such as the little brown bat and Rafinesque's eastern big-

eared bat have large maternity colonies in abandoned buildings and well-lit areas (Harvey et al. 1999), which would not be impacted by treatments.

Table 2. Federal and State Listed Species Documented or with the Potential to Occur on or Adjacent to Joint Base Langley-Eustis – Langley AFB, Virginia

Species	Federal Status	State Status	JBLE – Langley
Birds			
Eastern Black Rail (*Laterallus jamaicensis* ssp. *jamaicensis*)	T	E	Potential
Piping Plover (*Charadrius melodus*)	T	T	Potential[1]
Red Knot (*Calidris canutus rufa*)	T	T	Observed
Roseate Tern (*Sterna dougallii)*	E	E	Potential[1]
Loggerhead Shrike (*Lanius ludovicianus*)	--	T	Potential[1]
Loggerhead Shrike, Migrant (*L. ludovicianus migrans*)	--	T	Potential[1]
Peregrine Falcon (*Falco peregrinus*)	--	T	Potential[1]
Gull-Billed Tern (*Sterna niloticai*)	--	T	Observed
Wilson's Plover (*Charadrius wilsonia*)	--	E	Potential[1]
Henslow's Sparrow (*Ammodramus henslowii*)	--	T	Potential[1]
Mammals			
Northern Long-Eared Bat (*Myotis septentrionalis*)	T	T	Acoustic[2]
Indiana Bat (*Myotis sodalis*)	E	E	Acoustic[3]
Little Brown Bat (*Myotis lucifugus*)	--	E	Acoustic
Tricolored Bat (*Perimyotis subflavus*)	--	E	Potential[4]
Rafinesque's Eastern Big-Eared Bat (*Corynorhinus rafinesquii macrotis*)	--	E	Acoustic
West Indian Manatee (*Trichechus manatus*)	E	E	Offshore, Unlikely[1]
Reptiles			
Kemp's (= Atlantic) Ridley Turtle (*Lepidochelys kempii*)	E	E	Unlikely[1]
Hawksbill Turtle (*Eretmochelys imbricata*)	E	E	Unlikely[1]
Leatherback Turtle (*Dermochelys coriacea*)	E	E	Unlikely[1]
Loggerhead Turtle (*Caretta caretta*)	T	T	Unlikely[1]
Green Turtle (*Chelonia mydas*)	T	T	Unlikely[1]
Canebrake rattlesnake (*Crotalus horridus*)	--	E	Potential
Amphibians			
Eastern Tiger Salamander (*Ambystoma tigrinum*)	--	E	Unlikely[5]
Mabee's Salamander (*Ambystoma mabeei*)	--	T	Unlikely[5]
Fish			
Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*)	E	E	Offshore
Plants			
Harper's Fimbristylis (*Fimbristylis perpusilla*)	--	E	Unlikely[5]
Insects			
Northeastern Beach Tiger Beetle (*Cicindela dorsalis dorsalis*)	T	T	Unlikely[1]
Rusty Patched Bumblebee (*Bombus affinis*)	E	--	Unlikely[6]

JBLE – Langley – Joint Base Langley-Eustis, Langley Air Force Base; E – endangered; T – threatened; C – candidate
Sources: JBLE – Langley 2019; USFWS 2021; VDWR 2022
Notes:
1. These species were only identified in the Virginia Department of Wildlife Resources Fish and Wildlife Information Service (VDWR 2022) as potentially occurring within a 3-mile radius around the base centers but are not identified in the Base Integrated Natural Resource Management Plans or the U.S. Fish and Wildlife Service Information for Planning and Consultation website (for federally listed species).
2. Due to weak call characteristics recorded during acoustical surveys, confidence in the positive identification of northern long-eared bat is low, as such the presence of this species should be categorized as possible but unconfirmed.
3. Documented acoustically during past surveys; however, the most recent 2019 acoustic and mist-net surveys did not identify the presence of the Indiana bat.
4. The tricolored bat has the potential to occur on Main Base Langley but was only observed visually at the Langley Big Bethel Reservoir during the 2019 acoustic and mist-net surveys.

The potential for adverse impacts to the canebrake rattlesnake would be negligible. While the canebrake rattlesnake has the potential to be on the Main Base, surveys completed in 2016-2017 for the rattlesnake did not document its presence. If it is present during treatment, there is the potential for direct impacts through mortality or injury; however, most snakes would likely escape underground or outside of the treatment areas (Ulev 2008) and canebrake rattlesnakes evolved in habitats that undergo frequent natural disturbance. Long-term beneficial impacts would include a more open canopy that increases the availably of basking sites and stump holes and the stimulation of vegetative growth that improves the habitat for prey species.

Section 3.7 Health and Safety

Minor, short-term impacts on the health and safety of firefighting personal would be expected during firefighting activities. In particular, smoke from prescribed fires or wildland fires could have minor, short-term adverse impacts on health and safety. The JBLE – Langley WSM would ensure that all personnel are properly equipped with the appropriate Personal Protective Equipment in conjunction with their assigned task. The Proposed Action would have long-term, beneficial impacts on health and safety as all of the proposed actions in the WFMP are designed to reduce and suppress wildfire with the goal of minimizing fire size, frequency, and severity while supporting the training mission of JBLE – Langley. Not only will the Preferred Alternative help keep JBLE – Langley lands and personnel safe, but it would also help to protect the surrounding area and communities.

Enforceable Policies

The Virginia Coastal Resources Management Program contains the below enforceable policies (A-I).

1. Tidal and Non-Tidal Wetlands

The purpose of this policy is to preserve tidal and non-tidal wetlands, prevent their despoliation and destruction, and accommodate necessary economic development in a manner consistent with wetlands preservation.

Some locations proposed for fuels reduction are located on and near wetlands to control common reed. Common reed would ultimately be replaced with native vegetation. There would be no need to fill or alter wetlands on JBLE – Langley beyond replacing an invasive wetland vegetation species with native species. Therefore, there would be no loss or destruction of wetlands on the installation under the Proposed Action.

2. Subaqueous Lands

This management program for subaqueous lands establishes conditions for granting or denying permits to use state-owned bottomlands based on considerations of potential effects on marine and fisheries resources, wetlands, other reasonable and permissible uses of state waters and state-owned bottomlands, adjacent or nearby properties, anticipated public and private benefits, water quality, and submerged aquatic vegetation.

The Proposed Action would not impact subaqueous lands.

3. Dunes and Beaches

This program's purpose is to preserve and protect coastal primary sand dunes and beaches, to prevent their despoliation and destruction, and whenever practical, to accommodate necessary economic development in a manner consistent with the protection of such features.

There are no sand dunes or beaches located in the project area; therefore, no impacts are anticipated.

4. Chesapeake Bay Preservation Areas

This policy is focused on protecting and improving the water quality of the Chesapeake Bay, its tributaries, and other state waters by minimizing the effect of human activity upon these waters. The policy ensures that land use and development performance criteria and standards are implemented in Chesapeake Bay Preservation Areas (CBPAs). The designated CBPAs are composed of the following: Resource Protection Areas (RPA), Resource Management Areas (RMA), and Intensely Developed Areas (IDA). Each type of CBPA is subject to performance criteria and development criteria.

JBLE-Langley is required by the federal Coastal Zone Management Act to follow the Chesapeake Bay Preservation Act (Virginia Code §10.1-2100) to the maximum extent practicable. JBLE-Langley established 100-foot upland buffers as the Resource Protection Areas at tidal creeks, streams, and wetlands in conjunction with the 100-foot buffers established by the city of Hampton. The objective is to maintain these buffers as vegetated with native vegetation to the greatest extent practical. The Proposed Action would not change the existing vegetation buffers that are required for CBPAs. No land development is proposed; therefore, the majority of the criteria do not apply.

5. Marine Fisheries

This program stresses the conservation and promotion of the seafood and marine resources, including fish, shellfish, and marine organisms, and seeks to manage fisheries to maximize food production and recreational opportunities within the Commonwealth's territorial waters. Marine fishery management shall be based upon the best scientific, economic, biological, and sociological information available, shall be responsive to the needs of interested and affected citizens, shall promote efficiency in the utilization of the resources, and shall draw upon all available capabilities in carrying out research, administration, management, and enforcement.

The Proposed Action does not include marine fishing or impact the management of marine fisheries. While there is no Essential Fish Habitat (EFH) within the proposed treatment areas, EFH is in the York River, which is adjacent to JBLE – Langley. Within the York River, the New England/Mid-Atlantic Fishery Management Council identified EFH for Atlantic herring (*Clupea harengus*) and bluefish (*Pomatomus saltatrix*); the Northeast Multispecies Fisheries Management Plan (FMP) identified EFH for red hake (*Urophycis chuss*) and windowpane flounder (*Scophthalmus aquosus*); the Northeast Skate FMP identified EFH for clearnose skate (*Raja eglanteria*); the Atlantic Mackerel, Squid, and Butterfish FMP identified EFH for the Atlantic butterfish (*Peprilus triacanthus*); the Summer Flounder, Scup, Black Sea Bass FMP identified

EFH for the scup (*Stenotomus chrysops*), summer flounder (*Paralichthys dentatus*), and black sea bass (*Centropristis striata*); and the sandbar shark (*Carcharhinus plumbeus*) in the Consolidated Highly Migratory Species FMP (NOAA 2022). Blue (*Callinectes sapidus*) are also common in the York River and its tributaries.

There is the potential for short-term minor adverse impacts to the EFH identified in the York River. This would include the impacts from the minor sedimentation from ash, yet this potential impact would be localized and would be diluted prior to reaching York River EFH.

6. Wildlife and Inland Fisheries

This policy states that no person shall import, export, take, pursue, kill, or possess in the Commonwealth any fish or wildlife, or stock any species of fish in inland waters, in a manner that negatively impacts the Commonwealth's efforts in conserving, protecting, replenishing, propagating and increasing of the supply of game birds, game animals, fish and other wildlife of the Commonwealth. The policy also states that no person shall harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, possess, collect, transport, sell or offer to sell, or attempt to do so, any species of fish or wildlife listed as threatened or endangered by the Board of Game and Inland Fisheries, except under express conditions.

Potential adverse impacts to wildlife and freshwater fish from the Proposed Action are expected to be short term and minor. Fuel treatments may destroy nesting sites and may rarely result in direct mortality; however, most adverse impacts would be avoided through proper timing and, for prescribed fire, proper burn techniques. To the maximum extent possible, prescribed burns would be scheduled and timed to closely approximate the natural variability and they would be highly coordinated to minimize the potential for uncontrolled wildland fire. Fuel treatment may also result in indirect short-term minor adverse impact to some species due to the temporary loss of habitat.

The Proposed Action would have long-term, beneficial impacts on fauna. Important benefits to fauna include an increase of forest edge, a more open midstory and understory, and an increase in the amount and quality of forage and browse. Prescribed fire can also improve marshland habitat by increasing food production and availability. In addition, the reduction of fuel would reduce potential for catastrophic fires that would be very detrimental to fauna and habitat. Short-term, negligible adverse impacts to fish and other aquatic organisms may occur from minor sedimentation of ash from prescribed fire activities near surface waters.

7. Plant Pests and Noxious Weeds

This policy states that no person shall sell, barter, offer for sale, move, transport, deliver, ship, or offer to ship into or within the Commonwealth any plant pests in any living stage, unless such plant pests are not injurious, are generally present already, or are for scientific purposes subject to specified safeguards. No person shall move, transport, deliver, ship, or offer for shipment into or within the Commonwealth any noxious weed, or part thereof, unless such noxious weed is generally present already or it is for scientific purposes subject to prescribed standards.

The Proposed Action does not involve the movement or sale of plant pests or noxious weeds.

8. Commonwealth Lands

A. Virginia Department of Game and Inland Fisheries

<u>Dams and Fish Passage:</u> Any person owning or having control of any dam or other obstruction in the streams of the Commonwealth that may interfere with the free passage of anadromous and other migratory fish shall provide every such dam or other obstruction with a suitable fishway, to the extent necessary.

Back Bay: Unless determined to not be harmful for fish and wildlife resources or habitats, no person shall drill, dredge, or conduct other operations designed to recover or obtain shells, minerals or any other substance on lands owned by or under the control of the Commonwealth under Back Bay, its tributaries and the North Landing River from the North Carolina line to North Landing Bridge.

Damage to Boundary Enclosures and Entry to Refuges: No person shall damage the boundary enclosure of or enter a game refuge owned, leased, or operated by the Board of Game and Inland fisheries for the purpose of molesting any bird or animal, or permit his dog or livestock to go thereon.

Protection of Aquatic and Terrestrial Habitats Used or Owned by DGIF: No person shall damage or destroy any pond, pool, flume, dam, pipeline, property, or appliance belonging to, controlled by or being utilized by DGIF or its Board; or interfere with, obstruct, pollute, or diminish the natural flow of water into or through a fish hatchery.

b. Virginia Department of Conservation and Recreation

Protection of Virginia State Parks: For purposes of these policies, "park" means all designated state parks, parkways, historical and natural areas, natural area preserves, sites, and other areas under the jurisdiction of the Department of Conservation and Recreation. No person shall damage, pollute, or otherwise alter any natural or manmade feature of any park. Research and educational programming that involves limited and specified sampling or collecting of resources can be conducted to further the understanding of the specified natural and cultural resources of a site. No person shall dispose of any garbage or waste material in any part of a park other than in designated containers.

Fire Prevention: No person shall kindle, build, maintain, or use a fire in any park other than in places provided or designated for such purposes, and only if continuously supervised by a competent person over 16 years of age. No person shall throw away any lighted match, cigarette, cigar, or other burning object in the confines of any park until the object is entirely extinguished.

Hunting and Fishing in State Parks: No person shall hunt or molest in any way any bird or animal, or possess any wild bird or animal, within the confines of any park, except in designated hunting areas. Likewise, no person shall take fish in any park unless done via bait fishing by cast net, crabbing by line and net, or licensed fishing by hook and line, all of which are limited to areas in each park designated for those activities.

Feeding Wildlife in State Parks Prohibited: No person shall feed wildlife in any park, except for DCR sponsored programmatic activities. 4 Va. Admin. Code § 5-30-422 Boating and Vehicles in State Parks: No person shall operate a boat in a bathing area in a park. It is illegal to operate a motor vehicle in any area of a park that is not designated for or customarily used by motor vehicles, unless engaged in fire control, park maintenance, or other necessary park- related activities. Further, no person shall operate, anywhere in a park, a vehicle that is excessively loaded.

The Proposed Action does not involve dams, the Back Bay area, game refuges, land owned by DGIF, or Virginia State Park lands.

9. Point Source Air Pollution

In addition to the requirements of the Clean Air Act established by the Federal Government and the Commonwealth of Virginia, which in accordance with 15 CFR § 923.45 are part of the Commonwealth's Coastal Zone Management Program, the following air quality policies apply: It is the policy of the Commonwealth, after observing the effects of air pollution, to abate, control, and prohibit air pollution throughout the Commonwealth. Policies for asphalt paving operations,

open burning, fugitive dust emissions, state operating permits, and new sources reviews are further described.

Implementation of the Preferred Alternative would generate air emissions that would impact air quality in an adverse way, but these emissions are expected to be short term and minor. Under the Proposed Action, the primary source of air emissions would be from the prescribed fire treatments. Mechanical fuel treatments, such as mowing and cutting, would be relatively nominal sources of air pollutants. Impacts to air quality would be minor as criteria pollutant emissions from prescribed fires would be intermittent and short term, not lasting more than a few days. Further, it is anticipated that all relevant federal and state regulations, including any requirements to obtain a permit, would be followed to limit impacts to air quality.

The Proposed Action would follow recommendations of the latest edition of the National Wildfire Coordinating Group Smoke Management Guide for Prescribed and Wildland Fire (NWCG, 2020). Basic smoke management practices include conducting prescribed fires during favorable meteorological conditions and not scheduling burn events during ozone alerts or other health advisories. Prescribed burns would be timed to coincide with weather conditions that would allow for smoke dispersion and transport to mitigate air quality effects. These conditions would minimize concentrations of haze-forming particles, which are generated from smoke.

10. Point Source Water Pollution

This policy focuses on protecting existing high quality state waters and restoring all other state waters to such condition of quality that any such waters will permit all reasonable public uses and will support the propagation and growth of all aquatic life, including game fish, which might reasonably be expected to inhabit them; safeguard the clean waters of the Commonwealth from pollution; prevent any increase in pollution; reduce existing pollution; promote and encourage the reclamation and reuse of wastewater in a manner protective of the environment and public health; and promote water resource conservation, management and distribution, and encourage water consumption reduction in order to provide for the health, safety, and welfare of the present and future citizens of the Commonwealth.

Short term minor adverse impacts on surface water and stormwater could occur from prescribed fires, chemical fuel treatments, mechanical fuel treatments, and wildfire suppression. Impacts to surface water from these activities could include short term ash runoff, increased soil erosion, runoff, and sedimentation, and inadvertent release of contaminants and chemicals. The effects of low severity fires, such as small-scale prescribed burns, on water resources are generally minimal and short-lived and would be controlled using emergency stabilization treatments when necessary. Fire retardant would not be used within 300 feet of any drainage, wetland, vernal pool, or other water source further limiting the impact to surface water resources from wildfire suppression. All pesticides used would be registered with the USEPA and applied in accordance with label instructions and existing VPDES permits.

In the long term, impacts on surface water and stormwater from implementation of the Preferred Alternative would be beneficial. The Proposed Action would ultimately decrease the potential for larger, more frequency, and more severe wildfires which would pose greater risk to surface water.

11. Nonpoint Source Water Pollution

This policy aims to control stormwater runoff to protect the quality and quantity of state waters from the potential harm of unmanaged stormwater; to control soil erosion and sediment deposition in order to prevent unreasonable degradation of properties, stream channels, state waters, and other natural resources; and to otherwise act to control nonpoint source water pollution to ensure the general health, safety, and welfare of the citizens of the Commonwealth.

The potential impacts are the same as those described above in **10. Point Source Water Pollution.**

12. Shoreline Sanitation

The purpose of this program is to ensure that sewage is disposed of in a safe and sanitary manner that protects the public health and welfare and the environment.

The Proposed Action does not impact any sewage systems or propose the installation of a new sewage system.

Advisory Policies for Geographic Area of Particular Concern

A. Coastal Natural Resource Areas

Coastal Natural Resource Areas are areas that have been designated as vital to estuarine and marine ecosystems and/or are of great importance to areas immediately inland of the shoreline. These areas receive special attention from the Commonwealth because of their conservation, recreational, ecological, and aesthetic values. These areas include the following resources: wetlands, aquatic spawning, nursing, and feeding grounds, coastal primary sand dunes, barrier islands, significant wildlife habitat areas, public recreation areas, sand gravel resources, and underwater historic sites.

Wetlands cover approximately 652 acres on JBLE – Langley. Short term minor adverse impacts to wetlands could occur from chemical fuel treatments and mechanical fuel treatments. Impacts to wetlands from these activities could include increased soil erosion, runoff, and sedimentation and inadvertent release of contaminants and chemicals to wetlands. All pesticides used would be registered with the USEPA and applied in accordance with label instructions and existing VPDES permits. Impacts to wetlands from the use of fire retardants would be negligible as these would not be used within 300 feet of any wetland or vernal pool. Additionally, MIST would be used to the greatest extent possible in or near wetlands. The WFMP states that wetlands on JBLE – Langley would be burned to maintain a five-year MFRI where feasible, to mimic natural conditions. Prescribed fire would reduce non-native and invasive wetland plant species and increase native wetland plant species. Prescribed fire would also temporarily increase soil erosion, runoff (including ash runoff), and sedimentation to wetlands. In in the short term, there would be adverse minor impacts to wetlands from prescribed burns. In the long term, there would be beneficial impacts to wetlands from prescribed burns.

As discussed above in **Marine Fisheries**, there are multiple EFH in the York River adjacent to JBLE-Langley. While there are the potential minor adverse impacts from ash deposition and sedimentation, this would be localized and would be diluted prior to reaching York River EFH.

Coastal primary sand dunes, barrier islands, significant wildlife habitat areas, public recreation areas, sand gravel resources, and underwater historic sites are not located on JBLE.

B. Coastal Natural Hazard Areas

This policy covers areas vulnerable to continuing and severe erosion and areas susceptible to potential damage from wind-, tidal-, and storm-related events including flooding. New buildings and other structures should be designed and sited to minimize the potential for property damage due to storms or shoreline erosion. The areas of concern are highly erodible areas and coastal high hazard areas, including flood plains.

The Proposed Action does not involve construction of buildings or structures in coastal natural hazard areas.

C. Waterfront Development Areas

These areas are vital to the Commonwealth because of the limited number of areas suitable for waterfront activities. The areas of concern are commercial ports, commercial fishing piers, and community waterfronts.

The Proposed Action would not impact areas suitable for waterfront activities.

Advisory Policies for Shorefront Access Planning and Protection

A. Virginia Public Beaches

These public shoreline areas will be maintained to allow public access to recreational resources.

There are no public beaches within the project area; consequently, the Proposed Action would not affect public access to beaches.

B. Virginia Outdoors Plan (VOP)

The VOP, which is published by Virginia's Department of Conservation and Recreation (DCR), identifies recreational facilities in the Commonwealth that provide recreational access. Prior to initiating any project, consideration should be given to the proximity of the project site to recreational resources identified in the VOP.

The Proposed Action is not located near recreational resources and would have no impact on the VOP.

C. Parks, Natural Areas, and Wildlife Management Areas

The recreational values of these areas should be protected and maintained.

There are no public parks, natural areas, or wildlife management areas on JBLE – Langley.

D. Waterfront Recreational Land Acquisition

It is the policy of the Commonwealth to protect areas, properties, lands, or any estate or interest therein, of scenic beauty, recreational utility, historical interest, or unusual features which may be acquired, preserved, and maintained for the citizens of the Commonwealth.

The Proposed Action does not limit the ability of the Commonwealth in any way to acquire, preserve, or maintain waterfront recreational lands.

E. Waterfront Recreational Facilities

Boat ramps, public landings, and bridges shall be designed, constructed, and maintained to provide points of water access when and where practicable.

The Proposed Action does not involve the design, construction, or maintenance of any boat ramps, public landings.

F. Waterfront Historic Properties

The Commonwealth has a long history of settlement and development, and much of that history has involved both shorelines and near-shore areas. The protection and preservation of historic shorefront properties is primarily the responsibility of the Virginia Department of Historic Resources.

No historic shorefront properties would be affected by the Proposed Action.

Consistency Determination

Based upon the information and analysis presented above and included in the EA, the Air Force finds that the Proposed Action is consistent to the maximum extent practicable with the enforceable policies of the Virginia Coastal Resources Management Program.

Pursuant to 15 CFR § 930.41, the Virginia Coastal Resources Management Program has 60 days from the receipt of this letter in which to concur with or object to this Federal Consistency Determination or to request an extension under 15 CFR § 930.41(b). Virginia's concurrence will be presumed if its response is not received by JBLE – Langley on the 60th day from receipt of this determination.

Date

Signature

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