

**JBLE-EUSTIS
2022 INTEGRATED NATURAL RESOURCES
MANAGEMENT PLAN (INRMP)
ANNUAL REVIEW SUMMARY**



JOINT BASE LANGLEY-EUSTIS (EUSTIS)

FORT EUSTIS, VIRGINIA

July 2022

EXECUTIVE SUMMARY

Natural resources consist of wildlife, invertebrate fauna, plants, land and associated habitats (such as forests, wetlands, early successional areas, shorelines and soils), and trees and forestry products. These resources are critical to meeting mission requirements. The Joint Base Langley-Eustis (Eustis) (JBLE-Eustis) Integrated Natural Resources Management Plan (INRMP) provides the basis and criteria for protecting and managing natural resources using landscape and ecosystem management principles, consistent with the military mission. The INRMP represents the Installation Commander's policy and procedures for managing natural resources. JBLE-Eustis meets Category I Criteria of Air Force Manual (AFMAN) 32-7003 (*Environmental Conservation*) and is considered to have significant natural resources requiring conservation and management. INRMPs are 5-year plans that must be reviewed annually and completely revised at the end of the 5-year cycle. This annual review provides a summary of INRMP projects, accomplishments, funding, annual work plan, and updates for the review period of 7 June 2021 through 6 June 2022. This INRMP Annual Review Summary discusses updates requiring amendments to the INRMP. These updates along with the previous Summary (7 June 2020 through 6 June 2021) shall be posted to copies of the INRMP.

This INRMP Annual Review Summary was prepared by the 733d Civil Engineer Squadron (CES), Environmental Element. A copy of this INRMP Annual Review Summary shall be provided to the United States Department of the Interior, United States Fish and Wildlife Service (USFWS), and the Virginia Department of Wildlife Resources (VDWR). INRMP Annual Review Summaries do not require USFWS or VDWR signature; however, these documents are submitted to each agency for review and comment.

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1. INTRODUCTION

1.1 Preparation of this INRMP Annual Review Summary and implementation of the JBLE-Eustis INRMP are required by the Sikes Act (16 USC 670 *et seq.*), Department of Defense (DoD) Manual 4715.03 (*Natural Resources Conservation Program*), and AFMAN 32-7003 (*Environmental Conservation*). The INRMP implements the natural resources program on JBLE-Eustis from 6 June 2019 through 5 Jun 2024. The 633d Air Base Wing Commander approved the JBLE-Eustis INRMP on 5 Jun 2019. Concurrence with the INRMP was obtained from Virginia Department of Wildlife Resources (VDWR) and US Fish and Wildlife Service (USFWS) on 14 June 2019 and 20 June 2019, respectively. Overall responsibility for natural resource management exists with the Natural Resources & Integrated Pest Management (NR&IPM) Team within the Environmental Element (CEIE) of the 733d Civil Engineer Squadron (CES).

1.2 This annual review summary articulates accomplishments (since the previous annual review), Annual Work Plan updates, natural resources & enforcement personnel and resources availability, and required updates. Specific achievements to conserve, promote, and manage natural resources at JBLE-Eustis are discussed. Projects programmed for successful INRMP implementation in Fiscal Year (FY) 21 and FY22, and the next four FYs are provided in Section 12 (Annual Work Plan).

1.3 No changes to the installation mission or land use occurred in during the review period. However, a forestry action to support Felker Airfield safety harvested 88 acres of forested land (beginning in June 2022) and a project is being developed to expand the airfield runway in FY25. Natural resources activities and projects discussed in this report adhere to the current installation INRMP and shall be updated in the next INRMP revision. INRMP updates are discussed in section 12 of this review. The current INRMP (and INRMP Annual Review Summaries) can be found at the following link: <https://www.jble.af.mil/Units/Army/Eustis-Enviromental/>.

2. NATURAL RESOURCES MANAGEMENT PROGRAM RESOURCING.

2.1 Natural resources & enforcement staffing during the review period.

2.1.1. Permanent NR&IPM Team Staff. JBLE-Eustis is currently authorized two full-time Biological Scientists (GS-0401-12) and one full-time Wildlife Biologist (GS-0486-11) to develop and implement the INRMP and manage the installation natural resources. All three positions were filled during the review period. One 0401 series biologist functions as the installation natural resources manager and entomologist, invertebrate biologist, and Installation Pest Management Coordinator. The other 0401 series biologist functions as the habitat and invasive vegetation programs manager, wetlands/permit manager, and forester. The Wildlife Biologist oversees the iSportsman Portal/hunting and fishing programs, wildlife management programs, deer management, wild turkey management, federally listed

species, and other vertebrate species programs.

2.1.2. Conservation Law Enforcement (CLE) Staff. Historically, 733 Security Forces Squadron (733 SFS) provided two Conservation Law Enforcement Officers enforce Federal and state conservation laws and regulations including Virginia hunting and fishing laws, Migratory Bird Treaty Act (MBTA), Endangered Species Act (ESA), state wildlife laws, and components of the Clean Water Act and Rivers and Harbors Act pertaining to wetlands, shorelines, streams and rivers. However, in July 2021, 733 SFS alerted 733 CES they could not continue this support due to operating deficiencies, and recommended that 733 CES acquire this responsibility. The 733 CES/CEIE staff elevated the issue with 633 Air Base Wing/Staff Judge Advocate (ABW/JA), Air Force Civil Engineer Center (AFCEC/CZTQ and AFCEC/CZOE), who provided the following feedback and recommendations during a 25 August 2021 teleconference call:

- JBLE Instruction (JBLEI) 32-7001 (Hunting, Fishing, and Boating Programs at JBLE-Eustis) continues to adequately support DODI 5525.17 (Conservation Law Enforcement Program), section 3.33 of AFMAN 32-7003 (Environmental Conservation), and section 7.19 (Natural Resources Law Enforcement) of the Jun 2019 JBLE-Eustis INRMP. As a result, the group found no reason to stop hunting & fishing activities on JBLE-Eustis because of the current 733 SFS manpower shortage.
- JBLE Instruction 32-7001, any Air Force employee can ask a person fishing if they have a State license, and can call SFS as needed for enforcement. U.S. Code and DoD policy make it clear that State Game Wardens shall be allowed access to the installation to enforce State game laws, therefore should an enforcement issue need to be elevated, 733 SFS or the 733 CES/CEIE Natural Resources staff may request Virginia Game Warden assistance for enforcement.
- The JBLE-Eustis INRMP remains compliant with the Sikes Act, DODI 5525.17, and AFMAN 32-7003. However, the AFCEC Subject Matter Expert (SME) advised updating section 7.19.1 during the annual review to read “Natural resources law enforcement at JBLE-Eustis is a function of the 733d Security Forces Squadron, and they will conduct conservation law enforcement to the greatest extent practical.” This is considered an annual update to a process and does not impact the compliance status of the INRMP or require changes to the Management Internal Control Toolset (MICT).
- AFCEC/CZTQ agreed to make JBLE-Eustis a priority fill for at least one civilian employee of 733 SFS at the next Federal Land Management Training course in March 2022. This individual’s position description or performance plan must specify CLEO duties. This did not occur in March/review period.
- 733 CES/CEIE will continue efforts to sustain 733 SFS enforcement support and investigate alternatives, should long-range adjustments to this support be required. AFCEC committed to providing any necessary support to CEIE and the 633 ABW to ensure compliance with all applicable state, Federal, and DoD requirements.

2.1.3. The major issue at hand was that CES lacked the law enforcement series (GS-1801) positions and the training and logistical resources required to implement. In the December 2021 time frame, 733 SFS suggested the transfer of two positions to CES to execute conservation law enforcement tasks. During the January-March 2022 time frame, the AFCEC East Region Natural Resources Manager became involved providing greater insight on the benefits of utilizing US Fish & Wildlife Service (USFWS) CLE Officers (CLEO) at JBLE-Eustis. These benefits included fully trained and equipped personnel being assigned in a fairly expeditious manner. Such personnel would not be required to attend the 86-day FLTC course and would arrive with a vehicle, firearms, uniforms/badges, and other ancillary equipment. This would also equate to installation cost-savings. These officers would be able to enforce state hunting & fishing regulations, assist with hunting program management, and enforce federal natural resource laws/regulations (including Endangered Species Act, Migratory Bird Treaty Act, Clean Water Act/wetlands, National Historic Preservation Act/archaeological resources, etc.). AFCEC is in a position to arrange for 1 or 2 USFWS CLEOs if JBLE-Eustis can provide adequate office space and a weapons security locker which it is able to do at BLDG 1409. A site visit by USFWS is being organized for the August time frame.

2.2. Project funding during the review period.

2.2.1. Execution of Fiscal Year (FY) 20 natural resource projects. FY 20 natural resource projects included HERT205336 (management of invasive species), HERT205337 (management of forest/habitat), and HERT205339 (management of nuisance wildlife). HERT205336 and HERT205337 were executed under W912HN-20-2-0005 through the US Army Corps of Engineers (USACE) Savannah District with an effective start date of 30 September 2021. These projects had a period of performance of 31 December 2022. Prior to execution of this contract, Air Force Civil Engineer Center (AFCEC) combined HERT(FY)5337 and HERT(FY)5338 into one project HERT(FY)5337. Essentially, urban forest management tasks became included in with forest habitat management tasks. A shortfall existed for this contract as AFCEC omitted the tasks from the scope of work originally prepared for HERT205338 from the contract. Consequently, several actions did not happen during the review period. HERT205339 was contracted with US Department of Agriculture-Wildlife Services (USDA-WS).

2.2.2. Execution of FY 21 natural resources projects. Execution of FY 21 natural resource projects HERT215336 (management of invasive species), HERT215337 (management of forest/habitat), and HERT215339 (management of nuisance wildlife) was delayed until May 2022 due to AFCEC coordination with the executing agency (USA Corps of Engineers Savannah District). This resulted in the same issue as with FY 20 projects where some tasks were accidentally omitted. CEIE natural resources staff worked with AFCEC – Installation Support Team (IST) to get some of the tasks returned, but those tasks were executed through the HERT215337. This resulted in portions of HERT215336 and HERT215337 being initiated in May with a period of performance being December 2022. HERT215339 remained unexecuted as of 6 June 2022.

3. ENVIRONMENTAL IMPACT ANALYSIS PROCESS.

Natural resources staff is involved in the review of projects to determine compliance with respective conservations laws as well as management policies as articulated in the INRMP. Natural resources staff reviewed/evaluated 18 Air Force (AF) Form 813s, AF Form 332s, environmental assessment drafts, and other documents as well as participating in related conference calls and site visits during this Summary period.

4. WETLANDS

4.1. Jurisdictional Delineation. JBLE-Eustis contained over 3,600 acres of wetlands (forested, upland, tidal, and salt marsh) during the review period. An on-site jurisdictional determination of wetlands was completed and published by the United States Army Corps of Engineers (USACE) in 2014. The jurisdictional wetland determination expired in 2019, five years after completion. AF policy is to conduct wetland delineation on a by-project basis, however, the 2014 wetland delineation is used to reference potential impacts of projects and activities at JBLE-Eustis.

4.2 Permit Actions. Approximately 18 work requests were reviewed specifically for environmental impacts, including compliance with Section 404 of the Clean Water Act. Wetland permits were acquired when base activities impacted wetland areas, with specific criteria or conditions to follow. Projects requiring wetland permits acquired through the joint permit application (JPA) process are described below:

4.2.1. USACE projects requiring JPAs. JPAs were prepared by the USACE and submitted to CEIE/CES for signature and documenting. JPAs included:

- 3d Port Mooring replacement.
- 3d Port Pier Improvements.
- Dredge Pipeline Routing.

4.2.2. Other projects requiring JPAs. CEIE/NR&IPM prepared and submitted JPAs for the following projects:

- Install Security Mark Buoys along the installation tidal creeks.
- Shovel Test Pits for cultural resource determinations.
- Joint Logistics Over the Shoreline (JLOTS)/Pier Stab training at Training Area 18.

5. FISH AND WILDLIFE MANAGEMENT

5.1. White-tailed Deer (*Odocoileus virginianus*) management. Whitetail deer management constitutes one of the primary natural resource tasks for this installation. The objective is maintain the current population below the cultural carrying capacity. Deer populations must be managed in order to prevent damage to habitat by over browsing, reduce the risks of tick-

borne diseases, reduce risks of vehicular collisions, and maintain a viable recreational hunting program. Six deer were removed by US Department of Agriculture-Wildlife Services (USDA-WS) from Felker Army Airfield, 29 were removed via management lottery hunts, and 114 harvested during the recreational deer seasons.

5.2. Research. Management of fish and wildlife present on federal land is driven by scientific understanding of species populations on that land. To support scientific understanding of species present on JBLE-Eustis, six research projects are currently ongoing. Brief project summaries are below.

5.2.1. Bald Eagle Management Study. In September of 2020, JBLE-Langley began a bald eagle management study in response to the high number of bald eagle hazing events that occur on airfields each year. JBLE-Eustis offered assistance in locating nest and collecting data on local eagle populations in 2020 and continued assistance during this review period. Objectives of this study include 1) determining if translocation is a viable approach for reducing airfield use by individual animals 2) evaluating how eagles are using the airfield habitat and 3) determining if bald eagles habituate to hazing. Work on this project is being performed in partnership with the VDWR, USDA, USFWS and Conservation Science Global.



Researchers take measurements from a juvenile bald eagle captured within 5 kilometers of the JBLE-Eustis airfield.

5.2.2. Snake Fungal Disease Surveys. JBLE-Eustis Annual participated in the DoD Partners in Amphibian and Reptile Conservation (DoD PARC) project to conduct snake fungal disease surveys. The goal of this project is to increase understanding of disease origins, distribution, and prevalence within the United States. During the report year NR&IPM Team staff sampled 48 snakes, approximately 17% of samples submitted resulted in positive fungal infection. Participation in the project by JBLE-Eustis is continuing.



An Eastern ratsnake with abrasions which were swabbed to test for snake fungal disease

5.2.3. Monitoring Woodland Box Turtles (*Terrapine carolina*). Historically, box turtle surveys are conducted annually as an Earth Day event in Training Areas 1 and 2. This event was scheduled for Earth Day 2022 (18 April) but was cancelled due to inclement weather and low expected

turn-out. NR&IPM Team staff increased woodland box turtle surveillance from these two training areas to include the entire installation. Observations are reported to the Virginia Herpetology Society through their digital reporting database. Approximately 20 box turtle observations were reported during the report year.

5.2.4. Fauna surveys and observation documentation. Natural resources staff utilized formal contracted surveys and in-house staff surveys/personal observations to identify changes in flora and fauna taxa. A vertebrate species wildlife survey was initiated in FY 2019 as a programmed/funded project through USACE-Savannah District (HERT195331) but was delayed due to the pandemic. It was completed in November 2021. The following new data was obtained from this project as well as field work performed by NR&IPM Team staff during this review period.



Woodland box turtle copulation found in Japanese stiltgrass in TA 19.

5.2.4.1. New vertebrate fauna surveys and observations. Several new vertebrate fauna taxa were identified on the installation during this review period. The Seminole bat (*Lasiurus seminolus*) was documented via acoustic methods during the vertebrate species survey completed in 2021. Carpenter frogs (*Lithobates virgatipes*) were documented in Training Area 30 during the vertebrate survey. The woodland vole (*Microtus pinetorum*) is a new mammal documented during the vertebrate survey. A flock of approximately 200 bobolink (*Dolichonyx oryzivorus*) was observed by USDA-WS outside of Felker Army Airfield in May 2022 and was confirmed by CEIE natural resources staff. CEIE natural resources staff confirmed a veery (*Catharus fuscescens*) that had struck a window at building 576.

5.2.4.2. New invertebrate fauna surveys and observations. Several new invertebrate fauna taxa were identified on the installation during this review period:

- *Bombus griseocollis* (Insecta: Hymenoptera: Apidae).
- *Brachyleptura* (Insecta: Coleoptera: Cerambycidae).
- *Camponotus chromaiodes* (Insecta: Hymenoptera: Formicidae).
- *Cercyonis pegala* (Insecta: Lepidoptera: Nymphalidae).
- *Chrysoperia rufilabris* (Insecta: Neuoptera: Chrysopidae).
- *Diabrotica undecimpunctata* (Insecta: Coleoptera: Chrysomelidae).
- *Disonycha* (Insecta: Coleoptera: Chrysomelidae).
- *Epimecis hortaria* (Insecta: Lepidoptera: Geometridae).
- *Eremnophila aureonotata* (Insecta: Hymenoptera: Sphecidae).
- *Eumencus fraternus* (Insecta: Hymenoptera: Vespidae).
- *Heterocampa umbrata* (Insecta: Lepidoptera: Notodontidae).
- *Iridopsis defectaria* (Insecta: Lepidoptera: Geometridae).

- *Lapara coniferarum* (Insecta: Lepidoptera: Sphingidae).
- *Leptoglossus oppositus* (Insecta: Hemiptera: Coreidae).
- *Lygaeus turcicus* (Insecta: Hemiptera: Lygaeidae).
- *Megachile xylocopoides* (Insecta: Hymenoptera: Megachilidae).
- *Neohermes* (Insecta: Megaloptera: Corydalidae).
- *Pachydiplax longipennis* (Insecta: Odonata: Libellulidae).
- *Pelegrina galathea* (Arachnida: Araneae: Salticidae).
- *Phigalia strigataria* (Insecta: Lepidoptera: Geometridae).
- *Phoebis sennae* (Insecta: Lepidoptera: Pieridae).
- *Polistes metricus* (Insecta: Hymenoptera: Vespidae).
- *Polites themistocles* (Insecta: Lepidoptera: Hesperidae).
- *Polystepha pilulae* (Insecta: Diptera: Cecidomyiidae).
- *Pyrrharctia isabella* (Insecta: Lepidoptera: Erebiidae).
- *Rabidosa punctulata* (Arachnida: Araneae: Lycosidae).
- *Scolia bicincta* (Insecta: Hymenoptera: Scoliidae).
- *Sinea diadema* (Insecta: Hemiptera: Reduviidae).
- *Ummidia audouini* (Arachnida: Araneae: Halonoproctidae).
- *Vanessa atalanta* (Insecta: Lepidoptera: Nymphalidae).
- *Vanessa virginiensis* (Insecta: Lepidoptera: Nymphalidae).
- *Vespula squamosa* (Insecta: Hymenoptera: Vespidae).
- *Xysticus transversatus* (Arachnida: Araneae: Thomisidae).

5.2.5. Turkey Surveys. The abundance and distribution of turkeys at JBLE-Eustis appears stable in comparison to previous years. The NR&IPM Team conducted 5 hen/poult surveys and 7 spring gobbler surveys during the review period.

5.2.6. Bald Eagle Nest Surveys. Nest surveys for bald eagles, are conducted annually each spring. Bald eagle surveys identified 11 active nests on JBLE-Eustis. One nest was just over ¼ mi from the airfield and eggs were present prior to discovery. The nest could not be removed under the current USFWS Eagle Nest Depredation Permit due to eggs being laid before discovery. Two juveniles were captured and affixed with transmitters as part of the research described in 3.1.1.

5.3 Nuisance wildlife management. JBLE-Eustis manages nuisance wildlife on the installation through its integrated pest management (IPM) program, USDA-WS contracts, and NR&IPM Team wildlife-human conflict response.

5.3.1. Integrated Pest Management (IPM). NR&IPM Team oversees the integrated pest management program at JBLE-Eustis, with the exception of privatized housing. The Team integrates and cross-references the INRMP with the Integrated Pest Management Plan (IPMP). IPM incidents involving fauna pests are primarily executed by the Base Operating Services (BOS) contractor pest control services; however, some variations exist and such actions are coordinated with the NR&IPM Team.

5.3.2. USDA-WS support. CEIE/NR&IPM Team contracted with USDA-WS for nuisance wildlife support that typically exceeds BOS contract capabilities or that are not typical pest management issues. This contract is an annual function through HERT(FY)5339/MUHJA53216122 project. However, funding was not obtained for FY2021 as discussed above. In addition, the United States Department of Agriculture Wildlife Services personnel actively manage wildlife that pose a direct threat to aircraft and/or human health and safety on JBLE-Eustis through a contract with 633d 1st Fighter Wing Safety Office.

5.3.3. NR&IPM Team wildlife-human conflict response. All Team members are on-call to respond to wildlife conflicts both during duty hours and outside duty hours to the maximum extent practical. Responses may involve potential rabies incidents, injured/sick wildlife, potential impacts to human safety, collecting ectoparasites from wildlife carcasses, removal & disposal of deer carcasses, or determination of wildlife damage. NR & IPM staff responded to 133 wildlife incidents during the review period. This is a slight decrease compared to 151 incidents during the previous review period. The most frequent responses involved mammals (78%) and reptiles (13%). Seventeen percent of incidents involved bats, primarily due to a roost located in building 1601 and in the TA17A After Action Review building. Most incidents occurred in June and July and constituted a third of the calls for the year.

5.3.4. Birds in Commissary. Frequent incidents of birds in the Commissary required assistance and technical advice from NR&IPM. Several individual birds (particularly English house sparrows) gained access to and remain imprinted on the Commissary building since 2017. The CES pest shop made numerous attempts to trap/capture the birds but to no avail. NR&IPM staff in concert with USDA-WS agents made several attempts using pellet rifles and other trapping techniques; however, the situation remained unresolved. NR&IPM staff offered various means of excluding birds. During this report year the Commissary installed vinyl exclusion mats most of the loading dock doors and conducted two roof inspections looking for entry points.

5.3.5. Beaver (*Castor canadensis*). Beaver activity impacted two separate locations during the review period: Range 3/BTRACS and near the archery range along Mulberry Island Rd. USDA-WS wildlife specialists assisted in removing beavers from these locations. One beaver was removed adjacent the Range 3 berm and the dam was removed. The dam along Mulberry Island Road was removed and no new beaver activity was observed.

5.3.6. Coyote (*Canis latrans*) management. During this review period coyotes were observed and reported vocalizing on many occasions. Pines Golf Course employees reported several instances where coyotes were shadowing employees as they maintained the golf course or would stop and bark at employees when they were near them. A female with pups was observed on the golf course as well and believed to have dened nearby. Though human attacks by coyotes are statistically rare, the behavior presented by Fort Eustis coyotes is not typical and is beginning to impact daily work activities by the golf course employees. Coyote populations also contribute to maintaining tick-borne disease pathogens in the installation environment as well increasing risks of rabies and other disease issues. Coyote management has been attempted successfully in the past, but funding for nuisance wildlife

has been inconsistent in timing and generally does not coincide with the most efficient time of year to manage coyotes (winter-early spring).

5.3.7. Eastern Gray Squirrels (*Sciurus carolinensis*) in Privatized Housing. Gray squirrels in privatized housing became an issue in February 2021. Nearly all of the squirrel related complaints, damages, and nuisance calls occurred in the Pershing Avenue/Thompson Circle area of the installation. Natural resources staff documented 7 houses with active or apparent wildlife feeding activities and over 15 houses that had unrepaired openings or pre-existing damage such as missing, louvers and vent covers. Belfour Beatty Communities (privatized housing partner) completed building repairs as directed and were instructed to utilize private nuisance wildlife operators for future squirrel related damages. NR & IPM received 3 squirrel related calls in the report year. Only one incident required removal of the squirrel.

5.3.8. Permit Actions. State and federal permits obtained by NR&IPM team to implement fish and wildlife management activities included: Eagle Depredation Permit (MB58757D-0), Eagle Nest Depredations Permit (MB237450-0), and a Depredation at Airports Permit (MB-074587-0). Additionally, USDA-Wildlife Services maintains a state issued Official Kill Permit which is not required, but is mutually beneficial between the installation and DWR. Annual reports were prepared and submitted to the appropriate agency as directed in each permit.

6. THREATENED AND ENDANGERED SPECIES MANAGEMENT

6.1 Endangered Species Act (ESA) Section 7 Consultations during the review period. The Northern long-eared bat (*Myotis septentrionalis*) and the Eastern black rail (*Laterallus jamaicensis*) remained the two federally listed species occurring in the JBLE-Eustis region of influence per the USFWS Information for Planning & Consultation (IPaC) system. Consultations for the airfield clear zone tree removal was completed through the IPaC system to address the Northern long-eared bat (NLEB) and black rail. Re-evaluation occurred in May 2022 as the timber harvest portion of the Felker Army Airfield Tree Removal project began. The project was issued a Determination Letter that exempted the timber harvest from Time of Year (TOY) restrictions since the species were classified as threatened under the Section 4(d) Rule of the ESA.

6.2. Reclassification of NLEB to endangered status. Potential changes with reclassification of the NLEB. The NLEB was designated as a federally threatened species in 2015 and was documented on JBLE-Eustis the following year. This situation required Section 7 Consultation under the Endangered Species Act (ESA) with the USFWS to determine whether given projects could impact this species. Specifically, federally threatened species receive protections under the Section 4(d) Rule. One key protective measure for the NLEB under the Section 4(d) Rule is implementation of the tree cutting time of year restriction (of 1 June - 31 July). However USFWS published a proposal to reclassify the NLEB as endangered (87 FR 16446-16452) on March 23, 2022 is considering reclassifying the NLEB as endangered with an anticipated decision to occur in December 2022. The U.S. District Court for the District of Columbia has ordered the Service to complete a new final listing determination for by November 2022. If this reclassification occurs, the NLEB would no longer be subject to the 4(d) Rule. This could

trigger more in-depth consultations which could drive more stringent protective requirements. No specific details will be evident before December. The Felker Army Airfield tree removal logging is not expected to be affected by this; however, there is potential to affect the airfield runway expansion project and other projects in the future. This topic will be recommended for the next Cross Functional Team/Environmental, Safety & Occupational Health Council. However, USFWS is considering reclassifying the NLEB as endangered with an anticipated decision in December 2023 indicated that there may be significant changes in 2023 with possible re-listing of NLEB as Endangered. If this reclassification occurs, the Section 4(d) Rule will no longer apply and changes to timber harvests may occur.

6.3. Eastern Black Rail (*Laterallus jamaicensis*). The Eastern black was designated as threatened under the Endangered Species Act by the USFWS in 2020. This species was added to the USFWS IPaC system only recently to include the immediate local geographical area. JBLE-E executed several wildlife/bird surveys in 1997, 2001, 2006, 2015, and 2021 none of which documented the species on the installation. Current data suggests that they are not present in any number on the installation.

6.4. Riverine Threatened and Endangered Species. Two species are thought to occur in the James and Warwick rivers adjacent JBLE-Eustis. In February 2012, the Atlantic sturgeon (*Acipenser oxyrinchus*) was listed as federally endangered under NOAA jurisdiction. This species does not occur on Fort Eustis property but does occur in adjacent water bodies of the James River and its tributaries and must be considered during EIAP reviews. Recently, NOAA has requested DoD data and observations of green sea turtles (*Chelonia mydas*). No official regulatory changes occurred for green sea turtles during this report year, but possible habitat and EIAP changes should be anticipated in the future report year.

6.5. Existing federally listed species on JBLE-Eustis. The NLEB was documented by mist-net capture and acoustic methods in a 2016 bat survey. The federally endangered Indiana bat (*Myotis sodalis*) was documented via acoustic techniques during this survey also. However, subsequent bat surveys performed in 2017, 2019 and 2021 failed to confirm its presence by acoustic or mist net capture. This issue was addressed to USFWS along with the fact that the Indiana bat did not exist in the installation region of influence in the IPaC, and consequently, the Indiana bat was removed from consideration at JBLE-Eustis as of this review period. The Northern long-eared bat is the only federally listed species occurring on JBLE-Eustis during this review period.

6.6. State Listed Species. State listed species come under the jurisdiction of Virginia Department of Wildlife Resources. Currently, the little brown bat (*Myotis lucifugus*) and the tricolored bat (*Perimyotis subflavus*) are the state listed species documented on the installation.

7. OUTDOOR RECREATION

7.1. Fort Eustis Nature Trail. The Fort Eustis Nature Trail was constructed under a DoD Legacy Program grant (\$250K) and completed in 1995. CEIE obtained grant funding under the National Public Lands Day to improve the Fort Eustis Nature Trail in 2021. Volunteers were utilized to

help execute the grant project that included planting of native habitat at the trail entrance, installing informative signage on how native plants were used by indigenous and colonial peoples, cleaned much needed debris filled areas of the trail, installed benches, and installed gravel and wooden trail edging at the exit. Additional improvements and an inventory of repair needs project for the Trail began execution in May 2022 as part of HERT215337/MUHJA53206119.

7.2. iSportsman Portal Management. iSportsman is the app used to manage the hunting and fishing programs. A total of 5,864 outdoor recreation check-ins using the iSportsman system occurred during the review period. Fishing accounted for 3,063 check-ins and hunting accounted for 2,801 check-ins. A total of 1,129 active permits issued for hunting (deer, waterfowl, small game and predators), fishing (salt and freshwater), and boating (3 launch sites).

7.3. Spring Wild Turkey (*Meleagris gallopavo*) Surveys and Harvest. NR&IPM Team conducted male turkey ("gobbler") surveys during the review period. Ten areas were surveyed and the staff determined that sufficient population information supported conducting a lottery hunt in April-May 2022 (based on training area availability). Eight hunters (of 41 candidates) were drawn for the initial random lottery drawing. Additional hunting opportunities became available and an additional 7 hunters were drawn for the season. Two mature gobblers were harvested.

7.4. White-tailed Deer Management Lottery. Lottery hunts were offered to qualified hunters via the iSportsman Lottery platform. Winning hunters were escorted by CEIE staff to hunt management locations within cantonment and the Impact Area. Please see section 5.1 for management results.

7.5. Wounded Warrior, Handicapped, Youth, and Veterans Hunting. Several additional opportunities exist to hunt on JBLE-Eustis in addition to management and recreation hunts during the review period. A Wounded Warrior hunt occurred during the winter waterfowl season. Two hunters were escorted by the Sportsman Council Liaison and coordinated through CEIE. Both hunters were successful and harvested ducks. Youth only early deer and waterfowl seasons occurred on the installation with several youth harvesting game. A late season youth and veterans waterfowl day occurred and added an additional weekend of hunting in February. Additional handicapped hunting locations were added this year and resulted in 7 deer harvested by handicapped hunters. Further access and trail repair are necessary to increase handicapped accessibility in the coming seasons.

7.6. Training Area 20 Boat Launch. NR&IPM staff consulted with Virginia Marine Resources Commission staff to provide recommendations for improvements to the small water craft launch located in Training Area 20.

8. LAND MANAGEMENT

8.1. Urban Forestry. CEIE provided Operations Flight/CES with a current hazard tree list in March 2022 to include trees posing risks at the obstacle course (in Training Area 8) as requested by Army Support Activity (ASA)/Range Operations. Funding was procured by Operations

Flight to remove 178 hazard trees, but tree removals have not been reported at the close of this review period.

8.2. Forest Product Sales. During the report year there were two forestry operations conducted as part of larger projects that resulted in forestry revenues. Dominion Energy Transmission line installation resulted in approximately 40 trees being removed and a net revenue of approximately \$3,600. The Felker Army Airfield Vegetation Clearing project began in May 2022 with an anticipated completion by November 2022. Net forestry revenue is expected to be approximately \$40,000.

8.3. Pollinator and Early Successional Habitat. Approximately 14 acres of unused land at the golf course, archery range, Quick six course, and at Building 2015 were converted into native early successional habitat during this review period. These acres also created Total Maximum Daily Load credits which will help the installation reach 2028 goals for pollution and runoff mitigation. Additional aesthetic benefits and reduced annual maintenance costs were benefits gained by the golf course. A total of 31 acres of unused areas have been converted. This action reduced mowing costs while creating ecologically productive habitat. Maintenance of these areas also can occur in the winter months when grounds crews are less busy, and only require 1 mowing every 1-3 years. This action benefits pollinating insects as well as other arthropod/invertebrate fauna that benefit vertebrate wildlife as well as predatory and parasitic invertebrate fauna that function as natural insect control. This further increases biodiversity and reduces effects of invasive vegetation. Furthermore, these areas provide aesthetically pleasing locations that increases quality of life for soldiers and civilians.

8.4. Forest Inventory and Botanical Survey. JBLE-E is required to have a forest inventory prepared every 10 years (per AFMAN 32-7003). A timber inventory and management plan was completed in November 2021 to satisfy this requirement. The report articulates current forest compartment health, timber volumes, timber valuation, invasive species presence, and herbaceous vegetation occurring in the understory, and documented two new species to the installation. Data from this report is used to determine forest habitat management, harvests, and health improvement projects. One new botanical taxon was identified on the installation during this review period:

- Beardtongue (*Penstemon australis* subspecies).
- Butterfly pea (*Clitoria mariana*).

9. INVASIVE SPECIES MANAGEMENT

9.1. Invasive Species Management. NR&IPM Team responded to the lack of programmed invasive species management funds by increase the amount of field work by team staff. During this report year NR&IPM staff mechanically or chemically treated approximately 40.5 acres of invasive species at a contract cost savings of approximately \$38,000.

9.2. Nutria (*Myocastor coypus*) Management. NR&IPM Team contracted nutria surveillance surveys annually since 2017 when federal and state wildlife authorities reported the species occurring on the Virginia Peninsula. Nutria are large aquatic rodents native to South America

and are capable of causing severe irreversible damage to wetland resources. Such damage could lead to significant erosion and increased flooding problems as well as a loss of biodiversity. Routine surveillance allows for rapid control actions before populations can be established. The funding requested for FY2021 was not received during this review period with no surveillance occurring since April 2020. Congressional money was received by USDA-Wildlife Services for nutria management across the eastern half of the state, but JBLE-Eustis has not been identified as a primary management location. Continued surveillance and preventative management is necessary due to a 2-year lapse in funding to perform this surveillance.

10. BIRD/WILDLIFE AIRCRAFT STRIKE HAZARD (BASH)

The BASH program for Felker Army Airfield and is managed through a separate contract with USDA-WS through the 1st Fighter Wing Safety Office. Migratory Bird Permits are retained by the NR&IPM Team, but field work, management, and annual BASH reports are created by USDA-WS and summarized in a separate annual report.

11. OTHER TASKS/ACTIVITIES/ACCOMPLISHMENTS

11.1 CEIE-ASA/Range Operations/Integrated Training Area Management coordination meetings. These meetings were initiated originally in 2014 and conducted informally monthly. They have been instrumental in identifying issues and ideas for improvements towards long-term sustainment of training lands and natural (and cultural) resources that exist there within the context of meeting military missions. The meetings were discontinued during the pandemic by the pandemic. Meetings resumed in May 2022.

11.2 NR&IPM Team Staff Support for volunteers and interns. NR&IPM holds several Volunteer Management Information System opportunities and tracks and certifies volunteer and internship hours by CEIE volunteers. During the review period two internships were completed and left the team, one remaining internship. A current Army employee for the 159th Reserve Unit completed her Capstone Project to fulfill requirements of a Master of Science in wildlife. She completed a management and evaluation plan for re-introduction of prescribed fire at Fort Eustis. Her introductory data and evaluation protocols will be used to monitor effect of prescription fire and habitat changes as new fire regimes are introduced.

11.3. INRMP Environmental Assessment (EA). An EA was written by NR&IPM staff to update the previous EA that covers the taskers and projects listed in the INRMP and subsequent annual reviews. New items included expanded timber stand improvement projects, wetland and early successional habitat projects, and re-introduction of prescription fire as a management tool. At the end of this review period the preliminary draft EA had been submitted to the installation NEPA coordinator and the early public notice was posted in the Daily Press.

11.4 Rabies Advisory Board (RAB). CEIE/NR&IPM Team are members of the RAB which is chaired by the McDonald Army Health Center (MAHC) Department of Public Health. NR&IPM Team staff attended a RAB held on 25 May 2022. CEIE/NR&IPM Team representative

reiterated the need to finalize and obtain approval of the Rabies Response Flowchart it created several years ago. No cases of rabies in wildlife on the installation were documented during the review period.

11.5 Outreach support. CEIE natural resources staff supported several events at Fort Eustis as well as several non-profit activities external to the installation.

- Staff member provided a presentation on *Reptiles and Amphibians of the Coastal Plain* as a guest speaker at the request of College of William & Mary instructional staff on 7 Oct (conducted on staff member's own time).
- Staff member delivered a 2-hour presentation on "*Arthropod and Vertebrate Organisms of Concern in Field Sanitation Operations*" during the Field Sanitation Training course at the request of MEDDAC Department of Public Health/Environmental Health on 20 October 2021, 9 February 2022, and 18 May 2022. Approximately 20 soldiers attended each training session. CEIE supported this event for approximately 8 years at MEDDAC'S request.
- The Historic Rivers Chapter of the Virginia Master Naturalists (VMN) requested the CEIE natural resources manager/IPMC a presentation entitled "*Building and Using Arthropod Inventories at JBLE-E*" at its monthly chapter meeting on 10 November. Staff delivered the presentation for approximately 40 people on his own time. This presentation is also useful as a tool to help educate the installation community on invertebrate fauna and their relationships with the military missions.
- Staff member mentored a US Army drill instructor from 8th Brigade, who is pursuing a degree in wildlife and fisheries science from American University. Mentorship included discussing applicable career fields, appropriate coursework, internship and volunteer opportunities, and navigating USA jobs.
- CEIE IPMC staff member delivered a presentation entitled "*Entomology Careers with the Department of Defense*" to graduate students at the request of the Northeast Regional Center for Excellence in Vector-Borne Diseases on 24 March 2022 on the staff member's personal time.
- Natural resources staff member prepared for and then delivered a block of instruction entitled "*Herpetology: Reptiles & Amphibians of Virginia*" at the request of the VMN Tidewater Chapter in Virginia Beach on 4 April, 2022, as part of the Chapter's membership training program. VMN are citizen scientists involved in supporting natural resource projects. All class preparation and delivery was accomplished on the staff member's personal time. CEIE natural resources staff supported this chapter (and 3 others) the past 10 years. This type of outreach support provides a positive view of JBLE-Eustis support to the Commonwealth.
- Coordinate wildlife data with Virginia Department of Wildlife Resources (VDWR) and the Virginia Herpetological Society (VHS). Natural resources staff identified a frog species not previously documented for James City County. The staff submitted a field note to VHS for publication in its peer-reviewed journal, *Catesbeiana*. Four Virginia Watchlist invertebrate species were documented by VDCR previously at Fort Eustis but are missing from the current Watchlist; staff are advising VDCR accordingly. These actions help promote good working relationships with our state natural resource agencies.

- CEIE natural resources staff presented a 1.5 hour class on *Entomology: The Study of Insects*) to the VMN Tidewater Chapter in Virginia Beach on 25 April 2022. This training support was requested specifically by this chapter and was accomplished on the staff member's personal time.
- Representatives from A Company, 2-210th Aviation requested CEIE natural resources/IPM staff to provide instruction and display on wildlife/invertebrate fauna safety for its annual safety stand-down event on 26 May 2022, 0900-1200. Natural resources/IPM staff supported this event for several years in the past.
- NR & IPM Team staff delivered two presentations as Earth Day 2022 events on Tick Awareness/Preventing Mosquito Breeding and Building & Using Arthropod Inventories on 19 April.

12. ANNUAL WORK PLAN

12.1. General. The work plan covers the time from of June 2022 through June 2023. It consists of contracted projects developed based on programmed funding as well as tasks and projects executed by NR&IPM Team staff. The INRMP serves as the funding document for programmed projects and as a guide towards executing other tasks and projects by the staff.

12.2 Programmed/funded projects. Table 7 below summarizes JBLE-Eustis INRMP projects programmed needed to execute the INRMP. The project costs listed in the table for FY22 are independent government estimates and do not represent the actual amount of funds awarded to execute each project. Errors occurred regarding execution of FY 2021 projects at AFCEC/USACE. Invasive species management project was not funded and the forest/habitat management project was only partially funded (several tasks were omitted). The forest/habitat management project execution did not begin until May 2022 with a completion date of 30 December 2022 so as to avoid overlap with FY23. Conservation Equipment and Conservation Supplies were funded in January of the review period. Nuisance Wildlife Management funding had not been received during the review period. Estimated funding levels for FY22-24 projects are listed below and were under review at the end of this review period.

Table 12-1: JBLE-Eustis INRMP Programmed Projects

Project Title	Reference #	FY22	FY23*	FY24
Invasive Species Management	HERT(FY)5336/MUHJA53216121	\$160,000	\$160,000	\$136,000
Conservation Equipment	HERT(FY)5335/MUHJA5321817	\$4,750	\$72,000**	\$75,000**
Conservation Supplies	HERT(FY)5344/MUHJA5321815	\$7,000	\$10,000	\$12,000
Nuisance Wildlife Management	HERT(FY)5339/MUHJA53216122	\$49,000	\$38,000	\$30,000
T&E Species, Wildlife Survey and Monitoring	MUHJA53237119	\$150,000	-	-
Forest/Habitat Management	HERT(FY)5337/MUHJA53206119	\$422,000	\$360,000	\$243,000
Totals		\$792,750	\$640,000	\$496,000

*AFCEC funds were programmed without requesting Scopes of Work for FY23.

** Funding requested for replace 30+ year old tractor and implements.

12.3 NR&IPM Team tasks. The following tasks shall be executed by the Team staff:

- Monitor execution of the programmed projects noted above.
- Maintenance of animal carcass disposal area.
- Maintain early successional/pollinator habitat and monitor fauna species use.
- Continue hazard tree inventory and assessment.
- Perform whitetail deer surveys and management.
- Perform wild turkey surveys.
- Continue to support VDWR/JBLE-Langley with bald eagle monitoring.
- Perform bald eagle nest surveys via aircraft platforms.
- Document arthropod fauna (including forest pests) and update existing inventory.
- Continue management of the hunting and fishing program.
- Respond and document wildlife incidents.
- Execute outreach support for mission partner events.
- Timber Inventory and Forest Management Plan was completed in FY21 and data from this report is used to determine timber compartments that need management, plan timber harvests, or excludes compartments from management efforts.
- Continue macroinvertebrate data collection to include implementing a routine forest insect survey and incorporate into INRMP during next re-write. Evaluate feasibility of bobwhite quail reintroduction.
- Complete EA for natural resources projects.
- Continue to provide review of AF Form 813s, AF Form 332s, EA drafts, and other documents.

- Prepare Joint Permit Applications (as appropriate) and ensure compliance with existing wetland permits.
- Retain with MBTA/Bald Eagle permits.
- Continue to assist implementation of CLEO staff within 733 CES.
- Attend and support RABs scheduled within the next 12 months.
- Continue to evaluate appropriate cross-referencing the INRMP and IPMP.
- Evaluate two historical Conservation Sites (Warwick River North and South Seeps).
- Timber to Early Successional Habitat Conversion. In support of the AF Pollinator Action Plan and timber stand improvements described in section 6 of this review, approximately 75 acres of overstocked and over mature timber was identified that needed removal or maintenance in the form of timber sale and re-forestation. At the end of the review period the timber had been mapped and a timber cruise (determinations of volume and revenue potential) has begun. Removal, thinning, and reforestation of these tracts were prescribed by the timber inventory complete during the review year and are conveyed during the EIAP through the current INRMP Projects and Tasks EA described in section 6.6.
- Reduce Reliance on Invasive Species Programmed Funds. Historically Invasive species control funding has been sporadic and the NR&IPM Team has responded by increasing the amount of “in-house” invasive species management occurs. Dependable, programmatic invasive species management funding is the most efficient and effective means of controlling invasive species and undesirable vegetation. However, the NR&IPM Team is posturing to augment invasive species contracted work when funded and use a targeted approach to maintaining current invasive species management goals between contracts of when funding is not received. This will likely lead to an increase in conservation supplies and equipment funding needs, but will increase the effectiveness of INRMP implementation into the future.
- Obtain Approved Surveyor Certification for Listed Bat Species. USFWS defines Range-wide Survey Guidelines for several threatened or endangered bat species. Within these guidelines are required minimum level of effort (LOE) of surveillance, and protocols to maximize detection, and required qualifications and approvals to become an approved bat surveyor. Currently, there are few local approved bat surveyors and all would require pre-programmed funding. Unfortunately, many projects and activities that support the JBLE-Eustis mission omit bat surveillance in pre-planning steps. Obtaining the equipment and certifications to meet minimum LOE would allow the installation to accurately monitor and provide bat data during the EIAP as well as aid in conservation efforts for listed bat species. This both reduces costs, improves data collection, and increases the effectiveness of bat conservation measures across the region.
- Create Internal Eastern Black Rail Assessment Capability. Similarly to approved surveyor and LOE process described in section 11.6, USFWS is proposing regional best management practices (BMP) to mitigate habitat damage and take of Eastern black rails. The ability to detect physical presence or deduce probable absence of eastern black rail when conducting Section 7 Consultations would greatly improve regional conservation measures and reduce costs of planning level surveys to the installation. Formal LOEs and guidelines are not expected to publish in the near future, but a thorough understanding of detection techniques and habitat utilization of eastern

black rails would allow the NR&IPM Team to collect sufficient Section 7 Consultation data.

13. SUMMARY OF REQUIRED INRMP UPDATES

13.1. INRMP Update Procedures. Approved INRMP Annual Summaries are posted with the actual INRMP on the JBLE website (mentioned in paragraph 3 above) and eDASH. Changes to the respective INRMP sections are noted in this section. The following changes constitute updates to keep the INRMP current, but do not require a major revision of the INRMP. These updates to the INRMP noted here supersede existing narrative.

13.2. Acronyms, Office Symbol, and Title Updates to the INRMP.

- Replace all reference to Civil Engineer Division (CED) to Civil Engineer Squadron (CES). Replace all reference to Virginia Department of Game and Inland Fisheries (VDGIF) to Virginia Department of Wildlife Resources (DWR).
- Section 5.2 (page 33). Change bullet that states “Timber Inventory & Forest Management Plan of Fort Eustis, Virginia, October 2007 (Terwillger Consulting, Inc.)” to read “Timber Inventory & Forest Management Plan of Fort Eustis, Virginia, November 2021 (Resource Management Associates, LLC).”
- Title page and signature page (page ii). PLAN YEARS from 2019-2023 is incorrect and is changed to 2019-2024.
- The following surveys and inventories are added to the INRMP. Add the following surveys and inventories to the existing bulletized list at page 41, Section 5.3.1 Surveys and inventories: CIRE Final Report JBLE-JBA FY 19-20 Natural Resources Support (vertebrate species planning level survey completed September 2021), JBLE Bat Survey (completed September 2021), JBLE Building 1610 Bat Survey Final Report (completed April 2021), Insects, Other Arthropods & Other Macroinvertebrates Observed on Fort Eustis: Understanding the Significance of Invertebrate Taxa on Military Missions UPDATE #1 (25 June 2020), and Insects, Other Arthropods & Other Macroinvertebrates Observed on Fort Eustis: Understanding the Significance of Invertebrate Taxa on Military Missions UPDATE #2 (30 November 2021).

13.3. The following flora and fauna species were documented on the installation within the report year and are not listed in the current INRMP edition as noted in sections 3.1.6, 3.1.7 and 3.1.8.

- The following change shall be made to Appendix 4 of Annex C:
 - Add to Order Passeriformes section: *Catharus fuscescens* in the Scientific Name and Veery in the Common Name columns, respectively.
 - Add to Order Passeriformes section, *Dolichonyx oryzivorus* in the Scientific Name and Bobolink in the Common Name columns, respectively.

- The following change shall be made to Appendix 3 of Annex C:
 - Add to the Rodents section: *Microtus pinetorum* in the Scientific Name and woodland vole in the Common Name columns, respectively.
 - Add to the Rodents section: *Sigmodon hispidus* in the Scientific Name and cotton rat in the Common Name columns, respectively.
 - Add to the Insectivores section: *Lasiurus seminohus* in the Scientific Name and Seminole bat in the Common Name columns, respectively.
 - Delete *Myotis sodalis* from the Scientific Name and Indiana bat from the Common Name columns, respectively.

- The following change shall be made to Appendix 6 of Annex C:
 - Add to Frogs and Toads section, *Lithobates virgatipes* in the Scientific Name and Carpenter frog in the Common Name columns, respectively. An X shall be noted in the Known Occurrence column and September 2021 in the New Observation column.
 - Add to Snakes section, *Haldea striatula* in the Scientific Name and Rough earthsnake in the Common Name columns, respectively. An X shall be noted in the Known Occurrence column and September 2021 in the New Observation column.

- This following list shall be added to end of page C-52 of Appendix 7 Annex C (Insect and Other Arthropod Species Inventory at Fort Eustis, VA) verbatim as shown below:
 - *Bombus griseocollis* (Insecta: Hymenoptera: Apidae).
 - *Brachyleptura* (Insecta: Coleoptera: Cerambycidae).
 - *Camponotus chromaiodes* (Insecta: Hymenoptera: Formicidae).
 - *Cercyonis pegala* (Insecta: Lepidoptera: Nymphalidae).
 - *Chrysoperia rufilabris* (Insecta: Neuoptera: Chrysopidae).
 - *Diabrotica undecimpunctata* (Insecta: Coleoptera: Chrysomelidae).
 - *Disonycha* (Insecta: Coleoptera: Chrysomelidae).IPM
 - *Epimecis hortaria* (Insecta: Lepidoptera: Geometridae).
 - *Eremnophila aureonotata* (Insecta: Hymenoptera: Sphecidae).
 - *Eumences fraternus* (Insecta: Hymenoptera: Vespidae).
 - *Heterocampa umbrata* (Insecta: Lepidoptera: Notodontidae).
 - *Iridopsis defectaria* (Insecta: Lepidoptera: Geometridae).
 - *Lapara coniferarum* (Insecta: Lepidoptera: Sphingidae).
 - *Leptoglossus oppositus* (Insecta: Hemiptera: Coreidae).
 - *Lygaeus turcicus* (Insecta: Hemiptera: Lygaeidae).
 - *Megachile xylocopoides* (Insecta: Hymenoptera: Megachilidae).
 - *Neohermes* (Insecta: Megaloptera: Corydalidae).
 - *Pachydiplax longipennis* (Insecta: Odonata: Libellulidae).
 - *Pelegrina galathea* (Arachnida: Araneae: Salticidae).
 - *Phigalia strigataria* (Insecta: Lepidoptera: Geometridae).
 - *Phoebis sennae* (Insecta: Lepidoptera: Pieridae).

- *Polistes metricus* (Insecta: Hymenoptera: Vespidae).
- *Polites themistocles* (Insecta: Lepidoptera: Hesperidae).
- *Polystepha pilulae* (Insecta: Diptera: Cecidomyiidae).
- *Pyrrharctia isabella* (Insecta: Lepidoptera: Erebididae).
- *Rabidosa punctulata* (Arachnida: Araneae: Lycosidae).
- *Scolia bicincta* (Insecta: Hymenoptera: Scoliidae).
- *Sinea diadema* (Insecta: Hemiptera: Reduviidae).
- *Ummidia audouini* (Arachnida: Araneae: Halonoproctidae).
- *Vanessa atalanta* (Insecta: Lepidoptera: Nymphalidae).
- *Vanessa virginiensis* (Insecta: Lepidoptera: Nymphalidae).
- *Vespula squamosa* (Insecta: Hymenoptera: Vespidae).
- *Xysticus transversatus* (Arachnida: Araneae: Thomisidae).

13.4. The following change shall be made to Appendix 2 of Annex C as follows:

<u>Scientific Name</u>	<u>Specimen No.</u>	<u>Common Name</u>	<u>Family</u>
<i>Penstemon australis</i>	NA	Beardtongue	Plantaginaceae
<i>Clitoria mariana</i>	NA	Butterfly pea	Fabaceae

13.5. Federally and state listed species status. Several changes to status of federally listed species have occurred during the review period. Section 5.4.2 (page 48) is revised to read as follows:

- Listed species and regulatory coordination. Consultation takes place with the USFWS regarding federally listed species occurring on the installation (i.e., terrestrial and freshwater organisms) while consultation with the National Oceanic & Atmospheric Administration (NOAA) occurs for marine wildlife. Identification of species subject to USFWS jurisdiction is accomplished by comparing species identified in surveys and inventories (and observations made by CEIE natural resources staff) to the USFWS Information for Planning and Consultation system (IPaC). The installation boundary is sketched into the IPaC which then generates a list of threatened and endangered species associated with the boundary. The IPaC generates two possible species, these being the threatened Northern long-eared bat (*Myotis septentrionalis*) and the Eastern black rail (*Laterallus jamaicensis*). The Northern long-eared bat was listed in April 2015, and was documented on the installation in 2016 via acoustic and mist net capture techniques. The black rail was listed in October 2020 but has not been documented on the installation based several vertebrate wildlife/bird surveys performed between 1997 and 2021 nor has it been observed by CEIE natural resources staff. In 2016, the federally endangered Indiana bat (*Myotis sodalis*) was documented via acoustic techniques. However, subsequent bat surveys performed in 2017, 2019 and 2021 failed to confirm its presence by acoustic or mist net capture. This issue was addressed to USFWS along with the fact that the Indiana bat did not exist in the installation region of influence in the IPaC, and consequently, the Indiana bat was removed from consideration at Fort Eustis. Currently, the Northern long-eared bat is the only federally listed species occurring on Fort Eustis. In February 2012, the Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) was listed as federally endangered under NOAA jurisdiction. This species does not occur on Fort Eustis

property but does occur in adjacent water bodies of the James River and its tributaries. State listed species come under the jurisdiction of Virginia Department of Wildlife Resources. Currently, the little brown bat (*Myotis lucifugus*) and the tricolored bat (*Perimyotis subflavus*) are the state listed species documented on the installation.

13.6. Change existing narrative of section 5.3.3 (page 42) by deleting “Indiana bat (*Myotis sodalis*)”.

13.7. Change existing narrative of section 6.5.1 (page 60) to read as follows:

- Federally listed species (threatened or endangered). Currently, one terrestrial species and one aquatic species are associated with JBLE-Eustis as discussed in sections 5.3.3 and 5.4.2 and with further management discussion in section 7.12.8.3.2 (these being the Northern long-eared bat (*Myotis septentrionalis*) and the Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*).

13.8. Change existing narrative of section 6.5.1.1 (page 60) to read as follows:

- Northern long-eared bat. This species was documented on JBLE-Eustis during a bat survey completed in 2016 following its classification as threatened in 2015. Its impact on military missions is considered to be minimal. At this time there are no specific restrictions posed on military operations at the installation. However, projects may require Section 7 Consultation under the Endangered Species Act (ESA) with the USFWS to determine whether given projects could impact this species. Northern long-eared bats are exempt from forestry and public health actions under ESA 4(d) Rule which eliminates the 1 June – 31 July timber harvesting time of year restriction.

13.9. Change existing narrative of section 7.12.8.2 (page 93) to read as follows:

- Status of listed species on JBLE-Eustis. The Installation Commander and Natural Resources Manager develops and implements policies and strategies for maintaining viable native plant and animal populations and genetic variability, preserving functioning representations of ecosystems and biological communities, and integrating human activities with conservation goals. The actions include management of federally listed species that occur on the installation. Currently, there is one federally listed species occurring on the installation and one that occurs in waters adjacent to the installation. In 2016, the Northern long-eared bat (*Myotis septentrionalis*) was documented in mist net captures and acoustic methods. The Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) occurs in the river systems adjacent to JBLE-Eustis.

13.10. Remove all reference to the Indiana bat (*Myotis sodalis*) in section 7.12.8.4 (page 94).

13.11. Delete the first bullet under section 7.12.8.4 (page 94).

13.12. Delete all references to trapping in Section 7.17:

- Delete “trapping” from #6 under “Special restrictions with selected outdoor recreation activities” (page 111).

13.13. Change existing narrative of section 7.17.1 (page 111) to read as follows:

- Hunting at JBLE-Eustis. The recreational hunting program management and oversight is the responsibility of CEIE. Approximately 4,000 acres are available for recreational hunting when training activities, weapons range fire or other official military operations are not conducted. All hunting at JBLE-Eustis complies with the JBLE-Eustis INRMP and JBLEI 32-102. All hunting (and fishing) is met by using the iSportsman platform. This includes purchase of hunting (and fishing) permits.

13.14. Delete the entire section 7.17.1.1 (including 7.17.1.1.2 and 7.17.1.1.3).

13.15. Delete section 7.17.1.2 referencing fees.

13.16. Delete section 7.17.1.7 and the 16 bullets referencing trapping (pages 113-114).

13.17. Delete sentence from section 7.17.2 (page 114) that reads: “Fishing is prohibited at all golf course ponds.”

13.18. Add the following sentence at the end of section 7.17.2: “All fishing activities are met using the iSportsman platform.”

13.19. Replace Table 9-1 (page 134) as follows:

Table 9-1. Natural Resources Management Staff at JBLE-Eustis

Number of Staff	Position Title/Series & Grade	Status
1	Team Chief, Natural Resources & Integrated Pest Management Team (GS-0401-12)	Full-time, permanent
1	Habitat Program Manager (GS-0401-12)	Full-time, permanent
1	Wildlife Biologist (GS-0486-11)	Full-time, permanent

13.20. Change reference to “Conservation Branch/Natural Resources Manager” to “Natural Resources & Integrated Pest Management Team”.

13.21. Change all references to Virginia Department of Game and Inland Fisheries to Virginia Department of Wildlife Resources.