

**Joint Base Langley-Eustis (Eustis)
INRMP Annual Review Summary for 2020**

1. General. Joint Base Langley-Eustis -Fort Eustis (JBLE-E) prepared and implemented an Integrated Natural Resources Management Plan (INRMP) in accordance with Air Force Instruction (AFI) 32-7064, Integrated Natural Resources Management and the Sikes Act with the current INRMP being approved by the 633 Air Base Wing Commander on 5 June 2019. The installation met Category I Criteria that specify this requirement. The INRMP serves as the primary tool for managing natural resources. Concurrence with this document was obtained from Virginia Department of Game and Inland Fisheries and US Fish and Wildlife Service on 14 June 2019 and 20 June 2019, respectively. The review period is approximately 6 June 2019 through 5 June 2020 with some slight variations based on particular topics discussed below. This review constitutes the first annual review since the INRMP was approved. Overall responsibility for natural resources management exists with the Natural Resources & Integrated Pest Management Branch within the Environmental Element (CEIE) of the 733 Civil Engineer Division (CED).

2. AFMAN 32-7003. AFI 32-7064 was replaced by Air Force Manual (AFMAN) 32-7003, Environmental Conservation as dated 20 April 2020. JBLE-E became aware of this change in early May 2020. It is not expected to generate significant changes to the existing INRMP; however, it has not been fully assessed.

3. Accomplishments.

A. 2019 General Thomas D. White Environmental Award. JBLE (Fort Eustis and Langley Air Force Base) was the 1st Runner Up for 2019 General Thomas D. White Environmental Award Natural Resources Conservation - Individual/Team Award.

B. CEIE-Army Support Activity (ASA) Range Operations/Integrated Training Area Management coordination. Staff members from these organizations continued meeting routinely each month (first Wednesday of each month at 1330) through the Annual INRMP Review Summary review period. These meetings have been instrumental in identifying issues and ideas for improvements towards long-term sustainment of training lands and the natural resources that exist there within the context of meeting military missions. However, meetings have been curtailed since March 2020 due to the COVID-19 pandemic.

C. Invasive Species Management (HERT185336 & 195336) project. Invasive species management work continued during the review period by completing the tasks in HERT185336 and continuing with a new a contract effective as of September 2019. These projects focused on invasive vegetation primarily. These efforts have seen significant reductions in tree of heaven, golden bamboo and kudzu.

D. Wildland Fire Management Plan (WFMP). CEIE/CED authored a WFMP originally in 2013 for inclusion in its 2014 INRMP. It was prepared using installation natural resources staff because funding could not be obtained to assess fuel loads and prepare a WFMP despite requests. In late CY 2017, the Air Force Wildland Fire Branch/AFCEC contracted Chloeta

Fire LLC to develop a JBLE Wildland Fire Management Plan. Significant issues existed with the drafts and resolution could not be obtained. The Natural Resources & IPM Branch revised/updated its 2013 version and obtained approval From the 633 ABW/CC as dated 17 March 2020. This plan is reviewed as part of the INRMP annual reviews.

E. Section 7 Consultations. None required in this review period. The tree harvest/removal time of year restriction of 15 April – 15 September remained in effect during this Summary period for projects requiring the removal of trees.

F. Wetland management/permitting. The permits were executed for the following projects or Joint Permit Applications were developed:

- Hillside Storage Area Storm Drain Repair (executed).
- STALZ Tree Clearing (drafted).
- 3d Port Bulkhead replacement (being processed).

G. Macroinvertebrate fauna inventory update. Macroinvertebrate fauna represent a highly significant group of organisms in relation to ecosystem management at Joint Base Langley-Eustis (Eustis). Natural resources staff prepared a consolidated document articulating all related data in 2018 entitled *Insects, Other Arthropods & Other Macroinvertebrates Observed on Fort Eustis* (Christensen, 2018) and included in the June 2019 INRMP. It is the objective of the staff to update this document annually. The first update (*Insects, Other Arthropods & Other Macroinvertebrates Observed on Fort Eustis: Understanding the Significance of Invertebrate Taxa on Military Missions – Update #1*) was completed in June 2020. It serves as an information source for continued inventories and surveys, and surveillance plans, and is included in IPMP annual reviews and Annual Integrated Natural Resources Management (INRMP) Review Summaries.

H. Continued nutria surveillance. CEIE natural resources staff continued surveillance for invasive nutria (*Myocastor coypus*). Nutria are large non-native aquatic rodents that if established would cause significant damage to installation wetland habitats. Such damage would lead to erosion, propagation of invasive Common Reed and reduce the biodiversity. CEIE accomplished this through a contract with US Department of Agriculture-Wildlife Services (USDA-WS) via HERT195339. From 25 March to 29 March 2019 two canine teams (USDA- WS Maryland Wildlife Services) and two staff (USDA Virginia Wildlife Services) surveyed selected areas of Fort Eustis. No nutria were detected. Additionally, USDA-WS staff deployed 12 nutria detection platforms. A total of 180 trap nights were performed. No nutria presence was detected. These results in conjunction with the surveys conducted during preceding years is encouraging because nutria are known to occur in parts of the Peninsula. Early detection of this invasive species allows for a better response to mitigate or eliminate their effects.

I. Other nuisance wildlife actions June 2019-June 2020 (via HERT195339/HERT205339). USDA-WS provided support under contract:

- Coyote control (removed one sub-adult and one adult).
- A total of 7 beavers were removed (3 from a flooded culvert that was attracting waterfowl at one end of the runway to Felker Army Airfield, and 4 from Training Area 28 that were causing roadway damage.). Technical assistance was provided, recommending a grate over the problem culvert, in order to prevent overzealous beavers from throwing sticks over the side, as well as preventing natural, non-beaver related debris from clogging the pipes, preventing further damage and potential roadway flooding.
- One woodchuck was removed.
- A total of 180 geese were dispersed with a remote control vehicle across the installation to mitigate traffic and human health concerns.
- One American crow nest was removed from 3rd Port crane.

J. Continued to review projects for natural resource issues. Natural resources staff reviewed/evaluated 34 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.

K. DOD-wide Snake Fungal Disease Study. Snakes are critical nongame fauna serving as predators and prey in the installation ecosystem. In recent years, several snake species and respective populations have been impacted by the disease Ophidiomycosis (previously called Snake Fungal Disease), which is an emergent pathogen in the North America caused by the fungal pathogen *Ophidiomyces ophiodiicola*. CEIE participated in the DOD-wide Snake Fungal Disease Study conducted May-October 2018. The study results were issued in July 2019. None of the individual snakes collected exhibited the disease or the pathogen. The sample size was small however, and continued surveillance would be an indicator of ecosystem health.

L. Whitetail Deer Management. Whitetail deer management constitutes one of the primary natural resources tasks for this installation. The objective is to attain a viable population that can meet a biological carrying capacity concurrent with an appropriate cultural carrying capacity. The actual population objective varies annually due to habitat loss from construction and alteration of land areas that affect deer movement. Essentially, the deer population 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, maintain a viable recreational hunting program (sufficient numbers of healthy animals), and overall support a healthy ecology.

(1) Whitetail deer surveys. Semiannual deer spot light surveys were conducted normally in August and January. However, no surveys were conducted between December 2018 and November 2019 because the wildlife biologist position in CEIE was vacant during that period. Deer surveys were performed under contract with USDA-WS in January 2020. The wildlife biologist position became vacant in December 2018 and remained unfilled until November 2019. This shortfall precluded an effective population assessment. The installation deer population was not estimated at the beginning of the fall 2019 season due to staffing shortfalls. Based on 2019-2020 harvest data and the January 2020 survey, the population is estimated to be at 450 individuals.

(2) 2019-2020 season harvests. Deer management is accomplished via the recreational hunting program and special management harvests. Originally, the natural resources manager recommended that the 2019-2020 season be suspended due to no survey data existing since August 2018 and shortfall in time and manpower needed to implement the iSportsman program & revise the JBLEI32-102 accordingly, in time for the start of the season. Despite this CED was required to meet the deadline. The following harvest data for this season is as follows:

- Total deer harvested/removed (recreational hunting, management hunts, vehicular collision, depredation, Bird/Wildlife Air Strike Hazard actions): 164
- Recreational hunting: 75
- Late season management hunt: 39
- Impact Area management hunt: 0
- Vehicular collision: 11
- CED depredation: 0
- USDA Bird/Wildlife Air Strike Hazard at Felker Army Airfield: 3
- Other (unconfirmed factors): 3
- Shot but not found: estimated: 33

M. Completion of the revised Integrated Pest Management Plan (IPMP). A revised IPMP was completed 20 May 2020. It was cross-referenced with the JBLE-E Integrated Pest Management Plan (IPMP). A forest pest surveillance annex was included in this revised plan.

N. Outreach support. Natural resources staff frequently provide outreach support to installation activities as well as external entities. The following support was provided during this Summary period.

- Coordinated, prepared for and delivered Environmental Laws & Regulations, Natural Resources, NEPA and IPM for Marine Warrant Officer Advanced Course (10 July 2019).
- Guest speaker at Field Sanitation class per request from MEDDAC/Department of Public Health (15 Aug 2019 and 20 Nov 2019).
- Organized and conducted an Insect Walk and Talk event for New Quarter Park in York County (24 Aug 2019) on personal time.
- Supported a BBC event by speaking about wildlife, feral cats and ticks on 19 Oct.

- Taught *Herpetology/Reptiles and Amphibians of Virginia* class at request of the Historic Rivers Chapter of the Virginia Master Naturalist program (10 Dec) on personal time.
- Researched/offered assistance to ISS and Dover AFB ref scopes of work for spotted lanternfly survey.
- Guest speaker for the Fords Colony Trailblazers group discussing the topic of *Why Insects are Important (!)* presentation (13 Jan 2020) on personal time.
- Instructor for the Christopher Newport News Osher Life Long Learning insect class (*Things That Bug You: An Introduction to Insects and Other Arthropods*, Jan 27, 3 Feb, 10 Feb, 17 Feb, 24 Feb 2020) on personal time.
- Provided copy of Integrated Pest Management Plan at the request of Dover AFB Pest Management NCOIC at their request (17 Jan 2020).
- Completed 2019 Investigator Annual Report and 2020 permit renewal for frog survey at Colonial National Historic Park (Jan-Feb) and began 2020 frog survey for VMN (March) on personal time.
- Continued support for the Activity Environmental Management training program by planning and executing lectures on natural resources and IPM management (October 2019).

4. Qualified Natural Resources Management Personnel and Resources.

A. Assigned Personnel. The current staffing (as of November 2019) consists of:

- One GS-401-12, Biological Scientist who functions as the installation natural resources manager and entomologist/installation pest management coordinator, and
- One GS-486-11, Wildlife Biologist.

B. Workload challenges. The Natural Resources & Integrated Pest Management Branch staff were reduced from four individuals to two staff members in 2012 following a reduction in force and elimination of natural resources contract staff. This staffing level impacted several tasks particularly deer surveys and subsequent carrying capacity accuracy, performing wild turkey population surveys, performing bobwhite quail population assessment, timeliness of wetland permitting for Felker Airfield tree removal projects, and evaluating effectiveness of invasive common reed management. This became even more strained when one staff member (wildlife biologist) accepted a new position and the Branch functioned with only one staff member from approximately December 2018 through November 2019. This one-year period with only one staff member impacted accomplishing several tasks and made for a stressful work environment. During that time frame responsibility for the hunting and fishing program was transferred to CEIE significantly increasing the work load. This program with the addition of the boating program represents a net increase in natural resources/IPM staff work load by an average 40 hours per month outside the hunting seasons and an average of 70 hours per month during the hunting seasons. Generally, two staff members is representative of sufficient staffing to meet existing requirements and those of the hunting, fishing and boating requirements.

C. Utilization of temporary staffing programs. 733 CED/CEIE has used temporary staffing programs (ie, inters and term employees) to meet staffing shortfalls has been is not efficient and actually increases the workload on the existing permanent employees. Interns often have limited experience and are typically in a training mode. They typically cannot operate independently and require closer supervision. Term employees are only available for a two year period. Permanent employees must invest time to train term employees with only limited return on the investment. Both options lack continuity. Natural resources management is typically viewed in terms of long-term activities and continuity is needed.

D. Natural Resources & IPM Branch restructuring.

(1) Staff tasks. As discussed above two staff positions currently exist. The GS 401-12 is responsible for the overall natural resources program development and implementation, INRMP preparation and implementation, urban and commercial forestry, wetlands program management/wetland permitting, invasive vegetation management, related data management and reporting tasks, review of Environmental Impact Assessment Process documents, Wildland Fire Management program, macroinvertebrate fauna, and integrated pest management. The GS-486-11 is responsible for game and non-game wildlife management, invasive and nuisance vertebrate wildlife management, hunting and fishing (and boating) program, wildlife-related permits, threatened and endangered species, equipment maintenance, and advising the Branch Chief on habitat management.

(2) Efficient natural resources staffing. The Annual INRMP Review Summaries since 2017 discussed a recommended staffing level and is reiterated in this summary. A more ideal staff would consist of 3 individuals with more specialized backgrounds in wildlife management, entomology/macroinvertebrate biology, and botany. The entomology & macroinvertebrate biology position focuses on forest entomology, forest health/tree pathology, and medical/veterinary entomology in addition to responsibilities as Installation Pest Management Coordinator and quality assurance evaluation of pest control contracts. The botany-related position focuses on plant/vegetation community surveys, plant identification, invasive vegetation management, Wildland Fire Management program, federally listed plant species, wetlands delineation & permitting, and general habitat management. Additionally, this position can be cross-trained in forestry. The wildlife biology position is responsible for whitetail deer management, wild turkey management, bald eagle management, invasive vertebrate species management, human-wildlife conflict issues, wildlife surveys/population evaluations, hunting & fishing program, and federally listed wildlife. Collectively, these positions work as an integrated team to work towards long-term habitat and overall natural resources management. One of these individuals serves as the Branch Chief with the additional tasks of administering overall management (i.e., writing plans, preparing project scopes of work, completing EQ and other data calls, reviewing EIAP documents, etc.

5. Work Plans.

A. Work plan CY 2020.

(1) HERT FY 2020 projects. CEIE natural resources staff provided scopes of work and initiated consultations with AFCEC (ISS, East Region) and Savannah District. Various telephonic and email coordination with the ISS and USACE Savannah District regarding HERT205336 (invasive species management), HERT205337 (forest habitat management), and HERT205338 (urban forest management) were conducted. If the projects are funded then a contract will likely not be let until September 2020. If this occurs the projects will begin partially in the fall. However, no definitive information regarding the statuses could be obtained at the time this Summary was prepared. Three issues exist if the projects are not executed:

- Vegetation overgrowth will disrupt the management actions occurring in selected areas leading waste of previous work. At least one year is likely to pass before FY 21 projects are executed.
- A forest inventory is required every 10 years per Air Force policy. The last inventory was completed in 2007. Installation natural resources staff provided a scope of work for this task to occur in 2017 (as part of HERT175337); however, this did not happen due to errors between AFCEC/ISS and the USACE Omaha District. The task did not get reset until FY 20 (as part of FY205337). Consequently, the installation is currently 3 years out of compliance. The installation will be 4 years out of compliance if it is executed in FY 20 because it will required 12-month period of performance. If it is not executed this fiscal year, it will be 5 years. In that case, chain of command involvement is required.
- The scope of work submitted by the installation for HERT205336 specifies an aerial herbicide treatment of the invasive grass Common Reed (*Phragmites australis*) in the Fort Eustis Disposal Material Management Area (FEDMMA). This application must occur during a short window between the end of the growing season and before the first frost (generally between September and early November). If this application does not occur the two preceding applications will be for nothing and waste over \$180K because the Common Reed will expand.

(2) Continuation of HERT195331 (MGT, SPECIES, WILDLIFE SURVEY) and HERT195361: MGT, SPECIES, LISTED BATS. Execution of HERT195331 began in early spring 2020 but was delayed due to the COVID-19 pandemic. Essentially contractors from the University of Montana could not travel and the status of contract remains uncertain. If the contract continues, it may not do so until CY 2021. HERT195361 began in July 2020 and is being monitored by CEIE natural resources staff.

(3) HERT205339, Nuisance Wildlife Management. This project continues with resident Canada geese harassment, nutria surveillance, possible beaver issues, and coyote management. Other unexpected issues may arise.

(4) Need to evaluate Training Area (TA) 17C. Reforestation efforts have transpired in TA17C following removal of dead and mature loblolly pine. These efforts included control of invasive/undesirable vegetation, management of loblolly pine growth and planting of mixed hardwoods. Considerable overgrowth is occurring and the site needs further evaluations and modification to HERT225337 scopes of work and for FY 23-25.

(5) Animal carcass disposal area. CEIE natural resources staff will construct a disposal area at the B2015 compound area during CY 20. This site will allow disposal of harvested deer carcasses by recreational hunters residing on the installation. These hunters have no place or means of disposing the unwanted portions of the carcasses. The disposal site will be managed in a manner to promote growth of wildflowers support conservation of pollinating organisms.

(6) Hazard tree update needed. CEIE natural resources staff originally maintained a working hazard tree list. However, this has not been kept updated due to conflicts related to the COVID 19 pandemic. The objective to correct and update the list during CY 20.

(7) Pollinator habitat. CEIE natural resources staff are creating pollinator habitat in several areas including (but not limited to) unused areas at the golf course, BLDG 2015 and possibly Training Area 23. This contributes to better use of unused areas, improve vegetation communities and improve biodiversity.

(8) Whitetail deer surveys are planned for August 2020.

(9) Evaluate a management plan for Common reed (*Phragmites australis*) and incorporate into scopes of work for FY 22-24.

B. Work plan CY 2021. The work plan for CY 21 includes execution of the following tasks:

(1) Training on forestry for selected staff member.

(2) Continuation/maintenance of animal carcass disposal area, pollinator habitat, hazard tree management, white tail deer surveys and management, continuation of the hunting and fishing program, responding to wildlife incidents and outreach support events.

(3) Evaluation of data from the forest inventory (assuming the project is initiated before the end of FY 20).

(4) Evaluate the results and implement recommendations of HERT195361 to exclude evening bats from BLDG 1610 without incurring additional mortality.

(5) Continue macroinvertebrate data collection to include implementing a routine forest insect survey.

(6) Evaluate feasibility of bobwhite quail reintroduction.

(7) Execute HERT215337 (MGT, HABITAT, FOREST), HERT215336 (MGT, INVASIVE SPECIES), HERT215339 (nuisance WILDLIFE) and HERT215338 (MGT, HABITAT, URBAN FOREST).

(8) Execute HERT215331 Macroinvertebrate and Flora Survey. Evaluate the findings and update the INRMP.

(9) Evaluate the findings of HERT195331 (MGT, SPECIES, WILDLIFE SURVEY) if it is completed and update the INRMP.

C. Work plans CY 2022-2024. Scopes of work will be submitted for natural resources projects based on outcomes of CY20-21. Invasive vegetation management will focus on Common reed and tree of heaven. The objective is complete removal of tree of heaven which will improve forest habitats as well as diminish risks of invasive spotted lanternfly establishment.

6. Special Issues/Topics.

A. Bobwhite quail population. The bobwhite quail population is thought to be extremely low as discussed in previous Annual INRMP Review Summaries. No bobwhite quail were observed during this review period.

B. Evening bats (*Nycticeius humeralis*) in Building 1610. A population of evening bats tend to be imprinted on/utilize Building 1610 which is an operational, occupied warehouse structure used by contract staff for supply operations. Historical information indicate large numbers of bats once roosted in this building since 1989. Since at least 2010 (and through this review period), individual bats have been observed throughout the building usually on the floor, beneath pallets or in storage bins as opposed to the roosting behavior observed in 1989. Most are dead when found though some were alive but unable to fly. Occasionally some are observed flying in the building. Specimens had been sent to the US Geological Survey National Wildlife Health Center in Madison, Wisconsin, for analysis. To date no specific causative factor has been identified; however, most specimens were characterized as emaciated (exhibiting severe weight loss) and many contained moderate to high ectoparasite loads. On several occasions from 2011 through 2014 the building was evaluated and potential entry points were sealed but to no avail. A new roof was installed on/about December 2019. At least 23 dead/dying bats were found between January 2019 and 29 June 2020. Natural resources staff requested funding through AFCEC/ISS since 2015 to identify a means of resolving the situation but no support was obtained until FY19 and execution did not begin

until July 2020. Prior to the contract for HERT195361 assistance was obtained from USDA-WS resulting in the identification of an entrance/exit point. USDA-WS staff observed approximately 116 bats exiting from this point in August 2019.

C. Joint Base Langley-Eustis (Fort Eustis) hunting, fishing and trapping program. On 5 February 2018, the 733 MSG Commander directed a revision of the hunting, fishing and trapping program management. This involved establishing duties and responsibilities of CED and Force Support Squadron, and the preparation of a new Joint Base Langley Eustis Instruction (JBLEI) 32-102. The Commander directed task completion by 30 April 2018. This tasker was essentially met with the new JBLEI 32-102 being processed for the 633 ABW Commander's signature in June. CEIE (CED) now has overall management oversight of the program.

D. 2019 Air Force-wide Bat Survey. The installation received notification in April 2019 of another Air Force-wide contract to acoustically survey for bats on Air Force installations (a previous Air Force-wide survey was conducted in 2017). This survey began with acoustic devices placement in selected locations late May 2019. Mist-netting was added unexpectedly later in June 2019. As of the date of this summary, no report has been received by the installation for this survey despite requests for statuses. It remains uncertain whether the Indiana bat was documented during this survey. To date it was only documented acoustically during the 2016 survey.

E. Forest habitat loss. No new forest habitat loss was incurred during this Summary period.

F. Additional future loss of forest habitat. 1st Fighter Wing (FAAF) requests removal of forested areas estimated at approximately 100 acres of upland and forested wetlands in the Felker Airfield clear zone. An Environmental Assessment was completed earlier in CY 2018. A Joint Permit Application will be developed. Wetland compensatory mitigation is currently estimated to cost \$700,000. However, a small amount is expected at the Sling Load Training Area Landing Zone.

G Wildlife incidents. CEIE natural resources staff responded to 108 incidents relating to human-wildlife conflict during this Summary period. This include nuisance wildlife, hazardous wildlife or other fauna, perceived orphaned wildlife, carcasses, and injured wildlife.

H. Natural Resources & IPM Branch restructuring.

(1) As discussed above, 2 natural resources staff members are assigned to the Environmental Element (GS-401-12, Biological Scientist [Branch Chief] and GS-486-11, Wildlife Biologist. The GS 401-12 is responsible for the overall natural resources program development and implementation, INRMP preparation and implementation, urban and commercial forestry, wetlands program management/wetland permitting,

invasive vegetation management, and entomology/integrated pest management. The GS-486-11 is responsible for game and non-game wildlife management, invasive and nuisance vertebrate wildlife management, hunting and fishing (and boating) program, wildlife-related permits, threatened and endangered species, and advising the Branch Chief on habitat management.

(2) Efficient natural resources staffing. The Annual INRMP Review Summaries since 2017 discussed a recommended staffing level and is reiterated in this summary. The natural resources/integrated pest management staff consisted of 4 individuals prior to 2012. Since then the staff has been reduced to 2 individuals. A more ideal staff would consist of 3 individuals having more specialized backgrounds, namely in wildlife biology, entomology/invertebrate biology and botany. The entomology position focuses on forest entomology, forest health/tree pathology, aquatic invertebrate biology, and medical/veterinary entomology (integrating arthropod-borne public health & wildlife health issues in natural areas) in addition to responsibilities as Installation Pest Management Coordinator and quality assurance evaluator of pest control contracts. The botany-focused position deals overall habitat management functions including plant/vegetation community surveys, invasive/undesirable vegetation management, federally listed plant species, and wetlands delineation/permitting. Additionally, this position can be cross-trained in forestry. The wildlife biologist is responsible for whitetail deer management, wild turkey management, bald eagle management, invasive vertebrate species management, human-wildlife conflict issues, wildlife surveys/population evaluations, Migratory Bird Treaty Act compliance, wildlife permits, and federally listed wildlife. Collectively, these positions work as an integrated team to work towards long-term habitat and overall natural resources management. Furthermore, it allows identification of primary and alternate points of contact and ensures at least 2 individuals are available at all times (in contrast to the situation in 2019 when only one staff member was available in a one-year period).

I. Firewood sales. Previously, firewood permits were sold for \$10 per pick-up truck load where the proceeds were forwarded the forestry account. These permits were suspended indefinitely due to the red imported fire ant (*Solenopsis invicta*) quarantine. This quarantine restricts movement of regulated materials (including wood material) that may contain red imported fire ants or their eggs and requires a written agreement with Virginia Department of Agriculture and Consumer Services as well as an inspection program. Staff and resources are not available to manage this appropriately. Suspension of firewood permits remained in effect during this review period.

7. Summary of Required INRMP Updates.

A. Bald Eagle Management Plan review. A Bald Eagle Management Plan was originally prepared in 2008 with assistance from US Fish and Wildlife Service. It was revised in 2013 by installation natural resources staff. The plan was updated again as part of the new revised INRMP.

B. Invasive Species Management Plan review. Installation natural resources staff wrote an Invasive Species Management Plan during preparation of the current. This plan expanded upon an original draft prepared by US Fish and Wildlife Service several years prior. It was revised again as part of the full INRMP revision.

C. Additional taxa to be added to the fauna inventory:

(1) No new vertebrate taxa were identified on the installation during this review period.

(2) CEIE staff prepared the document Insects, Other Arthropods & Other Invertebrates Observed on Fort Eustis in 2019 that serves as a baseline from which invertebrate organisms are documented on the installation. It was incorporated into the current INRMP as Appendix 7 to Annex C (5 June 2019). The objective is to prepare an annual update of this document. CEIE generated Update #1 of this document as of June 2020 and is incorporated by reference. The following summary of currently documented invertebrate taxa is as follows:

(a) Insects (Class Insecta).

<u>Orders</u>	<u>Families</u>	<u>Genera</u>	<u>Species</u>
Coleoptera	71	309	359
Hymenoptera	25	36	33
Diptera	20	27	47
Lepidoptera	19	80	93
Orthoptera	5	7	2
Mantodea	1	1	1
Phasmida	1	1	
Hemiptera	18	24	25
Mecoptera	1		
Blattodea	4	5	4
Neuroptera	5	2	
Odonata	5	3	
Microcoryphia	1		
Dermaptera	2	2	2
Megaloptera	2	1	2
Ephemeroptera	1		
Psocodea	1	1	1
Tricoptera			
	<u>182</u>	<u>499</u>	<u>569</u>

(b) Arachnids (Class Arachnida).

<u>Orders</u>	<u>Families</u>	<u>Genera</u>	<u>Species</u>
Aranae	14	17	16
Mesostigmata	2	2	2
Trombidiformes	2	3	
Ixodida	1	4	6
Opiliones	1	1	
Pseudoscorpiones			
	<hr/> 20	<hr/> 25	<hr/> 24

(c) Subphylum Crustacea/Class Malacostraca.

<u>Orders</u>	<u>Families</u>	<u>Genera</u>	<u>Species</u>
2	4	4	6

(d) Millipedes (Class Diplopoda).

<u>Orders</u>	<u>Families</u>	<u>Genera</u>	<u>Species</u>
2	2	1	1

(e) Centipedes (Class Chilopoda).

<u>Orders</u>	<u>Families</u>	<u>Genera</u>	<u>Species</u>
1	1	1	1

(f) Molluscs (Phylum: Mollusca/Class: Bivalvia).

<u>Orders</u>	<u>Families</u>	<u>Genera</u>	<u>Species</u>
1	1	2	2

(g) Segmented worms (Phylum Annelida/Class: Clitellata).

<u>Orders</u>	<u>Families</u>	<u>Genera</u>	<u>Species</u>
2	2	2	2

(h) Flatworms (Phylum Platyhelminthes/Class Rhabditophora)

<u>Orders</u>	<u>Families</u>	<u>Genera</u>	<u>Species</u>
1	1	1	1

D. Hunting, fishing and trapping program. JBLEI 32-102 (Hunting, Fishing and Trapping Program) was last completed in 2018 and included as an appendix to the INRMP. In 2019, the decision was made to transfer full responsibility CED. Consequently, a new regulation was generated. However, the installation acquired use of the iSportsman program in 2019 and recreational boating and fishing were incorporated. Additionally, the trapping program was discontinued. Consequently, a new regulation was drafted with staffing to begin in July 2020. When the new regulation is approved, it replaces the two previous editions.

2020 JBLE-Fort Eustis Annual INRMP Review Summary Approval:

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Date: _____