

## **APPENDIX 4: Environmental Assessment**

### **FINDING OF NO SIGNIFIGANT IMPACT (FNSI)**

#### **PROGRAMMATIC ENVIRONMENTAL ASESMENT FOR THE IMPLEMENTATION OF THE 2020 -2025 FORT CARSON AND PIÑON CANYON MANEUVER SITE INTEGRATED NATURAL RESOURCE MANAGEMENT PLAN**

Fort Carson has prepared this Programmatic Environmental Assessment (EA) to identify and evaluate potential environmental effects from implementing the Integrated Natural Resource Management Plan 2020-2025 for Fort Carson and Piñon Canyon Maneuver Site (2020 – 2025 INRMP).

#### **Description of the Proposed Action**

The Proposed Action is implementation of the 2020 - 2025 INRMP. There are 164 reoccurring activities under the Proposed Action which, for the purpose of this Environmental Assessment, have been organized into eight categories: adaptive management, administration, coordination, monitoring, outreach, planning, studies, and training.

#### **Alternatives Considered**

For the purpose of this project Fort Carson considered two alternatives, the Proposed Action and the No Action Alternative. The No Action Alternative served as a baseline against which impacts associated with the Proposed Action could be evaluated.

#### **No Action Alternative**

Under the No Action Alternative the 2013 – 2017 Integrated Natural Resources Management Plan (updated 2015) (2013 -2017 INRMP) will remain in effect and guide policy and management of natural resources on Fort Carson and Piñon Canyon Maneuver Site without the additional benefits associated with updates and revisions in 2020 - 2025 INRMP.

#### **Environmental Consequences**

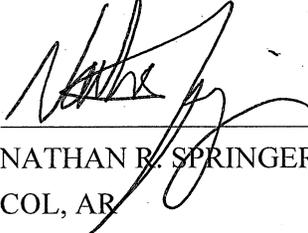
No significant environmental consequences were identified in the Environmental Assessment. Implementation of the Proposed Action would result in positive benefits to biological, water, and soil resources with neither positive nor negative benefits associated with air quality. The ecosystem-based management approach espoused in the 2020 – 2025 INRMP strives to maintain sustainable training lands, maintain biodiversity, conserve terrestrial and aquatic habitat, and support recreational activities when and where appropriate.

#### **Conclusion**

The EA on which this FNSI was prepared is pursuant to 32 Code of Federal Regulations (CFR) 651 and U.S. Council on Environmental Quality (CEQ) regulations (Title 40, U.S. Code, Parts 1500-1508) for implementing the procedural requirements of the National Environmental Policy Act (NEPA). Based on the analysis contained in the EA and the Army's intent to follow prescribed regulations and comply with applicable permits, the Army has determined that the Proposed Action would have no significant direct, indirect, or cumulative impact on the human or natural environment.

Integrated Natural Resources Plan for Fort Carson and the Piñon Canyon Maneuver Site

Therefore, based on review of the EA, I hereby incorporate the entire EA and the 2020 - 2025 INRMP by reference and conclude that the Proposed Action is not a major federal action that would significantly affect the quality of the environment within the meaning of Section 102(2)(c) of the National Environmental Policy Act of 1969, as amended. Accordingly, an Environmental Impact Statement (EIS) is not required. With this finding, I approve selection of the Proposed Action.



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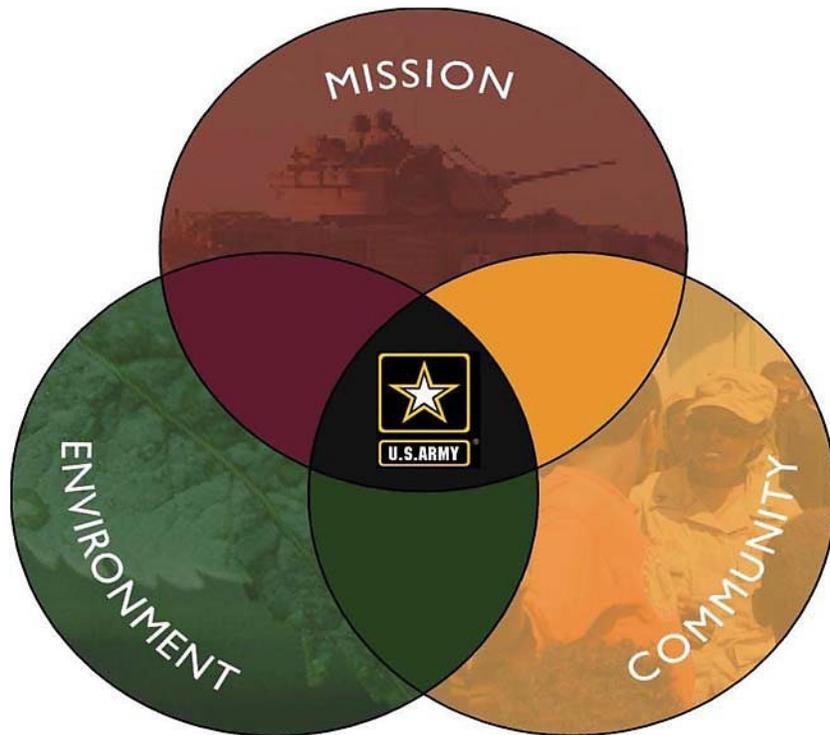
9 September 2020

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**PROGRAMMATIC ENVIRONMENTAL ASSESSMENT FOR THE IMPLEMENTATION OF  
THE INTEGRATED NATURAL RESOURCE MANAGEMENT PLAN FOR FORT CARSON  
AND PIÑON CANYON MANEUVER SITE  
MAY 2020**



Fort Carson  
Directorate of Public Works, Environmental Division

**PROGRAMMATIC ENVIRONMENTAL ASSESSMENT FOR THE IMPLEMENTATION OF  
THE INTEGRATED NATURAL RESOURCE MANAGEMENT PLAN FOR FORT CARSON  
AND PIÑON CANYON MANEUVER SITE**

**Prepared By:**

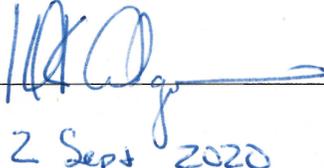
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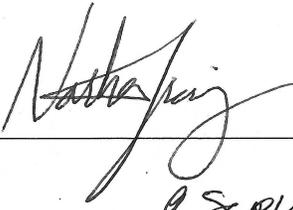
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**Approved By:**

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Date

## **1.0 PURPOSE, NEED, AND SCOPE**

### **1.1 INTRODUCTION**

Fort Carson has prepared this Programmatic Environmental Assessment (EA) to identify and evaluate potential environmental effects from implementing the Integrated Natural Resource Management Plan 2020-2025 for Fort Carson and Piñon Canyon Maneuver Site (2020 – 2025 INRMP). The 2020 -2025 INRMP will update and replace the 2013 – 2017 Integrated Natural Resources Management Plan (updated 2015) (2013 -2017 INRMP) and specify the best management practices and adaptive management strategies to conserve ecological integrity, facilitate Army training, and promote the sustainability of ecosystems at both Fort Carson and Pinon Canyon Maneuver Site (PCMS).

The EA has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 US Code [USC] 4321 *et seq.*), the Council on Environmental Quality (CEQ) Regulations Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] Part 1500-1508), and the Army NEPA Regulation (*Environmental Analysis of Army Actions*; 32 CFR Part 651, 1 January 2007). This EA provides the basis for determining if a Finding of No Significant Impacts (FNSI) is appropriate, or if an Environmental Impact Statement (EIS) is required.

### **1.2 PURPOSE AND NEED FOR PROPOSED ACTION**

The purpose of the 2020 – 2025 INRMP is to link and integrate conservation management actions with Army military mission activities in order to maintain high-quality lands for training, biodiversity, and recreation. It is developed to guide land management to follow two major land management goals. First, it integrates natural resources stewardship and compliance responsibilities with operational requirements to help achieve sustainable ranges, training areas, and other land assets. Secondly, it outlines the requirements to develop, initiate, and maintain programs for the conservation, utilization, and rehabilitation of natural resources on Fort Carson and PCMS.

Specifically, the 2020 – 2025 INRMP will facilitate the following installation specific goals:

- Conserve the environment for the purpose of supporting the military mission;
- Strive to achieve no net loss of capability of installation lands to support the military mission;
- Eliminate or minimize both permanent and temporary land restrictions on military training;
- To the greatest extent possible, shape the landscape to meet the training needs of the military;
- Achieve 100 percent compliance with environmental laws and regulations;
- Use an ecosystem-based approach to natural resource management, managing for values such as biodiversity, recreation, water quality, native species, and aesthetics;
- Practice adaptive management, improving our approaches and techniques using the best available science, and sound Best Management Practices (BMPs);

- Foster a sense of environmental stewardship among soldiers, employees, and neighbors who use or have an interest in natural resources on Fort Carson and PCMS;
- Improve communication, coordination, and participation among interested parties and partners in the region; and,
- In conjunction with Army Integrated Training Area Management (ITAM) program, facilitate sustainable training by promoting education and by managing the natural resources to meet the needs of the trainers and the missionscape.

### 1.3 SCOPE OF ANALYSIS

This Programmatic Environmental Assessment documents the analysis for implementing the reoccurring actions outlined in the 2020 – 2025 INRMP.

United States Army policy, as set forth in 32 CFR Part 651 (Environmental Analysis of Army Actions; Final Rule), requires that an environmental assessment be completed for the development and implementation of an Integrated Natural Resource Management Plan. The programmatic nature of this environmental assessment serves as the basis for tiering subsequent environmental documentation related to conservation, management, research, and program activities associated with the plan.

Effects of training, infrastructure improvements, maintenance and other installation projects and uses are analyzed in other environmental analysis. A list of existing Environmental Assessments and Environmental Impact Statements can be found on the Fort Carson NEPA webpage at <https://www.carson.army.mil/organizations/dpw.html#three>. The effects of past, ongoing and reasonably foreseeable actions are incorporated into the cumulative effects analysis.

### 1.4 AGENCY AND PUBLIC INVOLVEMENT

Agency and public participation in development of an Integrated Natural Resource Management Plan begin early. The U.S. Fish and Wildlife Service (USFWS) and the Colorado Division of Parks and Wildlife (CPW) are signatories of the Plan and as such, provide comments to the Plan throughout its development. Additional agencies and the general public will have the opportunity to review and comment on the 2020 – 2025 INRMP, the EA and FNSI. The thirty-day public comment period to solicited public feedback on the plan began May 13, 2020 and ended on June 12, 2020. A notice of availability was published in local newspapers in Colorado Springs, Fountain, Canon City, Pueblo, Trinidad and La Junta, Colorado. No comments were received.

### 1.5 LEGAL FRAMEWORK

Development and implementation of the INRMP was guided by the Sikes Act (16 USC 670a-f, *as amended by* The Sikes Act Improvement Act of 1997, Pub. L. No. 105-85, 2901-2914). The Sikes Act mandates not only the preparation of an INRMP but also the implementation of the management activities contained in the plan. According to the Sikes Act, the conservation program must be consistent with the mission-essential use of the installation and its lands and

cause no net loss of military land use. The 2020 – 2025 INRMP has been prepared to meet natural resources regulatory requirements while ensuring no net loss in the capability of military lands to support the military mission of the Fort Carson and PCMS.

32 CFR Part 651, Environmental Analysis of Army Actions (AR 200-2) (March 2002), provides Army guidance and procedures for complying with NEPA and sets forth policy for integrating environmental considerations into Army planning and decision making.

Embodying the intent and spirit of NEPA, 32 CFR Part 651 (AR 200-2) directs installations to integrate environmental reviews concurrently with other Army planning and decision-making actions. An INRMP is the type of document that should be environmentally reviewed prior to implementation. Therefore, the requirements of 32 CFR Part 651 (AR 200-2) must be addressed in the context of assessing the potential environmental effects of a proposed action to implement an INRMP once it has been developed.

## **2.0 PROPOSED ACTION AND ALTERNATIVES**

### **2.1 PROPOSED ACTION**

The proposed action is the implementation of the 2020 – 2025 INRMP. The 2020 – 2025 INRMP contains 164 reoccurring actions. The reoccurring actions are found at the end of each Program Element in Chapter 4 and consolidated in Appendix 8 of the 2020 – 2025 INRMP. The reoccurring actions can be broken down into eight categories for the purpose of this EA. A brief description of each category is provided below and the action, and its category type can be found in Appendix A of this EA.

**Adaptive Management** – Adaptive management is the implementation of actions, monitoring of those actions, assessment of the outcomes, and re-evaluation and re-implementation based on empirical results. Adaptive management activities span all of the resource types found on Fort Carson including air, water, soils, fish and wildlife, and vegetative communities. Examples of adaptive management include the development of water resource, erosion control measures, prescribed burning, and creating cover for sensitive species.

**Administrative** – Administrative actions include actions that are primarily associated with budgeting and personnel and are largely confined to an office environment. Examples of administrative actions include funding for professional development, budgeting for fire-related expenses and maintaining databases.

**Coordination** – Coordination activities are required for the Fort Carson Environmental Division to actively work with organizations within Fort Carson and PCMS, as well as outside organizations that include state and federal regulatory organizations, universities, natural resource professional organizations and stakeholder working groups. Examples of coordination actions include formal and informal consultation with regulatory agencies and work group attendance.

**Monitoring** – Monitoring is an integral component of successful natural resource management and directly supports the adaptive management actions. Examples of monitoring include monitoring water and soil conditions, monitoring sensitive species, and monitoring of vegetative community health.

**Outreach** – Fort Carson participates in outreach actions to engage the larger community regarding natural resource issues on the installation. Examples of outreach include maintaining access to recreational areas on Fort Carson and participating in the Wounded Warrior program.

**Planning** – Planning actions seek to address natural resource related goals and objectives through formal processes which engage interdisciplinary expertise. Examples of planning actions include developing and updating supplemental natural resource management plans and addressing environmental impacts on natural resources during the NEPA process.

**Studies** – Studies provide natural resource managers with critical data on the state and trends of natural resources. Examples of studies include learning more about the effects of off-road vehicle use on ground-nesting birds.

**Training** – Training and professional development are a critical element of natural resource management. Examples of training needs identified in the 2020 - 2025 INRMP include training for personnel involved in prescribed fire and wildland fire fighting.

## 2.2 NO ACTION

Fort Carson would continue natural resource management under the 2013-2017 INRMP which can be found on the Fort Carson website at

<https://www.carson.army.mil/assets/docs/dpw/NEPA/ftc-inrmp-dec-2017-update.pdf>

## 2.3 PROPOSED ACTION VERSUS NO ACTION

The specific differences between the No Action and Proposed Action including the re-occurring actions added, removed and changes in priorities can be found in Appendix B of this EA. Below is a narrative summary of the differences.

### 2.3.1 Species of Conservation Concern

Existing Conditions were updated in the 2020 – 2025 INRMP. Many of the changes to re-occurring actions for Species of Conservation Concern between the No Action and Proposed Action are driven by the changes in the existing condition.

Species were added to the Federal Review for listing under the Endangered Species Act. Species Management Plans were developed for the Colorado checkered whiptail, little brown bat, the monarch butterfly, plains spotted skunk, and the tri-colored bat. No management plan was created for the desert massasauga as neither installation is within the known range and reptile baseline surveys conducted in 2018 and 2019 did not detect the species on Fort Carson or PCMS. Surveys and inventories will clarify the presence of the western bumble bee, eastern black rail, Colorado checkered whiptail and habitat associations that will help in the management of the species on Fort Carson and PCMS. The addition of amphibian surveys will allow natural resource managers to respond more quickly to future new and potential Species of Conservation Concern listings.

Management considerations for the eastern black rail were added to the Federally Proposed Species section. Surveys will clarify whether this species is present and if future consultation with USFWS is warranted. The Arkansas darter was removed from the Federal Candidate Species list under the Endangered Species Act. The leopard frog was removed from the Federally Petitioned Species list under the Endangered Species Act. This led to the removal of leopard frog re-occurring actions from the Proposed Action.

Changes to the Army Species at Risk (SAR) led to additional species for consideration in the 2020 – 2025 INRMP. They are the mountain plover, the tri-colored bat, Arkansas Valley primrose, and the rayless goldenweed. The triploid checkered whiptail was renamed the Colorado checkered whiptail. The list of species on the Colorado Natural Heritage Program and CPW species of State Special Concern changed between the 2020 – 2025 INRMP and the 2013 – 2017 INRMP. There are now one species of fish, three species of amphibians, two species of reptiles, five species of birds, three species of mammals and fifteen species of vascular plants. Species list can be found in Appendices 5, 6, and 7 of the 2020 – 2025 INRMP.

Species of Conservation Concern such as Mexican spotted owl, mountain plover, Arkansas darter, redbelly dace, and others will continue to be managed under the 2020 – 2025 INRMP as they were under the 2013-2017 INRMP.

### 2.3.2 Wetlands Management

Wetlands on Fort Carson and PCMS will continue to be managed to meet the goal of zero net loss of wetland resources. Under the 2020 – 2025 INRMP, there is a renewed focus on avoiding or minimizing impacts to wetland resources from training activities. A re-occurring action to implement spill containment measures for temporary refueling points was also added to meet the goal of zero net loss of wetland resources.

### 2.3.3 Conservation Law Enforcement

There are no changes to the re-occurring actions for Conservation Law Enforcement between the 2020 – 2025 INRMP and the 2013 – 2017 INRMP. The focus remains on enforcement of regulations and outreach to recreationists about compliance with the regulations.

### 2.3.4 Fish and Wildlife Management

In the 2020 – 2025 INRMP, there has been a shift of focus from gathering data to using the data previously collected to better understand big game species on the installation and the prevalence of chronic wasting disease in the deer population. Natural resource managers will continue to work with Colorado Parks and Wildlife on wildlife management options to improve the quality and abundance of big game habitat on Fort Carson and PCMS.

The 2020 – 2025 INRMP takes advantage of the information collected to increase the priority of habitat improvement by integrating prescribed fire, revegetation, invasive species treatment, and stormwater management to improve biodiversity. Bat surveys have been

added to the Proposed Action as a result of the new bat species being considered for Species of Conservation Concern and the increase risk from white nose syndrome.

### 2.3.5 Forestry Management

In the 2020 – 2025 INRMP, forestry management has one additional re-occurring action compared to the 2013 – 2017 INRMP. It is to ensure that a complete forest inventory is completed every ten years. This is to provide data for meeting the program goal of implementing sound silvicultural practices for multiple uses that promote healthy, sustainable forests that contribute to biological diversity and ecosystem stability.

### 2.3.6 Migratory Bird Management

The 2020 – 2025 INRMP moves toward managing shelterbelt planted under the 2013 – 2017 INRMP. The 2020 – 2025 INRMP adds re-occurring actions to begin monitoring of newly listed or proposed species such as the eastern black rail, the nightjar, and the pinon-juniper bird species. Monitoring for other migratory birds will continue as described in the 2013 – 2017 INRMP. The 2020 – 2025 INRMP includes the re-occurring actions for the loss of nest sites that are included in the 2013 – 2017 INRMP such as constructing nesting cavities and platforms and maintaining snags on the landscape.

### 2.3.7 Invasive Species Management

The goals for monitoring myrtle spurge and African rue have been accomplished as required in the 2013 – 2017 INRMP and have been removed from the 2020 – 2025 INRMP. Monitoring for aquatic nuisance species has been added to the 2020 – 2025 INRMP. The emphasis of the Invasive Species Management in the 2020 – 2025 INRMP has been shifted toward cooperation with partners and other agencies by moving up the cooperation re-occurring action up on the priority list from the 2013 – 2017 INRMP.

### 2.3.8 Pest Management

There was an additional integration with other activities on the installation with pest management by adding the re-occurring action to Participate in Directorate and Garrison level working groups in the 2020 – 2025 INRMP. The priority of minimizing pesticide and chemical treatment options and minimizing effects on wildlife and human safety was moved up in the 2020 – 2025 INRMP compared to the 2013 – 2017 INRMP. Safety and the prioritization on training remains an important part of the pest management program on the installation.

### 2.3.9 Geographic Information System

The program will continue to manage natural resource data, creating maps and doing essential analysis. There was one added re-occurring action added to this program for the 2020 – 2025 INRMP which requires the data to be managed using the Army data standards.

### 2.3.10 Outdoor Recreation

This was previously known as Wildlife Recreation in the 2013 – 2017 INRMP. The focus of the program has changed under the 2020 – 2025 INRMP because of the development of the iSportsman web-based recreation management program. The re-occurring actions in the 2013 – 2017 INRMP to continue hunter check stations and implement an automated recreation control system. The priority of the program under the 2020 – 2025 INRMP is to Manage Sikes Act permit sales via iSportsman and hunter check-in kiosks. Warm-water fisheries have been established where possible and are self-sustaining so the re-occurring action to establish a warm water fisheries has been removed from the 2020 – 2025 INRMP.

Coordination with other directorates such as the Directorate of Plans, Training, Mobilization and Security or the Directorate of Emergency Services will continue to be ongoing to allow access to recreationist during big game seasons. Areas such as the Bird Farm, Wildlife Demonstration Area, and the fishing reservoirs will remain open to the public in the 2020 – 2025 INRMP. Outreach activities will remain similar to those in the 2013 – 2017 INRMP with the additional of participation with Wounded Warriors programs. The re-occurring action to review and prioritize projects for habitat management, improvement, and restoration needs on FC and the PCMS for funding with permit proceeds is added to help prioritize funding toward habitat improvement in the 2020 – 2025 INRMP.

### 2.3.11 Wildlife Aircraft Strike Hazard

There was an additional requirement added to the 2020 – 2025 INRMP to maintain grass at the airfield to between 6 inches to 12 inches to reduce the attractiveness of wildlife to the airfield. The re-occurring actions have been reprioritized in the 2020 – 2025 INRMP to focus first on prairie dog management at the airfield. Coordination and participation in working groups was moved up in priority in the 2020 – 2025 INRMP compared to the 2013 – 2017 INRMP.

### 2.3.12 Wildland Fire Management

The program will continue to assist with wildfire suppression and the preparation of the prescribed burn plans just as in the 2013 – 2017 INRMP. Under the 2020 – 2025 INRMP, fire management activities will continue to consider cultural resources, wildlife resources, endangered species, Mexican spotted owl habitat, smoke management and other natural resources. Fire breaks around Fort Carson will be maintained in the 2020 – 2025 INRMP as in the 2013 – 2017 INRMP. The 2020 – 2025 INRMP, contains two changes to the wildland fire management program. The first is the addition of the use of mastication, forest thinning,

mowing and herbicide use to reduce fuels on the installations. The second is the addition of cooperation with the ITAM program on monitoring effects of prescribed fire on natural resources.

### 2.3.13 Training of Personnel

There were no changes made between the 2013 – 2017 INRMP and the 2020 – 2025 INRMP.

### 2.3.14 Floodplain Management

The 2020 – 2025 INRMP added the requirement to use the NEPA input process to provide mitigations and recommendations for projects during the planning phases. The re-occurring action still requires the compliance with all legal requirements regarding floodplains.

### 2.3.15 Mineral Resources

There are no differences between the 2013 – 2017 INRMP and the 2020 – 2025 INRMP for this element.

### 2.3.16 Urban Forestry

The requirements and best management practices remain the same for the 2013 – 2017 INRMP and the 2020 – 2025 INRMP with one exception. The 2020 – 2025 INRMP added the development to an Urban Forest Management for Fort Carson.

### 2.3.17 Water Rights

Under the 2020 – 2025 INRMP, the water rights program will continue to send monthly reports to the State District Water Commissioner, send reports to State on stream gauges, and well reports to Colorado Water Protective Development Association. The water rights program is adding focus on actively managing water infrastructure including repair and maintain ditches, reservoirs and wells in the 2020 – 2025 INRMP. It also added requirement to monitor stream flows and maintain approximately 35 wells at PCMS.

### 2.3.18 Integrated Training Area Management

The ITAM program has increased focus on communicating sustainable use of training lands including education on safety issues, cultural resources and natural resources in the 2020 – 2025 INRMP. The program will continue to implement projects that will ensure safety, maneuver access, erosion control and mitigate other impacts of land use. The impacts to vegetation, soil resources and watersheds will continue to be monitored. So projects can be prioritized and maps can be provided when needed for safety or other uses.

### **2.3.19 Bald and Golden Eagle Management**

There has been a change in the temporary training restrictions that would be implemented around eagle nests. The bald and golden eagle nest buffer was 200 meters in 2013-2017 INRMP. The 2013 - 2017 INRMP to change the buffer to 800 meters. The nest buffer for the 2020 – 2025 INRMP has been revised to one-half mile for maneuver and live fire training. Aircraft cannot fly within 500 feet of an occupied eagle nest.

## **2.4 SUPPLEMENTAL MANAGEMENT PLANS**

Supplemental Management Plans are incorporated by reference and include:

- Black-tailed Prairie Dog Management Plan
- Endangered Species Management Plan for the Mexican Spotted Owl
- Integrated Pest Management Plan
- Forest Management Plan
- Fort Carson Water Rights Inventory and Master Plan
- Fuels Management Plan
- Urban Forest Management Plan
- Wildlife Aircraft Strike Hazard Plan
- Integrated Wildland Fuels Management Plan.

## **3.0 ENVIRONMENTAL CONSEQUENCES**

### **3.1 INTRODUCTION**

This portion of the EA presents the direct and indirect impacts of the No Action and Proposed Action alternatives based on an analysis of current information and data related to natural resources and their conservation and management.

### **3.2 RESOURCES NOT ADDRESSED**

The following natural resource, social, and socioeconomic factors have been screened from further review in this EA as they were found to be negligible when reviewed by an interdisciplinary team of environmental scientists, biologists, economists, planners and archaeologists. A brief synopsis is provided below for each factor screened and dismissed.

#### **3.2.1 Land Use**

There would not be any permanent changed to land use as a result of either the No Action or Proposed Action. Designation for limited use for rehabilitation under the ITAM program would be temporary.

### 3.2.2 Noise

It is not anticipated that the reoccurring actions in either the No Action or Proposed Action Alternatives would result in any measureable change in noise levels in and around Fort Carson or PCMS.

### 3.2.3 Socioeconomics

Small, limited duration contracts may be awarded, under either the No Action or Proposed Action alternatives, to accomplish projects associated with natural resource management at Fort Carson or PCMS. It is anticipated that such contracts will be well below any threshold that would impact the regional economic or socioeconomic climate.

### 3.2.4 Environmental Justice

It is not anticipated that any of the activities, research, studies or programs associated with natural resource management under either the No Action or Proposed Action alternative will have an adverse impact on minority and/or low-income populations in or around Fort Carson or PCMS.

### 3.2.6 Hazardous Substances

Under the No Action and Proposed Action herbicides and pesticides will continue to be utilized in accordance with their prescribed usage by trained and licensed personnel. Such substances will be utilized in a manner that reflects the benefit of their application in the context of the broader ecological community and accounts for human health concerns. Additionally, approved biological controls will be employed in areas where the use of herbicides are limited and access is difficult.

## **3.3 AFFECTED ENVIRONMENT FOR RESOURCES ADDRESSED**

The affected environment for each Program Element is captured in detail in the Current Conditions Section of the 2020 – 2025 INRMP and are summarized below.

### 3.3.1 Air Quality

DPW Environmental Division Air Quality Program aims to achieve flexible Colorado permitting conditions to sustain the military mission without compromising air quality for the region. Fort Carson is within the air quality control areas of El Paso, Fremont, and Pueblo counties, including the City of Colorado Springs. The northern portion of Fort Carson's cantonment area is located in a maintenance area for carbon monoxide. The *Revised Carbon Monoxide Attainment/Maintenance Plan Colorado Springs Attainment/Maintenance Area* covers Colorado Springs, and subsequently the northern portion of Fort Carson, as a maintenance area through calendar year 2020 (CDPHE 2009). PCMS is in in attainment areas for all criterial pollutants.

### 3.3.2 Soils

A goal of soils management is to provide quality, sustainable training environments to support the Army's military mission and help ensure no net loss of training capability. On Fort Carson, soil erosion (primarily from water runoff) is a significant problem on the installation. Soils of greatest concern for erosion control are clays, silty clays, and clay loams. At PCMS, soils are generally silty and weakly developed and are calcareous throughout.

### 3.3.3 Water Resources

Fort Carson lies within the Arkansas River basin. The average water flow on and near Fort Carson is about 2-5 cubic feet/second. Some streams can be expected to have no flow at some time during the year. There are approximately 64 surface acres in 12 water bodies for fishery and wildlife resources. The current estimate of wetlands on Fort Carson, based on the 2004 NWI, is 1,389 acres.

The PCMS is also in the Arkansas River basin. The Purgatoire River runs within and adjacent to PCMS. During years with average and above-average snowpack, such as occurred in 1984, 30-50 percent of the annual stream flow of the Purgatoire River occurs during April and May. The current estimate of wetlands on the PCMS, based on the 2004 NWI, is 361 acres.

Water resource related goals include ensuring no net loss of wetlands on Fort Carson or PCMS. The programs also want to meet requirements of the CWA and implement the Stormwater Management Plan. Water rights will be managed for beneficial uses.

### 3.3.4 Biological Resources

The INRMP outlines actions to ensure Army lands meet current and future training needs for realistic training through the sustainment of biological diversity of terrestrial and aquatic ecosystems on Fort Carson and PCMS. The 2020 – 2025 INRMP outlines the management of species of Conservation Concern include Federal threatened and endangered species such as the Mexican Spotted Owl and the black-footed ferret, as well as proposed, candidate and under-review species. It also covers Army Species at Risk (SAR), Colorado listed species, Colorado Natural Heritage Program (CNHP) and Colorado Parks and Wildlife (CPW) species of State Special Concern, migratory birds and Birds of Conservation Concern. Big and small game species management is also included in the 2020 - 2025 INRMP to manage the population levels of wildlife within the current carrying capacity of specific wildlife habitats on Fort Carson and PCMS in order to maintain and enhance a sustainable ecosystem, and provide recreational opportunities for the enjoyment of the public.

Currently, much of the forests on Fort Carson and PCMS are overstocked and in need of thinning. The vision for the future forest is a mosaic of stands of varying densities with trees representing a wide range of size and age classes. Generally, the goal of forest management is to maintain stands of varying acreages within the forest that are stocked with tree densities that reduce the risk of crown fire and disease.

There are 30 species of state-listed noxious weeds that have invaded both natural and urbanized landscapes at Fort Carson and PCMS. In general, weed populations are more widespread at Fort Carson than the PCMS. This may be due, in part, to the greater degree of ground disturbing training as well as the higher frequency of training that occurs at Fort Carson. Other factors may include Fort Carson's proximity to a large population center (Colorado Springs), its proximity to I-25, and precipitation and availability of water which is a limiting factor for some weed species.

The main goal of the pest management program is to maintain and safeguard the health, environmental quality, aesthetic values, and ecological balance of the military community by protecting real estate investments from depreciation by pests, while complying with environmental protection and improvement policies. Pest Management primarily deals with insects that vector diseases and nuisance wildlife pests, such as skunks, porcupines, raccoons, foxes, mice/rats, squirrels, rabbits, birds, and species such as prairie dogs are managed to minimize risks involving safety and property on locations such as airfields in accordance with the Fort Carson Wildlife Aircraft Strike Hazard program.

### **3.3.5 Cultural Resources**

Cultural resources are the non-renewable remnants of past human activities that have cultural or historical value and meaning to a group of people or a society. For the purposes of this EA, the term "cultural resources" includes historic properties, as defined in the National Historic Preservation Act (NHPA); archaeological resources, as defined in the Archaeological Resources Protection Act (ARPA); cultural items, as defined in the Native American Graves Protection and Repatriation Act (NAGRPA); sacred sites, as defined in Executive Order 13007; and collections, as defined in 36 CFR 79.

USAG Fort Carson manages over 8,000 cultural resources at Fort Carson and PCMS. These resources represent every period of human occupation from the Paleoindian stage to the present, and include prehistoric lithic scatters, camps, and architecture; prehistoric and historic quarries and mining sites; prehistoric and historic rock art; historical homesteads and ranches; stage and trail remnants; historic districts; historic buildings, structures, and objects; and sacred sites. The 2017-2021 Fort Carson Integrated Cultural Resources Management Plan (ICRMP) provides a framework to integrate cultural resources management into the everyday operation of Fort Carson and PCMS, including Standard Operating Procedures in Chapter 7, to ensure compliance with cultural resource-related legislation and protection of cultural resources.

## **3.4 ENVIRONMENTAL EFFECTS FOR RESOURCES ADDRESSED**

There are several of the categories of reoccurring actions that will not have measurable direct or indirect effects on the human environment of Fort Carson, PCMS or the surrounding communities. Administrative actions include budgeting and human resources actions. Coordination with other regulatory agencies, partners and stakeholders will improve the effectiveness of natural resource management on Fort Carson and PCMS but no measurable

effect. Monitoring is the act of observing conditions and capturing the findings in a database. This information does influence the adaptive management actions but monitoring itself does not have any effect on natural resources.

Planning activities, including the development of supplemental plans, will not have an effect on the human environment in. The implementation of any recommendations, which would be covered under adaptive management actions, may have an effect on natural resources. The effects of implementing recommendations of supplemental plans is considered under the adaptive management actions. Training of natural resource personnel will have no measurable effect on natural resources.

Studies take monitoring further in that they use information to establish or predict trends and baseline conditions for natural resources. Some studies may require small amounts of disturbance to natural resources. Examples are taking core samples for a geotechnical study or trapping individuals of a species to gather biometric or other information. These effects will be temporary and negligible.

The two categories of reoccurring actions that may have an effect on the human environment are adaptive management and outreach, specifically outdoor and wildlife recreation on Fort Carson and PCMS. These two categories are considered in the effects analysis below.

#### 3.4.1 Air Quality

The Adaptive Management and Outreach actions that would affect air quality are wildland and prescribed fire management as well as dust from native surface roads used by recreationists and Soldiers training.

##### **No Action Alternative**

Under the No Action Alternative both wildfire and prescribed burning on Fort Carson and Piñon Canyon Maneuver Site would continue to be managed in accordance with the 2013-2017 INRMP. Air quality under this alternative would be maintained in a satisfactory state as any planned burning under this alternative would continue to be overseen by the state of Colorado through issuance of Air Quality Smoke Management Permits. Under this alternative newly established goals with regard to prescribed fire for the benefit of wildlife and habitat would not be undertaken. Additionally, the use of prescribed burning would only be pursued to the extent that such activities are consistent with the 2013-2017 INRMP.

Adaptive Management activities that may create fugitive dust will adhere to the Fort Carson Fugitive Dust Plan to minimize dust and avoid dust from leaving the installation boundary.

##### **Proposed Action**

Under the Proposed Action air quality on Fort Carson and Piñon Canyon would continue to be maintained in a satisfactory state. Updated natural resource management goals that are addressed in full or in part as a result of prescribed burning will continue to be executed in compliance with all federal, state, and local permit requirements. Air quality under this alternative would be maintained in a satisfactory state as any planned burning under this alternative would continue to be overseen by the state of Colorado through issuance of Air

Quality Smoke Management Permits. Adaptive Management activities that may create fugitive dust will adhere to the Fort Carson Fugitive Dust Plan to minimize dust and avoid dust from leaving the installation boundary.

### 3.4.2 Soils

The adaptive management actions that may have an effect on soil resources include the re-occurring action carried out under the Integrated Training Area Management (ITAM) program such as erosion control and maneuver access projects. Actions recommended by the Stormwater Management Plan (DPW, 2017) may also have an effect on soil resources. Prescribed burning can reduce the intensity of wildfires by reducing fuel in areas.

#### **No Action Alternative**

Under the No Action Alternative soils will continue to see slight benefits at both Fort Carson and PCMS as conservation and protection measures offered under the No Action and the annual Integrated Training Area Management plan continue to be utilized. On Fort Carson the implementation of an aggressive Stormwater Management Plan (DPW, 2017) also continues to benefit and protect soils on the post from degradation as a result of stormwater related erosion. Minor improvements to the soils at Fort Carson and Piñon Canyon Maneuver Site are anticipated under this alternative as a result of ongoing management activities.

#### **Proposed Action**

Under the Proposed Action it is anticipated that soils will benefit from an increase in protection as a result of updated and validated projects and an adaptive management strategy presented in the 2020 - 2025 INRMP. Coupled with ongoing management activities encompassed in the ITAM and Stormwater Management plans the benefits to soils will be greater than those of the No Action Alternative. Examples of increased soil protection offered in the 2020 - 2025 INRMP include reoccurring projects at Fort Carson and PCMS that include construction of erosion control dams and the implementation of stormwater best management practices (BMPs). Finally, prescribed burns that result in low intensity fires maintain the established seedbank in the soil thereby allowing rapid vegetative regrowth which ameliorates the effects of water and wind erosion.

### 3.4.3 Water Resources

The reoccurring actions that may affect water resources are the ITAM actions including erosion control measures and the implementation of the Stormwater Management Plan (DPW, 2017). Floodplain protection throughout the planning process may also have a benefit to floodplains and water resources on Fort Carson.

#### **No Action Alternative**

Under the No Action Alternative water resources on Fort Carson and Piñon Canyon Maneuver Site will continue to be maintained through erosion mitigation efforts in conjunction with the ITAM program and the implementation of stormwater runoff BMPs. Floodplain protection will continue to be enforced as per Executive Order 11988, Floodplain

Management. Positive benefits from these activities will continue to accrue if the status quo is maintained.

### **Proposed Action**

Under the Proposed Action the positive benefits obtained through erosion control projects will continue. Small benefits may be gained from improved suppression of riparian invasive species such as tamarisk (*Tamarix spp.*) and updated prescribed burn plans and riparian rehabilitation. Floodplains and their associated benefits such as flood control, wetlands maintenance, and riparian habitat, will continue to be protected.

### **3.4.4 Biological Resources**

The framework for managing biological resources on Fort Carson and PCMS have been established in the 2013 – 2017 INRMP. Each revision uses the data and experience uncovered from previous versions to improve upon management strategies. The 2020 – 2025 INRMP is no different. Changes to the reoccurring actions such as being more intentional about dusting prairie dog colonies to control the plague in select locations, maintaining nesting platforms for raptors or artificial nesting cavities for migratory birds are a result of this adaptive management approach. The installation will use tools such as mastication, limbing trees, mowing and using herbicides to manage fuel loads to reduce the probability and intensity of wildfires.

#### **No Action Alternative**

##### *Flora*

Under the No Action alternative, vegetative communities will continue to be managed as part of an ecosystem- based management approach. This natural resource management approach recognizes ecosystems as complex systems and accounts for potential cascading consequences and non-linear processes associated with changes to ecological communities.

Species of special conservation concern on Fort Carson and PCMS will be managed within an ecosystem-based management paradigm under the No Action alternative. The emphasis on a multispecies community approach would continue to be used to manage species of concern. The management framework views conservation efforts through a broad ecological community scope with an eye toward cascading consequences. Understanding and addressing issues associated with species of concern at larger spatial scales and ecological context, coupled with stakeholder engagement, will increase the likelihood of success in maintaining species populations resulting in positive long-term benefits.

##### *Wetlands*

Under the No Action alternative wetlands on Fort Carson and PCMS will continue to be managed by a three- tiered mitigation procedure that encompasses avoidance, minimization, and compensation, thus streamlining the four-tiered process from prior INRMPs. The Clean Water Act and Executive Order 11990 (Wetlands Protection) (May 24, 1977), underpin wetlands management and protection on both installations. There are no anticipated impacts or benefits to wetlands associated with the Proposed Action.

### *Fauna*

Under the No Action alternative vertebrate wildlife, to include terrestrial, aquatic, and avifauna, will continue to be managed under an ecosystem-based management paradigm. This natural resource management approach recognizes ecosystems as complex systems and accounts for potential cascading consequences and non-linear processes associated with ecological communities.

### **Proposed Action**

#### *Flora*

The effects of the Proposed Action will be similar to the effects described as the No Action alternative. This is because the framework for ecosystem management created in earlier versions of the INRMP is incorporated into the 2020 – 2025 INRMP. The use of selective mastication, limbing of trees, mowing and herbicide use to reduce wildfire intensity are a benefit to the flora on both Fort Carson and PCMS. Lower intensity burning, both prescribed and wildland fire, will reduce the risk of loss of vegetation communities across the landscape.

#### *Wetlands*

The effects of the Proposed Action will be similar to the effects described as the No Action alternative. This is because the framework for ecosystem management created in earlier versions of the INRMP is incorporated into the 2020 – 2025 INRMP. The requirement of no net loss of wetlands on the installation will have a beneficial effect on species dependent on wetlands for habitat and cover.

#### *Fauna*

The effects of the Proposed Action will be similar to the effects described as the No Action alternative. This is because the framework for ecosystem management created in earlier versions of the INRMP is incorporated into the 2020 – 2025 INRMP. Additions to the reoccurring actions such as dusting select prairie dog colonies to minimize the risk of the plague will have beneficial effects on populations of eagles, burrowing owls and other raptors. Providing nesting platforms and cavities in areas where nesting opportunities are limited will have a benefit to raptors and migratory birds.

Reoccurring actions such as planning level surveys of game and non-game species, the determination of species abundance and distribution, and analysis of protection measures such as those under the “monitoring” category in Appendix A of this EA, provide relevant examples of data gathered to support this approach. It is anticipated that long-term positive benefits will result from the Proposed Action through an ecosystem-based management paradigm encompassed in the 2020 - 2025 INRMP that allows for greater coordination, a focus on multispecies solutions, and a focus on ecosystem structure and function.

### **3.4.5 Cultural Resources**

Natural resource management re-occurring adaptive management activities may have an impact (beneficial or negative) to cultural resources. Erosion control activities and grounds maintenance

activities, such as prescribed burns, forestry activities, and invasive plant species management activities.

### **No Action Alternative**

Natural resource management activities may have an impact (beneficial or negative) to cultural resources. Erosion control activities and grounds maintenance activities, such as prescribed burns, forestry activities, and invasive plant species management activities that occur within the Fort Carson cantonment area are categorized as exempted undertakings in accordance with the *Programmatic Agreement among U.S. Army Garrison Fort Carson, the Colorado State Historic Preservation Officer, and the Advisory Council on Historic Preservation regarding Construction, Maintenance, and Operations Activities for Areas on Fort Carson, Colorado*, executed on March 27, 2013, and amended on December 27, 2020 (Fort Carson Built Environment PA). All natural resource management activities that occur on downrange Fort Carson and PCMS are considered exempted undertakings in accordance with the *Programmatic Agreement among U.S. Army Garrison Fort Carson, Colorado State Historic Preservation Officer, and the Advisory Council on Historic Preservation regarding Military Training and Operational Support Activities Down Range Fort Carson, Colorado*, executed on March 31, 2014, and amended on May 2, 2018 (Fort Carson Downrange PA), and the *Programmatic Agreement among U.S. Army Garrison Fort Carson, Colorado State Historic Preservation Officer, and the Advisory Council on Historic Preservation regarding Military Training and Operational Support Activities at Piñon Canyon Maneuver Site, Fort Carson, Colorado*, executed on April 23, 2014, and amended on April 24, 2018 (PCMS PA). Per these programmatic agreements, these activities must occur outside the boundary of a protected cultural resource. The effects of any activity not covered by one of the exemptions in the Fort Carson Built Environment PA, Fort Carson Downrange PA, or PCMS PA or occurring within a protected resource must be consulted upon in accordance with Section 106 of the NHPA and its implementing regulations, 36 CFR Part 800.

Procedures are outlined in Chapters 6 and 7 of the ICRMP to ensure that protected cultural resources are avoided or minimally impacted by these activities. Coordination procedures outlined in Chapter 3 of the INRMP and Chapter 7 of the ICRMP require project proponents to submit all project plans to the Cultural Resources Management Program via the NEPA compliance review prior to contract award and project implementation. All proposed projects will be reviewed by the Cultural Resources Manager to assess effects to historic properties. The Cultural Resources Management Program also provides limited information on protected cultural resources to project proponents to reduce the risk of inadvertent entries into these resources, as well as for project planning purposes in order to avoid and minimize adverse effects to historic properties.

### **Proposed Action**

The effects of the Proposed Action will be the same as described above under the No Action alternative. The coordination and review process will remain the same as described under the No Action alternative.

### 3.5 CUMULATIVE EFFECTS

NEPA requires the analysis of cumulative impacts on the human and natural environment. Guidance on cumulative impacts from the Council on Environmental Quality (CEQ) is provided in the following quote:

Cumulative impact is the impact on the human and natural environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non- federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR 1508.7).

The effects of the reoccurring actions proposed in the 2020 -2025 INRMP are considered in the context of the past, present and reasonably foreseeable actions within the installation. These actions include training activities, infrastructure improvement activities, and new construction to meet Fort Carson and PCMS mission requirements. The actions and their effects can be found in existing environmental documents found on the Fort Carson NEPA webpage (<https://www.carson.army.mil/organizations/dpw.html#three>). Projects and documents of note are:

- 2019 Environmental Assessment for the Conversion of the Infantry Brigade Combat Team to a Stryker Brigade Combat Team
- 2015 Environmental Impact Statement for Pinon Canyon Maneuver Site Training and Operations
- 2015 Environmental Assessment for MQ-1C Gray Eagle Unmanned Aerial Systems (UAS) at Fort Carson, Colorado
- 2014 Environmental Assessment for Conversion of 4ID Brigade Combat Teams at Fort Carson, Colorado
- 2012 Environmental Assessment for Fort Carson Net Zero Waste, Water and Energy Implementation
- 2012 Environmental Assessment for Fort Carson Combat Aviation Brigade (CAB) Stationing Implementation
- 2009 Environmental Impact Statement for Implementation of Fort Carson Grow the Army Stationing Decisions

Cumulative impacts associated with natural resource management span the entirety of both Fort Carson and PCMS. As such, potential past, present, and reasonably foreseeable actions (positive as well as negative) with implications for natural resource management include game species management, the control of invasive species, and wildfire management. Given the geographic scope of the INRMP, consideration must be given to potential impacts outside the boundaries of both Fort Carson and PCMS.

The Colorado Department of Parks and Wildlife will continue to assess the population of game species within defined management units. The department's assessment of game species populations and their health will determine the level of hunting pressure that is acceptable or necessary at both Fort Carson and PCMS. Game species and habitat

management by the Army will impact game populations both on and off Fort Carson and PCMS.

The introduction and spread of floral invasive species continues to produce challenges on public lands, whether state or federal, and on private property. Controlling the spread of invasive species within Fort Carson and PCMS will continue under the 2013-2017 INRMP. An ongoing challenge is to identify routes and vectors for new introductions of invasive species from adjacent public and private land. Long-term invasive species control requires a coordinated effort with regional stakeholders at both Fort Carson and PCMS.

The escape of wildfire from within installation boundaries to adjacent land or the movement of a wildfire from adjacent land onto the installation is an ongoing concern. Wildfires are random and unpredictable events that can produce impacts beyond Fort Carson and PCMS even if the wildfire itself is confined to the installation. Wildfire, as an ecological disturbance, is beneficial to the shortgrass prairie and ponderosa pine ecosystems. Nevertheless, wildfire can in some instances result in economic loss, social disruption, and produce human health impacts.

### **Air Quality**

The past, present and reasonably foreseeable actions will create dust and smoke which are mitigated with the Fort Carson Fugitive Dust Plan and the oversight by regulators. The small amount of dust created from the 2020 – 2025 INRMP cumulatively will be less than significant.

### **Soil Resources**

The past, present and reasonably foreseeable actions may have effects on soil resources such as compaction from maneuver training, rilling created along two tracks with poor drainage, soil erosion from unvegetated areas created from training activities and the increase in impervious surfaces due to construction of facilities and infrastructure. These are mitigated through the implementation of BMPs and the stormwater management plan.

The actions proposed in the 2020 – 2025 INRMP will reduce the number of areas with rilling, soil compaction and soil erosion through the implementation of the ITAM program and other projects that increase the resiliency of the vegetation. The cumulative effects of the INRMP when combined with the past, present and reasonably foreseeable actions will not be significant.

### **Water Resources**

The past, present and reasonably foreseeable actions may have effects on water resources such as sediment delivery to the stream, increased flow from stormwater run-off, changes to stream channels as a result of infrastructure projects that require stream crossings.

The actions proposed in the 2020 – 2025 INRMP will reduce the probability of sediment delivery to the stream through the implementation of the ITAM program and other projects that increase the resiliency of the vegetation. The cumulative effects of the INRMP when combine with the past, present and reasonably foreseeable actions will not be significant.

## **Biological Resources**

The past, present and reasonably foreseeable actions may have effects on biological resources such as the reduction of vegetation in areas used for training. This can reduce the available habitat for wildlife species. Training can also increase the risk of spread of invasive species. Training can directly affect wildlife by causing them to move out of an area during the training event. This can lead to displacement of wildlife and loss of eggs or young during certain parts of the year. Construction may remove habitat and increases the impervious surfaces in the area. This can lead to increased stormwater runoff which can cause erosion and degradation of wildlife habitat.

These effects are reduced by Best Management Practices such as limiting the timing of training and construction during nesting and rearing activities in an area. Best Management Practices outlined in the Stormwater Management Plan reduce erosion and stormwater runoff concerns. The actions proposed in the 2020 – 2025 INRMP will reduce the probability of sediment delivery to the stream through the implementation of the ITAM program and other projects that increase the resiliency of the vegetation. The cumulative effects of the INRMP when combine with the past, present and reasonably foreseeable actions will not be significant.

## **Cultural Resources**

The past, present and reasonably foreseeable actions may have effects on soil resources such as compaction from maneuver training, rilling created along two tracks with poor drainage, soil erosion from unvegetated areas created from training activities. Areas affected by wildland fire or prescribed could have cultural resources that are now more visible than they were prior to the wildfire or prescribed fire event. These effects are overall minor to moderate. The effects of re-occurring actions proposed in the Proposed Action are overall negligible because of the opportunity to avoid cultural resource sites or mitigate effects as a result of the project review process. The cumulative effects on cultural resources will be negligible.

## **4.0 CONCLUSIONS**

The purpose of the Integrated Natural Resource Management Plan is to further sustainable natural resource management on military training lands while supporting the Army's critical training missions. Impacts associated with implementing the 2020 - 2025 INRMP range from neutral to beneficial, while maintaining the status quo through the continuation of the 2013 – 2017 INRMP also continues to provide limited benefits to natural resources, albeit to a lesser extent than the Proposed Action. Cumulative impacts are unclear, although it is understood that active management of game species, invasive species, and to the extent possible wildfire, will reduce negative impacts.

Table 1 provides a succinct summary of the effects associated with both the Preferred Action and the No Action Alternative from this EA.

*Table 1: Summary of effects on resource for Proposed Action and No Action.*

<b>Resource Area</b>	<b>Proposed Action</b>	<b>No Action Alternative</b>
Air Quality	o	o
Biological Resources	+	o
Soils	+	+
Water Resources	+	+
Cultural Resources	o	o

1. Neither positive benefit or negative impacts are denoted by ‘o’
2. Positive benefits are denoted by ‘+’

Based on this Environmental Assessment, implementation of the Proposed Action would result in no significant impacts. Because no significant impacts are associated with implementing the Proposed Action, preparation of a Finding of No Significant Impact (FNSI) is appropriate.

## **5.0 PERSONS CONTACTED**

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Trina Hopkins– Attorney Advisor, Fort Carson Office of the Staff Judge Advocate

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## **6.0 REFERENCES**

Council on Environmental Quality (CEQ). 1978. Regulations for Implementing the National Environmental Policy Act (40 CFR Parts 1500-1508).

Department of the Army. 1995. Integrated Training Area Management (ITAM) Program Strategy. Headquarters, Washington, DC. 66 pp. + appendices.

DPW. 2017. Stormwater Management Plan (SWMP), Fort Carson, Colorado. Prepared for Fort Carson by AECOM Technical Services, Inc.

## EA APPENDIX A: 2020 - 2025 INRMP RE-OCCURRING ACTIONS

### Recurring actions for managing species of conservation concern

Actions for species of special concern	Action Type
1. Continue annual (PCMS)/biennial (Fort Carson) prairie dog monitoring for colony extent and plague status.	Monitoring
2. Continue annual monitoring of prairie dog colonies for the presence of burrowing owls and mountain plovers.	Monitoring
3. Continue evaluation, at three-year intervals, of Mexican spotted owl (MSO) roost tree buffer zones for compliance with access restrictions specified in the MSO Management Plan (2016).	Monitoring
4. Continue to inventory Army SAR populations and evaluate persistence and relationship to training annually, as scheduled around training.	Adaptive Management
5. On Fort Carson, continue Arkansas darter and southern redbelly dace population monitoring and inventory annually, as scheduled around training.	Monitoring
6. Conduct baseline inventory of arthropod populations, with a focus on subphylum Hexapoda. This will allow Fort Carson staff to determine the presence and distribution of sensitive arthropod species, including those that are being considered for federal listing.	Studies
7. Conduct baseline inventory of amphibian populations. This will allow staff to determine the presence and distribution of sensitive amphibian species. A more complete species list will also allow wildlife staff to rapidly respond to potential future ESA listings.	Studies
8. On Fort Carson, maintain bat gates to prevent disturbance and the spread of white-nose syndrome (WNS) from anthropogenic sources, to include annual inspections and monitoring. Monitor other bat roosting sites for disturbance and presence of WNS. Because several bat species on Fort Carson are susceptible to WNS, proactive monitoring and management will make future restrictions less likely if any of the species are listed.	Coordination
9. Continue monitoring population trends and investigating the effect of training on Colorado checkered whiptail populations as funding and staffing allow.	Monitoring
10. Annually survey for and maintain inventory of raptor nests. This allows wildlife staff to respond more rapidly to projects that involve removal of trees.	Monitoring

Actions for species of special concern	Action Type
11. On PCMS, support nesting raptors by installing/ maintaining raptor nesting platforms. Support cavity nesting birds by installing/ maintaining nest boxes.	Monitoring
12. Continue mapping distribution of species of conservation concern, annually as encountered.	Monitoring
13. Continue pesticide dusting and exploring other alternatives to prevent plague in prairie dog colonies important to nesting and wintering eagles, ferruginous hawks, and nesting burrowing owls.	Adaptive Management
14. On Fort Carson, continue to assist (by providing fish) the USFWS and CPW with translocating Arkansas darter and southern redbelly dace to additional sites to improve population stability. Identify potential additional sites for reintroductions on Fort Carson, pending IMCOM approval and conservation assurances from CPW and USFWS. By creating more stable populations of species at risk, the chance of federal listing (and thus the risk of future training restrictions) is reduced.	Coordination
15. Sustain small mammal and bird populations in woodland areas by preferentially leaving large trees with natural and bird created cavities and crevices.	Adaptive Management
16. Create cover for sensitive species of reptiles, amphibians, and small mammals by leaving non- diseased, felled tree trunks in place during forestry operations. On Fort Carson, logs are an important component of MSO habitat and should be left in place following forestry operations in owl habitat.	Adaptive Management
17. Create slash brush piles at sites where not increasing risk of spread of wildland fire to increase habitat availability for small mammals and reptile.	Adaptive Management

### Recurring actions for wetlands management

Actions for wetlands management	Action Type
1. Ensure no-net-loss of wetland acreage on either installation.	Adaptive Management
2. Use the NEPA process to evaluate impacts on wetlands, which could result from new construction or other activities, and assist with coordination between proponent and USACE.	Planning

Actions for wetlands management	Action Type
3. Continue to minimize training impacts on wetlands with recommendations such as dismounted training only or driving on established crossings and roads, or avoiding steep slope traverses that affect safety and erosion.	Adaptive Management
4. Submit quarterly Regional General Permit (RGP) reports, and review/ update the RGP on a 5-year basis.	Coordination
5. Maintain/update database of Waters of the US delineations with the USACE.	Coordination
6. Requirement for SOPs to include spill containment measures when setting up temporary refueling points and that drip pans are required under stationary vehicles.	Adaptive Management

### Recurring actions for conservation law enforcement

Actions for conservation law enforcement	Action Type
1. Ensure military and civilian personnel and activities are in compliance with natural, cultural and environmental laws and regulations on Fort Carson and the PCMS.	Administrative
2. Coordinate enforcement activities with other stakeholder agencies and organizations.	Coordination
3. Assist in providing education and awareness classes to various groups that use Fort Carson and the PCMS, including online classes.	Outreach

### Recurring actions for fish and wildlife management

Actions for fish and wildlife management	Action Type
1. Integrate installation management practices, e.g., prescribed fire, revegetation, pest/invasive species management, and stormwater management, to enhance and protect biological diversity.	Adaptive Management
2. Continue to review projects and installation activities to identify and mitigate effects on biological communities.	Planning
3. Continue cooperative management of big game populations with CPW. Any aerial flights in the future on the installations should seek out Army aircraft as a possible fiscal savings to DPW.	Coordination
4. Continue baseline bat surveys on PCMS and Fort Carson.	Monitoring
5. Conduct amphibian planning level surveys.	Monitoring

Actions for fish and wildlife management	Action Type
6. Conduct planning level surveys of small mammals in a variety of habitats, including wetland and ponderosa pine vegetation communities, and in sites within MSO winter habitat.	Monitoring
7. Continue developing and maintaining water resources for mitigating movements of big game species related to effects of military training.	Adaptive Management
8. Continue CWD surveillance and require mandatory testing of harvested deer on Fort Carson. Mandatory elk harvesting on Fort Carson, as decided annually by CPW and Fort Carson. Based on annual rates of CWD prevalence, determine appropriate harvest rates with CPW.	Coordination
9. On Fort Carson, continue monitoring native fish populations.	Monitoring
10. Continue to conduct avian monitoring including annual point-count surveys (Fort Carson), acoustic monitoring (PCMS), and summer and winter raptor surveys.	Monitoring
11. Identify, burn, and monitor areas to improve forage for big game species. Due to the importance to pronghorn in winter, cholla grasslands will be excluded or burned in a mosaic pattern to preserve integrity of the resource.	Adaptive Management
12. Continue to meet with CPW annually to discuss all hunting and coordination objectives.	Coordination
13. Conduct annual reptile surveys on PCMS and Fort Carson, as allowed by access and staffing.	Monitoring
14. Complete five year (2012-2017) hunting season analysis of genetically determined susceptibility to CWD of deer harvested on FC. Base on final report, develop and apply management practices on the ground with CPW.	Coordination
15. Evaluate migration patterns of deer on Fort Carson and surrounding areas to meet deer and CWD objectives.	Studies
16. Participate in academic partnerships and regional and national working groups to increase technical knowledge and expertise needed to develop alternative management options facilitating both military training and conservation.	Coordination
17. Sustain sensitive small mammal and bird populations in woodland areas by preferentially leaving large trees with natural and bird created cavities and crevices	Adaptive Management

Actions for fish and wildlife management	Action Type
18. Create cover for sensitive species of reptiles, amphibians, and small mammals by leaving non- diseased, felled tree trunks in place during forestry operations. Logs are an important component of MSO habitat, and should be left in place following forestry operations in owl habitat.	Adaptive Management
19. Create slash brush piles at sites where this action will not increase intensity spread of wildland fire. This will increase habitat availability for a variety of small mammals and reptiles.	Adaptive Management

### Recurring actions for forest management

Actions for forest management	Action Type
1. Manage the forests and woodlands to improve forest health through thinning, individual tree selection and sanitation salvage thinning.	Adaptive Management
2. Restore ponderosa pine forests by thinning, removing ladder fuels, reducing crown connectivity, and then reintroducing low-intensity fires.	Adaptive Management
3. Reduce the number of trees per acre and remove understory fuel loads to minimize the risk of catastrophic wildfire and create zones of defensible space.	Adaptive Management
4. Continually survey forests for insect and disease damage, and add any data to the forestry Geographical Information System (GIS) layer.	Monitoring
5. Aggressively manage against forest insect and disease pests to prevent widespread tree mortality.	Adaptive Management
6. Ensure that a complete forest inventory is completed every ten years, and that the data is added to the forestry GIS layer.	Administrative
7. Restore native grassland habitats by reducing piñon-juniper encroachment into prairie habitats.	Adaptive Management
8. Initiate reforestation efforts after human and natural disturbances, preferably using local seed sources.	Adaptive Management
9. Identify and remove hazard trees annually using the USFS Hazard Tree Rating system.	Adaptive Management
10. Continue to submit proposals to the USFS and AEC for insect and disease management projects.	Administrative
11. Work cooperatively with other Directorates and external agencies such as USFS and Colorado State University on forest management issues.	Coordination

Actions for forest management	Action Type
12. Develop programs that generate income from the sale of forest products (such as firewood, woodchips, dimensional lumber, and fence posts), and that support standard forest management practices.	Administrative
13. Investigate potential forest product markets, including firewood, fence posts, woodchips, dimensional lumber, biomass for biofuel, and innovative use of forest and woodland tree species.	Studies

### Recurring actions for migratory bird management

Actions for migratory bird management	Action Type
1. Continue to review projects and installation activities to identify and mitigate conflicts with the MBTA and BGEPA.	Planning
2. Conduct compliance-monitoring surveys at project sites and coordinate required mitigation with action proponents and/or law enforcement.	Monitoring
3. Continue annual burrowing owl monitoring.	Monitoring
4. Continue annual grassland and piñon-juniper bird monitoring.	Monitoring
5. Continue annual mountain plover monitoring.	Monitoring
6. On both FC and PCMS, begin annual monitoring for eastern black rails.	Monitoring
7. Deploy wildlife escape ladders in open water tanks developed for wildlife to prevent drowning of small mammals (including bats) that fall into the tanks.	Adaptive Management
8. Continue managing artificial cavity nests throughout the installation as mitigation for tree loss due to fire, forestry practices, and training.	Adaptive Management
9. On PCMS, continue annual nightjar monitoring	Monitoring
10. On PCMS, continue surveying for raptors nests and monitoring nest success rates.	Monitoring
11. Map grasslands important to nesting birds with declining populations for input into the development of annual prescribed fire plans.	Monitoring
12. Continue migratory bird outreach and education through personal contacts, Environmental Protection Officer training, and through media available on Fort Carson.	Outreach

Actions for migratory bird management	Action Type
13. Mitigate loss of owl nest sites using artificial structures. On PCMS, improve shelterbelts to replace loss of owl nesting and wintering habitat due to extensive fires. Coordinate with the DPW forester.	Adaptive Management
14. On PCMS, mitigate loss of raptor and Chihuahuan raven nest sites by installing and maintaining artificial structures.	Adaptive Management
15. Continue DOD Partners in Flight membership and support.	Coordination
16. Leave standing snags at a rate of 1-4 snags per acre, during forest management or post fire management for bats, small mammals, and cavity nesting birds.	Adaptive Management
17. Assess the extent of hawk, eagle, and owl electrocutions to include identification of known sites of electrocutions of birds, identification of pole configurations and landscape features influencing pole selection, and estimating level of pole use by raptors. On Fort Carson, post-assessment recommendations to retrofit problematic utility poles will be provided to DPW operations. On PCMS post-assessment recommendations to retrofit problematic utility poles will be provided to the local electrical companies (e.g. San Isabel).	Studies
18. Pistillate-flowered oneseed and Rocky Mountain junipers will be retained during woodland thinning operations to sustain birds wintering in piñon-juniper woodlands.	Adaptive Management
19. Piñon pine will be retained over juniper, and old growth juniper will be retained over younger trees during woodland thinning operations.	Adaptive Management
20. Continue investigating effects of off-road vehicle use on ground nesting birds.	Studies

### Recurring actions for the invasive species management

Actions for invasive species management	Action Type
1. Continue to implement the Integrated Pest Management Plan and update the plan on a 5-year cycle.	Planning
2. Treat selected invasive species using an integrated approach (biological, chemical, cultural, physical or mechanical, and prescribed burning).	Adaptive Management

Actions for invasive species management	Action Type
3. Continue to work with Colorado Department of Agriculture, Colorado State University, and U.S. Department of Agriculture-APHIS to release, redistribute, and monitor biological control agents for noxious weed control.	Coordination
4. Document the size and abundance of new and existing invasive species populations. Report occurrences of new species to county and state officials.	Coordination
5. Actively participate with state, county, local and other federal agencies in the management of invasive species.	Coordination
6. Monitor treated invasive plant populations to document the results and to assess for further actions.	Monitoring
7. Rehabilitate areas treated for invasive species control, where necessary.	Adaptive Management
8. Identify and implement measures in the prevention of new infestations.	Adaptive Management
9. Continue to be involved in education and outreach efforts.	Outreach
10. Continue to work with Fort Carson CLEOs to regulate and educate on the prevention of aquatic nuisance species (ANS), for example, not allowing weed contaminated boats on our ponds; requiring all anglers to remove all plant matter from gear prior to coming in contact with ponds and streams; mandating that anglers do not dump bait buckets or live well water into any installation waterbody; and, providing signage and boat ramp monitors during high use seasons.	Coordination

### Recurring actions for pest management

Actions for pest management	Action Type
1. Maintain and implement the IPMP on a five-year cycle, including an update in 2020.	Planning
2. Emphasize integrated pest management techniques to minimize the use of pesticides.	Adaptive Management
3. Ensure pesticide applicators are fully certified.	Training
4. Control those plant and wildlife species that affect human health, quality of life, natural resources management (e.g. reduce ecosystem functionality, displace native species) or the military mission.	Adaptive Management

<b>Actions for pest management</b>	<b>Action Type</b>
5. Coordinate with the Fort Carson Wildlife Office, and as needed with external partners such as USFWS and CPW, for the protection of wildlife (particularly listed or sensitive species) during pesticide operations.	Coordination
6. Use chemical control as a last resort to control pests; cultural, mechanical, and biological control methods are first priority. When chemical control is required, use the least environmentally toxic pesticide. Utilize new technology, educational opportunities, and the judicious and professional use of chemicals to reduce chemical pesticide use.	Adaptive Management
7. Conduct preventive maintenance and surveillance inspections for pests.	Monitoring
8. Ensure pest management personnel receive adequate formal, as well as on-the-job, training to achieve required pest management certification and to operate at the most efficient level.	Training
9. Procure, maintain, and properly store adequate supplies of pesticides and pesticide dispersal equipment.	Administrative
10. Implement a safety program that provides for the safety and well-being of all pest management personnel.	Training
11. Work with other installations in the region to include the Fort Carson pest management program within the Front Range Ecoregional Management Team.	Coordination
12. Participate in Directorate and Garrison level working groups to ensure pest management activities are represented and are in agreement with Fort Carson goals and objectives.	Coordination

### **Recurring actions for Geographic Information Systems (GIS) management**

<b>Actions for GIS management</b>	<b>Action Type</b>
1. Ensure that data meets published Army GIS standards.	Administrative
2. Provide maps and spatial analyses to support natural resources management, as well as other missions.	Administrative
3. Work cooperatively with all GIS users to share GIS data and products.	Administrative
4. Maintain up-to-date software and data.	Administrative

## Recurring actions for outdoor recreation

Actions for outdoor recreation	Action Type
1. Manage Sikes Act permit sales and iSportman Recreation Management Service by maintaining the iSportman website and hunter check-in kiosks at both FC and PCMS.	Outreach
2. Continue management of recreational fishing on Fort Carson, to include stocking fish, improving fish habitat, and managing irrigation water to maximize angling opportunities.	Adaptive Management
3. On Fort Carson, maintain public access areas (Bird Farm, Wildlife Demonstration Area, and fishing reservoirs).	Outreach
4. Continue annual meetings with CPW to share an annual comprehensive recreation report that includes permit sales, hunter check-in, and harvest data; and to discuss license numbers and other issues related to recreation.	Coordination
5. Continue consulting with the state and DPTMS to resolve hunter access restrictions during big game seasons.	Coordination
6. Continue to provide and assist with the free Colorado State Wounded Warrior hunting tags.	Coordination
7. Review and prioritize projects for habitat management, improvement, and restoration needs on FC and the PCMS for funding with permit proceeds per DoDI 4715.03.	Administrative

## Recurring actions for Wildlife Aircraft Strike Hazard (WASH)

Actions for Wildlife Aircraft Strike Hazard (WASH)	Action Type
1. On Fort Carson and PCMS, evaluate and manage WASH hazards, such as prairie dogs, at BAAF and downrange aircraft landing sites to reduce the probability of a strike.	Adaptive Management
2. Conduct pre-treatment surveys for burrowing owl prior to lethal control of prairie dogs.	Monitoring
3. Consult with the USFWS regarding migratory bird depredation permits and eagles as related to airfield operations.	Coordination
4. Maintain grass heights at the airfield between 6” and 12” to reduce the attractiveness of the airfield to wildlife.	Adaptive Management
5. Participate in the BAAF WASH Working Group.	Coordination
6. Continue participation in the National Military Fish and Wildlife Association WASH working group.	Coordination

<b>Actions for Wildlife Aircraft Strike Hazard (WASH)</b>	<b>Action Type</b>
7. Conduct small mammal trapping to determine if population densities are likely to increase the number of raptors hunting at or near the airfield. Increased seasonal raptor activity would be filed as a Notice to Airmen (NOTAM) for pilot briefings.	Studies
8. Continue to perform quarterly inspection of boundary fence for evidence of mammal encroachment and identify sites for repair.	Monitoring
9. Consult with CPW regarding big game issues related to airfield operations.	Coordination

### **Recurring actions for wildland fire management**

<b>Actions for the wildland fire management</b>	<b>Action Type</b>
1. Request annual funding to replace PPE, to maintain/replace equipment, and for annual training.	Administrative
2. Assist fire department personnel in suppressing wildfires.	Training
3. Annually assist Fort Carson Fire and Emergency Services in preparing and implementing the Prescribed Fire Burn Plan covering both Fort Carson and the PCMS.	Coordination
4. Ensure Prescribed Fire Smoke Plan and Burn Permits are in compliance with the INRMP, Land Use Plans, Army Wildland Policy Guidance, and CDPHE requirements.	Administrative
5. Suppress wildfires in Mexican spotted owl (MSO) habitat. Prescribe burn a buffer zone between Booth Mountain and training ranges to keep military mission-related fires from entering MSO habitat.	Adaptive Management
6. Ensure wildlife and endangered species habitat enhancement and protection are considered during fire management activities.	Coordination
7. Use prescribed burning to support the Forestry and Invasive Species Management Programs.	Adaptive Management
8. Coordinate with cultural resource and natural resource personnel during wildfires and prior to conducting prescribed burns.	Coordination
9. Describe fire use benefits in education and outreach programs such as the Environmental Protection Officer (EPO) training, and Earth and Arbor Day Events for local schools.	Outreach
10. Maintain and improve approximately 72 miles of firebreaks on Fort Carson.	Adaptive Management

Actions for the wildland fire management	Action Type
11. On active firing ranges create a minimum of a 100-foot strip of burn along all perimeters where feasible, which will be sufficient to contain any unintentional starts and assist in maintaining planned training schedules.	Adaptive Management
12. Implement other fuel reduction techniques beyond prescribed fire (as appropriate), to include mastication, limbing, forest thinning, mowing, and herbicides, in coordination with the installation forester.	Adaptive Management
13. Assist the ITAM program in maintaining Range and Training Land Assessment (RTLTA) Land Management Objectives, and utilize RTLTA data in monitoring the effects of prescribed fires on the landscape.	Coordination

**Recurring actions for training of personnel**

Actions for training of personnel	Action Type
1. For government employees, include in their Individual Development Plans refresher training needed to fulfill job requirements (e.g., enforcement, GIS, NEPA, endangered species documentation/consultation, firefighter, pesticide application) and ensure that they are trained.	Training
2. Provide funding for personnel to attend annual workshops or professional conferences.	Administrative
3. Encourage personnel to join and be active in professional societies and cooperative groups.	Training

**Recurring action for floodplains management**

Action for floodplain management	Action Type
1. Review, via the NEPA process, all projects proposed for the Fort Carson main post area for impacts to floodplains and risks to life and property; propose mitigation measures for any such risks.	Planning

## Recurring action for mineral resources

Action for mineral resources	Action Type
1. Continue working with Congress to withdraw certain lands within Fort Carson and the PCMS from public availability for mining.	Administrative

## Recurring actions for urban forest management

Actions for urban forest management	Action Type
1. Prevent damage or loss of valuable resources from insects, disease, wind, construction, and/or neglect.	Adaptive Management
2. Provide technical advice to the grounds maintenance contractor to ensure all turfgrass and landscaped areas are properly maintained.	Coordination
3. Provide guidance on how to select, plant and maintain trees and shrubs on Fort Carson main post and the PCMS cantonment area to enhance aesthetics and provide benefits, such as visual barriers, windbreaks, decreased heating costs, reduced soil erosion, and safety enhancements.	Coordination
4. Provide guidance on proper pruning of shrubs and trees and remove dead plants as an essential objective for the long-term health of trees and shrubs on the installation and to ensure the safety of people and structures.	Coordination
5. Annually participate in Arbor Day celebrations and meet standards established by the National Arbor Day Foundation to achieve recognition as a 'Tree City USA'.	Outreach
6. Work with contractors and other directorates to include improved urban forestry requirements in solicitations for new contracts.	Coordination
7. Provide ongoing support in the implementation of the Xeriscape Master Plan.	Planning
8. Encourage implementation of practices listed in the 1994 White House Memorandum on federal landscaped grounds.	Administrative
9. Complete and maintain an Urban Forest Management Plan for Fort Carson by December of 2020.	Planning

## Recurring actions for water rights management

Actions for water rights management	Action Type
1. Monitor stream flow diversions.	Monitoring
2. Repair and maintain all water right infrastructures, including ditches, reservoirs, and wells.	Adaptive Management
3. Utilize water per decrees.	Administrative
4. Send monthly water use reports to the State District Water Commissioner.	Administrative
5. Send USGS quarterly gauge reports to the State.	Administrative
6. Send monthly well reports to Colorado Water Protective Development Association (CWPDA).	Administrative
7. Maintain approximately 35 wells at the PCMS.	Adaptive Management

## Recurring actions for Integrated Training Area Management (ITAM)

Actions for Integrated Training Area Management	Action Type
1. Provide training to military units and civilians to understand safety hazards, as well as, cultural and environmental resource issues.	Training
2. Develop and implement safety, maneuver access project, and provide erosion control measures and structures to mitigate maneuver impacts within the training areas.	Adaptive Management
3. Monitor and assess maneuver impacts on the condition of soils, vegetation, and watersheds.	Monitoring
4. Develop and provide map products, as well as, provide documentation and information for the Range Operations Sustainable Range Program and military customers.	Outreach
5. Update and maintain databases on downrange training facilities, structures, and resources.	Administrative

## Recurring actions for bald and golden eagle management

Actions for bald and golden eagle management	Action Type
1. Continue to review project proposals for potential conflicts with the BGEPA and identify permits, documents, collaboration, and recommend mitigation to avoid violations. Consultation with USFWS law enforcement and permit office may be required to ensure actions are adequately mitigated.	Planning
2. Continue to conduct compliance-monitoring surveys at project sites and coordinate required mitigation with action proponents and/or law enforcement.	Monitoring
3. Continue to conduct annual eagle eyrie surveys. Identify and map active eyries and provide locations to Range Control and Butts Army Airfield for protecting occupied sites. Active eyries will be protected with a buffer zone from January through the fledging season, generally in July.	Monitoring
4. Continue assessment of risk of electrocution of hawks, eagles, and owls to include identification and mitigation of high-risk poles.	Studies

**EA APPENDIX B: CHANGES BETWEEN NO ACTION AND PROPOSED ACTION ALTERNATIVES**

The 2020 – 2025 INRMP incorporates the changes suggested by the annual review of the 2013-2017 INRMP. These include additions to the recurring actions.

Program Element	Changes to Re-occurring Action
Species of Conservation Concern	On Fort Carson, maintain bat gates to prevent disturbance and the spread of white-nose syndrome (WNS) from anthropogenic sources, to include annual inspections and monitoring. Monitor other bat roosting sites for disturbance and presence of WNS. Because several bat species on Fort Carson are susceptible to WNS, proactive monitoring and management will make future restrictions less likely if any of the species are listed.
Migratory Bird Management	Continue annual grassland and piñon-juniper bird monitoring.
Wildland Fire Management	Ensure Prescribed Fire Burn Plan and Smoke Permits are in compliance with the INRMP, Land Use Plans, Army Wildlife Policy Guidance and CDPHE requirements.
Wildland Fire Management	Assist ITAM Program in maintaining Range and Training Land Assessment (RTLA) Land Management Objectives, and utilize RTLA data in monitoring the effects of prescribed fires on the landscape.

New Re-occurring Actions were added to the 2020-2025 INRMP.

Program Element	Re-occurring Action Added
Species of Conservation Concern	Conduct baseline inventory of arthropod populations, with a focus on subphylum Hexapoda. This will allow Fort Carson staff to determine the presence and distribution of sensitive arthropod

Program Element	Re-occurring Action Added
	species, including those that are being considered for federal listing.
Species of Conservation Concern	Conduct baseline inventory of amphibian populations. This will allow staff to determine the presence and distribution of sensitive amphibian species. A more complete species list will also allow wildlife staff to rapidly respond to potential future ESA listings.
Species of Conservation Concern	Continue monitoring population trends and investigating the effect of training on Colorado checkered whiptail populations as funding and staffing allow.
Species of Conservation Concern	On PCMS, support nesting raptors by installing/maintaining raptor nesting platforms. Support cavity nesting birds by installing / maintaining nest boxes.
Species of Conservation Concern	Annually survey for and maintain inventory of raptor nests. This allows wildlife staff to respond more rapidly to projects that involve removal of trees.
Wetlands Management	Continue to minimize training impacts on wetlands with recommendations such as dismounted training only or driving on established crossings and roads, or avoiding steep slope traverses that affect safety and erosion.
Wetlands Management	Requirement for SOPs to include spill containment measures when setting up temporary refueling points and that drip pans are required under stationary vehicles.
Fish and Wildlife Management	Complete five year (2012-2017) hunting season analysis of genetically determined susceptibility to CWD of deer harvested on FC. Base of final report, develop and apply management practices on the ground with CPW.

Program Element	Re-occurring Action Added
Fish and Wildlife Management	Evaluate migration patterns of deer on Fort Carson and surrounding areas to meet deer and CWD objectives.
Forestry Management	Ensure that a complete forest inventory is completed every ten years, and that the data is added to the forestry GIS layer.
Migratory Bird Management	On both FC and PCMS, begin annual monitoring for eastern black rails.
Migratory Bird Management	On PCMS, continue annual nightjar monitoring.
Migratory Bird Management	On PCMS, continue surveying for raptors nests and monitoring nest success rates.
Invasive Species Management	Continue to work with Fort Carson CLEOs to regulate and educate on the prevention of aquatic nuisance species (ANS), for example, not allowing weed contaminated boats on our ponds; requiring all anglers to remove all plant matter from gear prior to coming in contact with ponds and streams; mandating that anglers do not dump bait buckets or live well water into any installation waterbody; and, providing signage and boat ramp monitors during high use seasons.
Pest Management	Participate in Directorate and Garrison level working groups to ensure pest management activities are represented and are in agreement with Fort Carson goals and objectives.
GIS Management	Ensure that data meets published Army GIS standards.
Outdoor Recreation	Manage Sikes Act permit sales and iSportman Recreation Management Service by maintaining the iSportman

Program Element	Re-occurring Action Added
	website and hunter check-in kiosks at both FC and PCMS.
Outdoor Recreation	Continue to provide and assist with the free Colorado State Wounded Warrior hunting tags
Outdoor Recreation	Review and prioritize projects for habitat management, improvement, and restoration needs on FC and the PCMS for funding with permit proceeds per DoDI 4715.03
Wildlife Aircraft Strike Hazard (WASH)	Maintain grass heights at the airfield between 6” and 12” to reduce the attractiveness of the airfield to wildlife.
Wildland Fire Management	Implement other fuel reduction techniques beyond prescribed fire (as appropriate), to include mastication, thinning, limbing, mowing, and herbicides, in coordination with the installation forester.
Floodplain Management	Review, via the NEPA process, all projects proposed for the Fort Carson main post area for impacts to floodplains and risks to life and property; propose mitigation measures for any such risks
Urban Forest Management	Complete and maintain an Urban Forest Management Plan for Fort Carson by December of 2020.
Water Rights Management	Monitor stream flow diversions.
Water Rights Management	Repair and maintain water right infrastructures, including ditches, reservoirs, and wells.
Water Rights Management	Utilize water per decrees.
Water Rights Management	Send monthly water use reports to the State District Water Commissioner.

<b>Program Element</b>	<b>Re-occurring Action Added</b>
Water Rights Management	Maintain approximately 35 wells at the PCMS.
Integrated Training Area Management	Provide training to military units and civilians to understand safety hazards, as well as, cultural and environmental resource issues.
Integrated Training Area Management	Develop and implement safety, maneuver access project, and provide erosion control measures and structures to mitigate maneuver impacts within the training areas.
Integrated Training Area Management	Monitor and assess maneuver impacts on the condition of soils, vegetation, and watersheds.
Integrated Training Area Management	Develop and provide map products, as well as, provide documentation and information for the Range Operations Sustainable Range Program and military customers.
Integrated Training Area Management	Actions for Integrated Training Area Management
Integrated Training Area Management	Update and maintain databases on downrange training facilities, structures, and resources.

Re-occurring Actions Removed from 2020 – 2025 INRMP

<b>Program Element</b>	<b>Re-occurring Action Removed</b>
Species of Conservation Concern	Continue inventory of northern leopard frog populations on Fort Carson.
Fish and Wildlife Management	Operate a hunter check station to facilitate CWD specimen collection, aging harvested deer, collecting location data for deer testing positive for CWD, and tracking recreational use of Fort Carson training lands.

<b>Program Element</b>	<b>Re-occurring Action Removed</b>
Fish and Wildlife Management	Organize and operate a Fort Carson hunting and fishing working group to facilitate communication among sportsmen for improving hunting and fishing opportunities for Soldiers.
Fish and Wildlife Management	Develop monitoring program for northern leopard frogs on Fort Carson.
Invasive Species Management	Continue to monitor the original population of myrtle spurge at Fort Carson annually through calendar year 2016
Invasive Species Management	Continue to monitor the original population of African rue at PCMS annually through calendar year 2014
Outdoor Recreation	Develop warm-water sport fishing on Fort Carson.
Outdoor Recreation	Fully implement and maintain an automated, web based recreational control system.
Floodplain Management	Complete legal requirements in the stormwater management plan.
Integrated Training Area Management	Reseeding and erosion control downrange;
Integrated Training Area Management	Know and understand the changing training requirements of military units;
Integrated Training Area Management	Vegetation monitoring;
Integrated Training Area Management	Prepare maps and provide decision support;
Integrated Training Area Management	Educate military and civilian personnel.

The re-occurring actions in the INRMP are listed in order of priority. The actions are implemented beginning with the first action (action number 1) working down the list as funding and manpower are available. Order of Priority was changed on reoccurring actions in the 2020-2025 INRMP.

<b>Program Element</b>	<b>Reoccurring Action</b>	<b>Order of Priority in 2013-2017 INRMP</b>	<b>Order of Priority in 2020-2025 INRMP</b>
Species of Conservation Concern	Continue annual monitoring of prairie dog colonies for the presence of burrowing owls and mountain plovers.	1	2
Species of Conservation Concern	Continue evaluation, at three-year intervals, of Mexican spotted owl (MSO) roost tree buffer zones for compliance with access restrictions specified in the MSO Management Plan (2016).	2	3
Species of Conservation Concern	Continue to inventory Army SAR populations and evaluate persistence and relationship to training annually, as scheduled around training.	6	4
Species of Conservation Concern	On Fort Carson, maintain bat gates to prevent disturbance and the spread of white-nose syndrome from anthropogenic sources, to include annual inspections and monitoring. Monitor other bat roosting sites for disturbance and presence of white-nose syndrome. Because several bat species on Fort Carson are susceptible to white-nose syndrome, proactive monitoring and management will make future restrictions less likely if any of the species are listed.	10	8
Species of Conservation Concern	Continue mapping distribution of species of conservation concern, annually as encountered.	8	12

<b>Program Element</b>	<b>Reoccurring Action</b>	<b>Order of Priority in 2013-2017 INRMP</b>	<b>Order of Priority in 2020-2025 INRMP</b>
Species of Conservation Concern	Continue pesticide dusting and exploring other alternatives to prevent plague in prairie dog colonies important to nesting and wintering eagles, ferruginous hawks, and nesting burrowing owls.	3	13
Species of Conservation Concern	On Fort Carson, continue to assist (by providing fish) the USFWS and CPW with translocating Arkansas darter and southern redbelly dace to additional sites to improve population stability. Identify potential additional sites for reintroductions on Fort Carson, pending IMCOM approval and conservation assurances from CPW and USFWS. By creating more stable populations of species at risk, the chance of federal listing (and thus the risk of future training restrictions) is reduced.	7	14
Species of Conservation Concern	Create cover for sensitive species of reptiles, amphibians, and small mammals by leaving non-diseased, felled tree trunks in place during forestry operations. On Fort Carson, logs are an important component of MSO habitat and should be left in place following forestry operations in owl habitat.	11	16

<b>Program Element</b>	<b>Reoccurring Action</b>	<b>Order of Priority in 2013-2017 INRMP</b>	<b>Order of Priority in 2020-2025 INRMP</b>
Species of Conservation Concern	Create slash brush piles at sites where not increasing risk of spread of wildland fire to increase habitat availability for small mammals and reptiles.	12	17
Fish and Wildlife Management	Integrate installation management practices, e.g., prescribed fire, revegetation, pest/invasive species management, and storm water management, to enhance and protect biological diversity.	10	1
Fish and Wildlife Management	Continue to review projects and installation activities to identify and mitigate effects on biological communities.	17	2
Fish and Wildlife Management	Continue cooperative management of big game populations with CPW. Any aerial flights in the future on the installations should seek out Army aircraft as a possible fiscal savings to DPW.	4	3
Fish and Wildlife Management	Continue baseline bat surveys on PCMS and Fort Carson.	5	4
Fish and Wildlife Management	Conduct amphibian planning level surveys.	7	5
Fish and Wildlife Management	Conduct planning level surveys of small mammals in a variety of habitats, including wetland and ponderosa pine vegetation communities, and in sites within MSO winter habitat.	15	6

Program Element	Reoccurring Action	Order of Priority in 2013-2017 INRMP	Order of Priority in 2020-2025 INRMP
Fish and Wildlife Management	Continue CWD surveillance and require mandatory testing of harvested deer on Fort Carson. Mandatory elk harvesting on Fort Carson, as decided annually by CPW and Fort Carson. Based on annual rates of CWD prevalence, determine appropriate harvest rates with CPW.	2	8
Fish and Wildlife Management	On Fort Carson, continue monitoring native fish populations.	11	9
Fish and Wildlife Management	Identify, burn, and monitor areas to improve forage for big game species. Due to the importance to pronghorn in winter, cholla grasslands will be excluded or burned in a mosaic pattern to preserve integrity of the resource.	8	11
Fish and Wildlife Management	Continue to meet with CPW annually to discuss all hunting and coordination objectives.	1	12
Fish and Wildlife Management	Conduct annual reptile surveys on PCMS and Fort Carson, as allowed by access and staffing.	14	13
Fish and Wildlife Management	Participate in academic partnerships and regional and national working groups to increase technical knowledge and expertise needed to develop alternative management options facilitating both military training and conservation.	6	16

<b>Program Element</b>	<b>Reoccurring Action</b>	<b>Order of Priority in 2013-2017 INRMP</b>	<b>Order of Priority in 2020-2025 INRMP</b>
Fish and Wildlife Management	Sustain sensitive small mammal and bird populations in woodland areas by preferentially leaving large trees with natural and bird created cavities and crevices.	18	17
Fish and Wildlife Management	Create cover for sensitive species of reptiles, amphibians, and small mammals by leaving non-diseased, felled tree trunks in place during forestry operations. Logs are an important component of MSO habitat, and should be left in place following forestry operations in owl habitat.	16	18
Forest Management	Reduce the number of trees per acre and remove understory fuel loads to minimize the risk of catastrophic wildfire and create zones of defensible space.	4	3
Forest Management	Continually survey forests for insect and disease damage, and add the date to the forestry Geographical Information System (GIS) layer.	5	4
Forest Management	Aggressively manage against forest insect and disease pests to prevent widespread tree mortality.	3	5
Migratory Bird Management	Continue to review projects and installation activities to identify and mitigate conflicts with the MBTA and BGEPA.	4	1

<b>Program Element</b>	<b>Reoccurring Action</b>	<b>Order of Priority in 2013-2017 INRMP</b>	<b>Order of Priority in 2020-2025 INRMP</b>
Migratory Bird Management	Conduct compliance- monitoring surveys at project sites and coordinate required mitigation with action proponents and/or law enforcement.	5	2
Migratory Bird Management	Continue annual burrowing owl monitoring.	1	3
Migratory Bird Management	Continue annual mountain plover monitoring.	3	5
Migratory Bird Management	Deploy wildlife escape ladders in open water tanks developed for wildlife to prevent drowning of small mammals (including bats) that fall into the tanks.	16	7
Migratory Bird Management	Continue managing artificial cavity nests throughout the installation as mitigation for tree loss due to fire, forestry practices, and training.	13	8
Migratory Bird Management	Map grasslands and woodlands important to nesting birds with declining populations for input into the development of annual prescribed fire plans.	8	11
Migratory Bird Management	Continue migratory bird outreach and education through personal contacts, Environmental Protection Officer training, and through media available on Fort Carson.	9	12

<b>Program Element</b>	<b>Reoccurring Action</b>	<b>Order of Priority in 2013-2017 INRMP</b>	<b>Order of Priority in 2020-2025 INRMP</b>
Migratory Bird Management	Mitigate loss of owl nest sites using artificial structures. On PCMS, plant and improve shelterbelts to replace loss of owl nesting and wintering habitat due to extensive fires. Coordinate with the DPW forester.	14	13
Migratory Bird Management	Continue DOD Partners in Flight membership and support.	6	15
Migratory Bird Management	Leave standing snags at a rate of 1-4 snags per acre, during forest management or post fire management for bats, small mammals, and cavity nesting birds.	15	16
Migratory Bird Management	Pistillate-flowered oneseed and Rocky Mountain junipers will be retained during woodland thinning operations to sustain birds wintering in piñon-juniper woodlands.	11	18
Migratory Bird Management	Piñon pine will be retained over juniper, and old growth juniper will be retained over younger trees during woodland thinning operations.	12	19
Migratory Bird Management	Continue investigating effects of off-road vehicle use on ground nesting birds.	17	20

<b>Program Element</b>	<b>Reoccurring Action</b>	<b>Order of Priority in 2013-2017 INRMP</b>	<b>Order of Priority in 2020-2025 INRMP</b>
Invasive Species Management	Continue to work with Colorado Department of Agriculture, Colorado State University, and U.S. Department of Agriculture-APHIS to release, redistribute, and monitor biological control agents for noxious weed control.	10	3
Invasive Species Management	Document the size and abundance of new and existing invasive species populations. Report occurrences of new species to county and state officials	6	4
Invasive Species Management	Actively participate with state, county, local and other federal agencies in the management of invasive species.	4	5
Invasive Species Management	Monitor treated invasive plant populations to document the results and to assess for further actions.	7	6
Invasive Species Management	Rehabilitate areas treated for invasive species control, where necessary.	8	7
Invasive Species Management	Identify and implement measures in the prevention of new infestations.	9	8
Invasive Species Management	Continue to be involved in education and outreach efforts.	11	9
Pest Management	Maintain and implement the IPMP on a five-year cycle, including an update in 2020.	2	1

<b>Program Element</b>	<b>Reoccurring Action</b>	<b>Order of Priority in 2013-2017 INRMP</b>	<b>Order of Priority in 2020-2025 INRMP</b>
Pest Management	Emphasize integrated pest management techniques to minimize the use of pesticides	3	2
Pest Management	Ensure pesticide applicators are fully certified	5	3
Pest Management	Control those plant and animal species that affect human health, quality of life, natural resources management (e.g. reduce ecosystem functionality, displace native species) or the military mission.	1	4
Pest Management	Coordinate with the Fort Carson Wildlife Office, and as needed with external partners such as USFWS and CPW, for the protection of wildlife (particularly listed or sensitive species) during pesticide operations.	10	5
Pest Management	Use chemical control as a last resort to control pests; cultural, mechanical, and biological control methods are first priority. When chemical control is required, use the least environmentally toxic pesticide. Utilize new technology, educational opportunities, and the judicious and professional use of chemicals to reduce chemical pesticide use.	4	6
Pest Management	Conduct preventive maintenance and surveillance inspections for pests.	6	7

<b>Program Element</b>	<b>Reoccurring Action</b>	<b>Order of Priority in 2013-2017 INRMP</b>	<b>Order of Priority in 2020-2025 INRMP</b>
Pest Management	Ensure pest management personnel receive adequate formal, as well as on-the-job, training to achieve required pest management certification and to operate at the most efficient level	7	8
Pest Management	Procure, maintain, and properly store adequate supplies of pesticides and pesticide dispersal equipment.	8	9
Pest Management	Implement a safety program that provides for the safety and well-being of all pest management personnel.	9	10
GIS Management	Provide maps and spatial analyses to support natural resources management, as well as other missions	1	2
GIS Management	Work cooperatively with all GIS users to share GIS data and products	2	3
GIS Management	Maintain up-to-date software and data	3	4
Outdoor Recreation	Continue management of recreational fishing on Fort Carson, to include stocking fish, improving fish habitat, and managing irrigation water to maximize angling opportunities.	1	2
Outdoor Recreation	On Fort Carson, maintain public access areas (Bird Farm, Wildlife Demonstration Area, and fishing reservoirs).	2	3

Program Element	Reoccurring Action	Order of Priority in 2013-2017 INRMP	Order of Priority in 2020-2025 INRMP
Outdoor Recreation	Continue annual meetings with CPW to share an annual comprehensive recreation report that includes permit sales, hunter check-in, satisfaction, and harvest data; and to discuss license numbers and other issues related to recreation.	3	4
Outdoor Recreation	Continue consulting with the state and DPTMS to resolve hunter access restrictions during big game seasons.	3	5
Wildlife Aircraft Strike Hazard (WASH)	On Fort Carson and PCMS, evaluate and manage WASH hazards, such as prairie dogs, at BAAF and downrange aircraft landing sites to reduce the probability of a strike.	5	1
Wildlife Aircraft Strike Hazard (WASH)	Conduct pre-treatment surveys for burrowing owl prior to lethal control of prairie dogs.	1	2
Wildlife Aircraft Strike Hazard (WASH)	Consult with the USFWS regarding migratory bird depredation permits and eagles as related to airfield operations.	2	3
Wildlife Aircraft Strike Hazard (WASH)	Participate in the BAAF WASH Working Group.	3	5
Wildlife Aircraft Strike Hazard (WASH)	Continue participation in the National Military Fish and Wildlife Association WASH working group.	4	6

<b>Program Element</b>	<b>Reoccurring Action</b>	<b>Order of Priority in 2013-2017 INRMP</b>	<b>Order of Priority in 2020-2025 INRMP</b>
Wildlife Aircraft Strike Hazard (WASH)	Conduct small mammal trapping to determine if population densities are likely to increase the number of raptors hunting at or near the airfield. Increased seasonal raptor activity would be filed as a Notice to Airmen (NOTAM) for pilot briefings.	6	7
Wildlife Aircraft Strike Hazard (WASH)	Continue to perform quarterly inspection of boundary fence for evidence of mammal encroachment and identify sites for repair.	7	8
Wildlife Aircraft Strike Hazard (WASH)	Consult with CPW regarding big game issues related to airfield operations.	8	9
Water Rights Management	Send USGS quarterly gauge reports to the State.	2	5
Water Rights Management	Send monthly well reports to Colorado Water Protective Development Association (CWPDA).	3	6
Water Rights Management	Maintain approximately 35 wells at the PCMS.	4	7
Integrated Training Area Management	Provide training to military units and civilians to understand safety hazards, as well as, cultural and environmental resource issues.	5	1

<b>Program Element</b>	<b>Reoccurring Action</b>	<b>Order of Priority in 2013-2017 INRMP</b>	<b>Order of Priority in 2020-2025 INRMP</b>
Integrated Training Area Management	Develop and implement safety, maneuver access project, and provide erosion control measures and structures to mitigate maneuver impacts within the training areas.	1	2