

Final Restoration Plan and Environmental Assessment

For

Restoring Injuries to Natural Resources

from

**the Eagle Picher Creta Copper Site in Jackson County,
Oklahoma**

**Trustee for
Natural Resources:**

Department of the Interior,
U.S. Fish and Wildlife Service

Legal Authority:

Federal Water Pollution Protection Act (Clean Water Act)
(as amended)

Comprehensive Environmental Response,
Compensation, and Liability Act of 1980 (as
amended)

Natural Resource Damage Assessment and
Restoration (43 C.F.R. Part 11)

**Responsible
Federal Agency:**

Department of the Interior, Region 6

Date:

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Chapter One: Introduction

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, more commonly known as the federal “Superfund” law) [42 U.S.C. § 9601, *et seq.*], the Federal Water Pollution Control Act (CWA, commonly known as the Clean Water Act) [33 U.S.C. § 1251, *et seq.*], and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) [40 C.F.R. Part 300] authorize States, federally-recognized Tribes, and federal agencies that have the authority to manage and control natural resources, to act as “trustees” on behalf of the public, and to restore, rehabilitate, replace, and/or acquire the equivalent to those natural resources harmed by the hazardous substance releases.

The United State Department of the Interior (DOI), represented by the U.S. Fish and Wildlife Service (Service), as a natural resource Trustee, settled with Eagle Picher Holdings in bankruptcy proceedings for injuries to migratory birds and their habitats from releases from the Creta Copper Site (Site), Jackson County, Oklahoma (US Bankruptcy Court 2012) (see Figure 1). The Trustee prepared this Restoration Plan/Environmental Assessment (RP/EA) to propose projects on the Deep Fork National Wildlife Refuge (Refuge) in Okmulgee County (see Figure 1) to improve similar habitat for migratory birds that were injured from the releases at the Site.

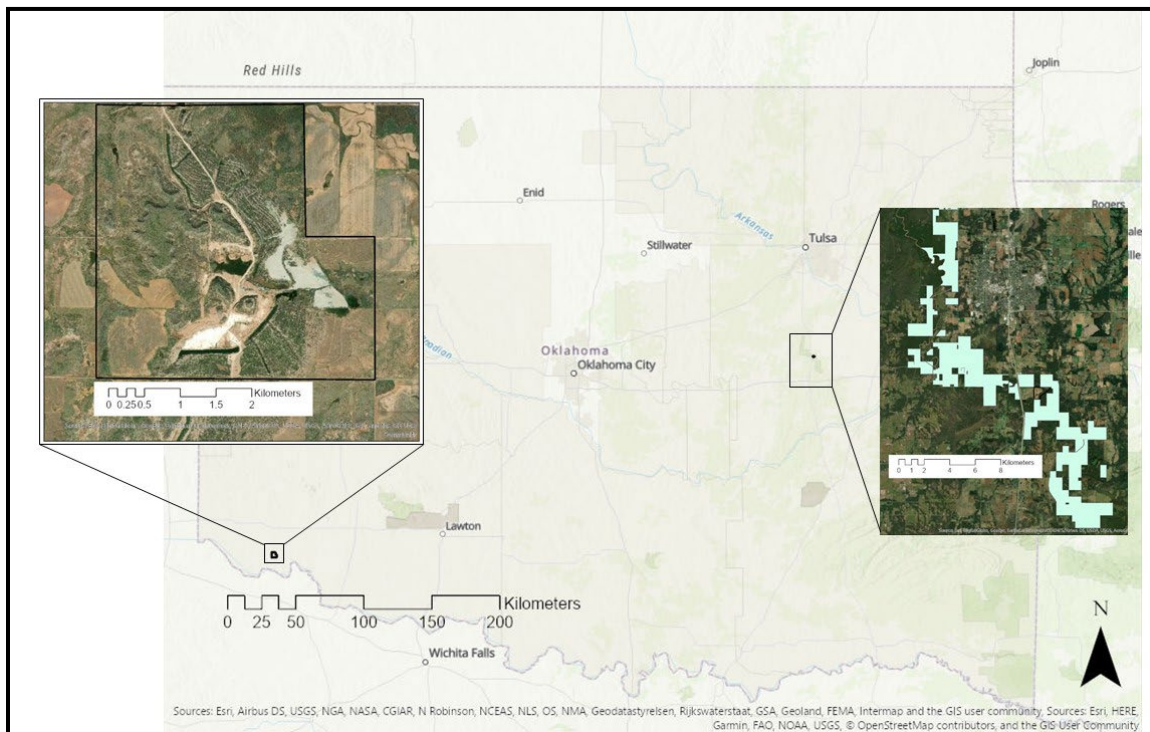


Figure 1. Creta Copper Site (left inset) and Deep Fork National Wildlife Refuge (right inset)

Actions undertaken by a federal trustee to restore natural resources or services under CERCLA are subject to the National Environmental Policy Act (NEPA) (42 U.S.C. § 4321 *et seq.*) and other federal laws including the Endangered Species Act, and the Clean Water Act. NEPA requires an assessment of any federal action that may impact the

human environment. Consistent with federal law, the Service evaluated the preferred alternative for compliance with other applicable laws and has issued a FONSI.

1.1 Purpose and Need

The purpose of the restoration alternatives is to promote expeditious and cost-effective restoration for natural resources injuries and lost resource services resulting from hazardous substance releases to the environment from the Site. Restoration is necessary to compensate the public for the loss of natural resources and the services they provide.

This RP/EA is also intended to inform the public and solicit public comments on the proposed restoration activities. No comments were received during the public comment period.

1.2 Background

The Site, located in Jackson County, Oklahoma, is a 1,000-acre former copper mining and milling site that began operation in 1962 and continued until 1977. Eagle Picher had surface and mining leases with several private parties. Exploratory drilling at the Site starting in 1962 led to the establishment of a 1000 ton per day operation at Creta starting in 1962 and lasting till 1977. Overburden was removed with two large drag lines. Ore was crushed, milled and processed by flotation, which removed 85 percent of the copper, and pumped via slurry pipelines into three large impoundments. Approximately 1.5 million tons of ore was mined in this manner during this time span. The end of a highly unprofitable period in operation of the mine due to escalating costs and declining copper prices caused Eagle Picher to terminate operations. Facilities initially were left in place to facilitate possible reopening, but continued low prices and other factors resulted in a decision by Eagle Picher to terminate its lease option and abandon operations at the Site.

The 1,000-acre site includes barren areas, contaminated soil, and areas of stressed vegetation, which are believed to be associated with former mining and milling activities, especially in the area formerly occupied by the milling operations and the tailings ponds. There are three large tailings ponds and one small one; however, site reconnaissance by Oklahoma Department of Environmental Quality (ODEQ) revealed that there are no clear boundaries between the ponds. The depth of the tailing ponds is estimated to be an average of 10 feet. The network of mining trenches and ponds are filled with groundwater, which is very shallow in this region. These trenches are dug to the depth of the copper layer and therefore, the groundwater filling the trenches may be contaminated with metals. Wastes associated with this type of facility include metals, acid, and sulfates (ODEQ 2001and 2002).

Chapter Two: Natural Resources and Services Affected by the Release

This section of the RP/EA addresses the natural resources affected by releases as a basis for understanding the type of restoration projects required. The following chapters

identify restoration projects and identify how those projects will restore the affected natural resources and services.

The Service has trustee authority over migratory birds that use the Site pursuant to the Migratory Bird Treaty Act, 16 U.S.C. §§ 703-712. Migratory birds known to use the site for nesting and foraging include Bald eagles, great blue heron, wood duck, red-tailed hawk, wild turkey, belted kingfisher, purple martin and mourning dove. The Site is located in the Central Flyway; a flyway is a travel route used by migratory birds and insects. Birds tend to take predictable routes to get from winter-feeding grounds to their summer breeding grounds and back. Flyways usually occur along coastlines, major rivers and near mountains.

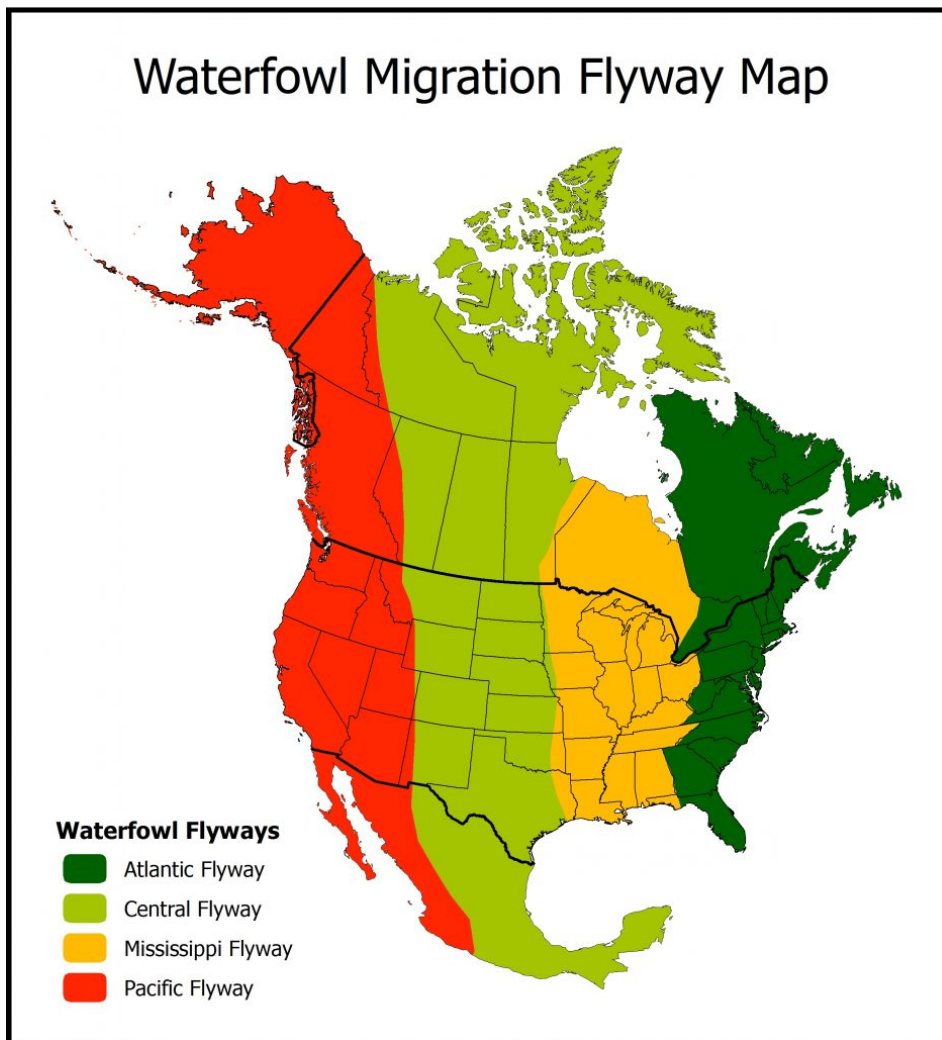


Figure 2. Waterfowl Flyways in North America

<https://www.refugeassociation.org/2017/05/migratory-bird-day-and-flyways/>

A list of the migratory birds that are found in the Central Flyway and potentially use the Site can be found at <https://www.fws.gov/migratorybirds/pdf/surveys-and-data/DataBooks/CentralFlywayDatabook.pdf>

Additionally, the Service has Trustee authority over endangered species pursuant to the Endangered Species Act, 16 U.S.C. §§ 1531-1544. Below is a list of all federally-listed species that occur in or near the Site:

Interior Least Tern (*Sterna antillarum*) favors islands or sandbars along rivers for nesting. The sand must be mostly clear of vegetation to be used by terns. Least terns prefer shallow water for fishing. Water levels must be low enough so the nests stay dry. Both parents feed the young and remain with them until fall migration. Terns will travel four or more miles from their breeding colonies to find the small fish that make up the major part of their diet.

Whooping Crane (*Grus americana*) inhabit marshes and prairie potholes in the summer. In winter, they are found in coastal marshes and prairies. They can live more than 20 years in the wild. Whopping cranes eat a variety of things, including insects, frogs, small birds, rodents, minnows and waste grains.

Chapter Three: Restoration Alternatives and CERCLA Evaluation

In accordance with the CERCLA NRDAR Regulations and NEPA regulations, 43 C.F.R. Part 11 and 40 C.F.R. Parts 1500 – 1508, the Trustee evaluated several alternatives for restoration before choosing a preferred alternative.

The Service proposes to spend the settlement funds at the Deep Fork National Wildlife Refuge (Refuge), Okmulgee County, OK, instead of the Site because of contamination left in place at the Site and the Refuge is located in the Central Flyway and has suitable habitat for all of the migratory species found at the Site.

3.1 Evaluation Criteria

The CERCLA NRDAR regulations [40 C.F.R. § 11.82] require that the restoration plan consider ten factors when evaluating and selecting among the possible alternatives to restore injured natural resources. The factors below are the criteria that the Trustees considered in evaluating alternatives and selecting the preferred alternative.

- Technical feasibility;
- The relationship of the costs of the alternative to the expected benefits;
- Cost-effectiveness;
- The results of actual or planned response actions;
- The potential for additional injury resulting from the proposed actions;
- The natural recovery period;
- Ability of the resources to recover with or without alternative actions;
- Potential effects of the action on human health and safety;
- Consistency with relevant federal, state, and tribal policies; and
- Compliance with applicable federal, state, and tribal laws.

3.2 Alternatives Carried Forward for Detailed Analysis

In accordance with the assessment and National Environmental Policy Act (NEPA) regulations, the Trustee considered a reasonable range of restoration alternatives before selecting the preferred alternative. The alternatives considered are categorized as:

- Alternative A: No Action/Natural Recovery;
- Alternative B: Removal of Feral Swine
- Alternative C: Land Acquisition and Enhancement for Wildlife Habitat; and
- Alternative D: Activities to Enhance Conservation of Wildlife Habitat.

3.2.1 Alternative A: No Action/Natural Recovery

Under Alternative A, the “No Action Alternative,” the Trustees would not pursue restoration projects, and any further restoration would instead occur through natural recovery alone. No remediation was complete at the Site and no natural resources were returned baseline ecological conditions (i.e., conditions but for the release of hazardous substances). Similarly, the “No Action Alternative” is not expected to compensate the public for interim ecological and human use service losses (i.e., losses that occurred pre-remedy and extend until services return to baseline) due to hazardous substances released at the Site. Lastly, the “No Action Alternative” would not utilize settlement monies for restoration or acquisition of the equivalent of lost resources and resource services, which is the purpose of the NRDAR. Therefore, the “No Action Alternative” serves as a point of comparison to determine the context, duration, and magnitude of any environmental consequences that might result from the implementation of other restoration actions.

3.2.2 Alternative B: Contribute Funds to the Service’s Refuge program for Removal of Feral Swine--Preferred

Under this alternative, the Trustee would contribute the funds from the Creta Copper settlement to the Service’s refuge program that has contracted with Animal and Plant Health Inspection Services’ (APHIS) Integrated Feral Swine Damage Management program. Feral swine are a harmful and destructive non-native, invasive species. Feral swine inflict significant damage to property, agriculture (crops and livestock), native species and ecosystems, and historic and cultural resources. They also pose a threat to the health of wildlife, domestic animals, and humans. In 2018, the Refuge contracted APHIS to remove feral swine. APHIS successfully removed 260 swine from the Refuge and surrounding private lands. Continued action is necessary to reduce the numerous feral swine on the Refuge. Removal of feral swine from the Refuge will benefit migratory birds, and other wildlife through the protection of their habitat.

This Alternative has been documented as technically feasible and cost effective as part of the 2018 effort. This Alternative would not cause additional injury to resources or services and would decrease the recovery time of services compared to natural recovery. This Alternative is compliant with applicable federal, State and tribal laws.

APHIS completed an Environmental Impact Statement for a national approach to Feral Swine management (APHIS 2015). The EIS analyzes the impacts from feral swine and

the benefits of removal. The Service is incorporating the EIS by reference. Below is a summary of the impacts from feral swine to natural resources in the EIS:

Wildlife

Feral swine compete with native wildlife for multiple resources, specifically food, habitat, and water. Feral swine activity will often deter other species from living in an area, resulting in competition over prime habitat. Feral swine wallow in mud to maintain proper body temperature which can be particularly problematic during dry seasons when they monopolize and contaminate limited water sources. Feral swine also prey directly on the nests, eggs, and young of native ground nesting birds and reptiles, including threatened or endangered species. Feral swine have even been documented killing and eating deer fawns, and actively hunting small mammals, frogs, lizards, and snakes. Feral swine wallows are prime mosquito habitat which contributes to the prevalence of various mosquito-borne diseases. Wallows can also be a place of transmission for bacteria and parasites from feral swine to native wildlife that come to drink.

Soil and water quality

Feral swine rooting and wallowing activity increases erosion, especially along waterways and in wetlands. Rooting and trampling can limit water infiltration and nutrient cycling. Large groups of feral swine can deposit significant amounts of fecal material in concentrated areas, contaminating water sources, resulting in increased disease risks for humans, wildlife, and livestock.

Forest regeneration

Feral swine can alter the understory growth of forests through rooting and foraging, ultimately shifting the tree species diversity and density in a forest by interfering with seed dispersal since they are huge consumers of mast crops (i.e., acorns, hickory nuts, beech nuts, and tupelo). Consumption of mast, not only depletes food sources for native wildlife such as deer and turkey, but this behavior can also alter the forest composition by decreasing the number of large seed-producing trees.

3.2.3 Alternative C: Land Acquisition and Enhancement for Wildlife Habitat

The Refuge was created to protect bottomland hardwood forest used as habitat for migratory birds. Protection of bottomland forests within the riparian corridor and floodplain conserves other wildlife species during harsh climatic periods by serving as migration corridors during droughts or other stresses (Sparks 1995). The acquisition and enhancement of habitat in the bottomland hardwood forests, and in the larger Central Flyway migratory route, is imperative to protecting the aquatic and terrestrial species which inhabit this ecosystem.

This restoration project would consist of a purchase of bottomland hardwood properties from willing sellers, or a placement of easement agreements, to be managed for wildlife uses and habitat. Various forms of habitat enhancement could be implemented to increase the property's ability to function as productive bottomland hardwood habitat. This includes fencing the property for grazing management, removal of exotic or invasive species through chemical or mechanical means, replanting with native herbaceous

species, and/or prescribed burning to assist in habitat management. Since most property available for purchase resides within the Refuge's acquisition boundaries, the Service's Refuge personnel would manage the newly acquired property.

This Alternative has been documented as technically feasible and cost effective in other NRDAR sites and will not cause additional injury to resources or services and would decrease the recovery time of services compared to natural recovery. In addition, this Alternative will not have negative impacts on human health and safety, but it will increase recreation potential. Finally, this Alternative is compliant with applicable federal, state and tribal laws.

3.2.4 Alternative D: Activities to Enhance Conservation of Wildlife Habitat

Education and public awareness are an essential part of any restoration project. The Refuge currently has programs that are focused on educating school children on subjects such as habitat, wetland functions, wildlife behavior, plant and animal identification, outdoor sports, and a variety of other subjects. The Trustee propose several projects which would create educational areas, not only for school children but adults as well, to increase their understanding of habitat conservation and to promote awareness of the impacts from hazardous materials on natural resources. Such educational programs will lead to overall conservation of resources through modification of visitor behavior through direction of use to avoid sensitive or recovering habitats.

Examples of potential educational opportunities include constructing more trails on the Refuge for public viewing of wildlife, constructing an outdoor pavilion with amenities that would provide a shelter for visitors and students during inclement weather and constructing additional trails and signs to enhance the public's understanding of the Refuge, its natural resources, and public benefits.

This Alternative has been documented as technically feasible and cost effective at other NRDAR sites and will not cause additional injury to resources or services and would decrease the recovery time of services compared to natural recovery. In addition, this Alternative will not have negative impacts on human health and safety, but it will increase educational opportunities to the public. Finally, this Alternative is compliant with applicable federal, state and tribal laws.

3.3 Summary of Potential Restoration Alternatives

The Trustee selected Alternative B as preferred to reduce the devastating impacts of Feral swine to habitat and the threat posed to the health of wildlife, domestic animals, and humans. Table 1 - Potential Restoration Alternatives outlines the restoration alternatives with the greatest potential to restore the natural resources lost or injured and/or to provide additional resource services to compensate the public for resource losses pending their recovery.

Table 1. Potential Restoration Alternatives

Alternative	Project Description
Alternative A: No Action/Natural Recovery	Allows for natural processes to occur at the Site without additional restoration
Alternative B: Removal of Feral Swine – Preferred Alternative	Hire APHIS to trap and remove feral swine on the Refuge.
Alternative C: Land Acquisition and Enhancement for Wildlife Habitat	Purchase land/acquire conservation easements for larger contiguous habitat for wildlife and protection of water quality
Alternative D: Activities to Enhance Conservation of Wildlife Habitat	Construct outdoor pavilion for educational purposes and inclement weather
	Construct additional trails and interpretive opportunities

Chapter Four: Environment Affected by Restoration Alternatives

4.1 Bottomland Hardwood Habitat

The bottomland hardwood forest community of the Deep Fork River is a complex, diverse, and interrelated association of vegetation and wildlife, created and maintained by periodic, natural flooding. Years of human development have significantly modified this dynamic floodplain ecosystem. Historically, the vast bottomland hardwood ecosystem of eastern Oklahoma encompassed an estimated 2.2 million acres. By the early 1980's, roughly 85 percent of these floodplain forests had been cleared or inundated by reservoirs (Forsythe and Aldrich 1989). Much of the remaining habitat occurred in small, isolated tracts that were of little value to wildlife. The Refuge was established to help preserve one of the last contiguous tracts of bottomland hardwood forests in the state of Oklahoma and to act as a crucial link for waterfowl migrating along the Central Flyway.

4.2 Vegetation

The Refuge is comprised of regenerating bottomland forests, drained and natural wetlands, agricultural lands, and some upland hardwood forest and prairie. The Refuge supports regenerated, variable-aged stands of oak, pecan, hickory, elm, river birch, and willow, with an understory of shrubs, vines, forbs, and grasses. Most of the hardwoods are less than 50 years old.

4.3 Migratory Birds

The River floodplain is biologically diverse and provides habitat for many migrating and wintering waterfowl, including mallards, blue-winged teals, shovelers, pintails, and wood ducks. During the fall migration, and during winter, the bottomland forests are essential resting and refuge habitat, and provide important energy food sources (Forsythe and Aldrich 1989). The Refuge serves as a vital migratory stopover, breeding, and nesting area for many non-game bird species as well. A variety of resident and migratory songbirds also depend on the Refuge for habitat.

4.4 Wildlife Species

Resident wildlife species that are typically found on the Refuge include white-tailed deer, turkey, gray and fox squirrels, swamp rabbits (one of the last remaining areas where they occur in Oklahoma), reptiles, and amphibians. There are also a variety of furbearer species, including raccoons, coyote, and beaver, whose populations are among the highest in Oklahoma.

The American burying beetle (ABB) (*Nicrophorus americanus*), a federally-listed endangered species since 1989, has been known to occur in portions of Okmulgee County and may potentially inhabit the Refuge. Four state species of concern inhabit the Refuge, including the river otter, Bell's vireo, alligator snapping turtle, and the northern scarlet snake (USFWS 2000). These wildlife species also have been potentially affected by the sewage releases. The reduction in biomass and diversity of aquatic biota in the River has decreased the availability of prey and has potentially affected the species inhabiting the Refuge.

4.5 Surface Water Resources

The 34-mile reach of the River that flows through the Refuge has never been subjected to flood control measures. This gives the floodplain the ability to absorb floodwaters and associated debris as well as slowing down their velocities. These temporarily flooded forests, characterized by oxbow lakes, sloughs and marshes, provide excellent and sometimes crucial habitat for waterfowl to forage and nest (USFWS 2000). Most of the Refuge lies within the River floodplain with approximately 80 percent of the Refuge flooding at least once a year, except in very dry periods.

4.6 Cultural Resources

There are six documented archeological sites on the Refuge. The Service will consult with the Oklahoma State Historic Preservation Officer (SHPO), and the Oklahoma State Archeologist to comply with the National Historic Preservation Act to prevent adverse impacts from occurring to those sites. Where physical disturbances will occur in undisturbed areas during project implementation, the Service will provide information regarding actual project placement to the SHPO for review. Should sensitive, historic sites occur within the initial impact zone of a project site, the project will be modified according to recommendations from the SHPO to avoid adverse impacts.

Circulation of this RP/EA is not intended to satisfy the requirements of the National Historic Preservation Act (NHPA). For each individual project that will be completed as part of the Restoration Plan, the Service will consult with the SHPO, the Oklahoma State Archeologist, and federally recognized Indian Tribes, as set forth under Section 106 of the NHPA.

4.7 Socioeconomic Resources

The Refuge serves over 35,000 visitors annually. Over 15,000 visitors use the Refuge for wildlife observation and hiking, while approximately 20,000 visitors use the Refuge for hunting and fishing activities. The estimated economic benefit to the community is approximately \$350,000 annually.

The River flows into Lake Eufaula approximately 15 miles downstream of the southernmost boundary of the Refuge. The River provides vital functions for Lake Eufaula by providing the necessary water, nutrients, fisheries habitat, sediment transport, and flood control. This provides further recreational and economic benefit to the human communities who use the lake area. Lake Eufaula is also a significant water supply lake for many municipalities.

Chapter Five: Environmental Consequences

Each alternative has been examined for potential beneficial and adverse impacts to environmental resources, as described below. Potential impacts resulting from the alternatives are discussed in Table 3 - Summary of Environmental Consequences by Alternative.

5.1 Alternative A: No Action/Natural Recovery

Under this alternative, no direct action(s) would be taken to restore injured natural resources or compensate for lost services resulting from the incidence of hazard substance releases either on or off-site. Instead, full recovery of the injured natural resources to baseline conditions would rely on natural processes. There also would be no improvements to compensate the public for the interim service loss resulting from the releases. Furthermore, no environmental benefits would be realized from the allocated damages and the Trustees would not be fulfilling their obligations as natural resource trustees. While implementation of this alternative would have no project impacts, failure to restore injured resources is not acceptable to the Trustee.

5.2 Alternative B: Feral Swine Removal – Preferred Alternative

Under this alternative, APHIS will trap and remove feral swine from the Refuge. The damage from feral swine and benefits of removal are well documented in the APHIS EIS (APHIS 2015).

The APHIS EIS analyzed five alternatives: (1) Current APHIS Feral Swine Damage Management Program (FSMD)/No Action Alternative; (2) Integrated Feral Swine Damage Management Program—Preferred; (3) Baseline APHIS FSDM Program; (4) National and Strategic Local Projects Program; and (5) Federal FSDM Grant Program.

APHIS EIS Alternative 1: **Current FSDM Program**. In this case, the No Action Alternative refers to APHIS FSDM actions prior to the appropriation of additional funds by Congress. It serves as a starting point for comparison with the other alternatives and can be defined as “no change” from the status quo. Congress has acknowledged that feral swine are a harmful and destructive species, and that a federal response to feral swine damage is warranted.

Consequently, this No Action Alternative cannot be selected for implementation unless Congress determines that a national FSDM program is no longer a priority.

Under the current program, APHIS-WS state programs provide technical assistance (advice, training, loan of equipment), and, when appropriate and funding is available, operational assistance with lethal and non-lethal FSDM. An Integrated Wildlife Damage Management (IWDM) approach is used which incorporates the use or recommendation of a range of nonlethal and lethal techniques, singly or in combination, to meet the needs of each cooperator. APHIS-WS personnel opportunistically collect biological samples from some feral swine killed during operational control activities and from other sources (e.g., hunter-killed animals) for disease monitoring. Research, modeling and risk assessment projects are conducted on an array of issues related to feral swine, but are limited by available funding. Most APHIS outreach and education efforts are conducted by personnel at the state and territory level. Work with Canada and Mexico on FSDM has been primarily limited to interactions between individual APHIS-WS state programs and their Canadian or Mexican counterparts.

APHIS EIS Alternative 2: **Integrated FSDM Program (Preferred Alternative)**. Under this alternative, APHIS would serve as the lead agency in a nationally coordinated cooperative effort with other agency partners, tribes, organizations, and local entities. In states, territories and tribal lands where management authorities wish to eliminate feral swine (generally areas with low or moderate feral swine populations), APHIS would form partnerships to meet their management objectives and reduce the size and range of the U.S. feral swine population. In states, territories and tribal lands where management authorities have chosen to retain some feral swine for cultural or recreational purposes (usually areas with large or well established feral swine populations); APHIS would form partnerships to meet locally determined management objectives. These objectives may include reducing statewide populations or eliminating swine from specific locations. Key program components are threefold:

1. Improved baseline operational capacity to respond including improved infrastructure (e.g. personnel, equipment) and increased cost-share opportunities with partner agencies, tribes and private entities.
2. National projects including strategic allocation of resources to reduce the range and size of the national feral swine population, increased research, modeling and risk analysis, national outreach and education program, and national coordination with Canada and Mexico.
3. Strategic projects at the local level to address specific vulnerable areas.

APHIS EIS Alternative 3: **Baseline FSDM Program**. The Baseline APHIS FSDM Program (Alternative 3) is a nationally coordinated response that improves the baseline operational capacity of APHIS-WS state programs that assist in states, territories, and tribal lands with feral swine. This alternative directs the most resources to operational management efforts. National projects and strategic local projects, as described for Alternative 2, are not included. Allocations would be based on the size of the feral swine population in each state and territory. Increased capacity of APHIS-WS state programs to respond would allow for expanded FSDM including population management in states and

territories, education, outreach, disease monitoring and other activities that may meet national objectives.

APHIS EIS Alternative 4: National FSDM and Strategic Local Projects Program.

This alternative places emphasis on national projects and strategic local projects, as described for Alternative 2. Strategic allocation of resources under this alternative would result in no additional FSDM funding for some APHIS-WS programs serving low priority states and territories until management objectives are achieved in high priority areas. APHIS-WS programs in low priority states and territories could continue to assist cooperators as currently occurs under Alternative 1.

APHIS EIS Alternative 5: Federal FSDM Grant Program. Under this Alternative, APHIS would distribute National APHIS FSDM Program funding to states, territories, tribes, organizations representing native peoples, and research institutions. APHIS would not conduct any operational FSDM, research or other activities described under Alternative 2. The National APHIS FSDM Program Manager would administer the Federal FSDM Grant Program to achieve the key project components described for Alternative 2. The grants process would require more resources to administer than Alternative 2; consequently, less overall funding would be available for all aspects of FSDM.

Alternative 2 met all of the criteria used by APHIS to analyze the alternatives. Therefore, Alternative 2 was selected as the preferred alternative.

The Trustee has conducted an independent review of the EIS and have determined that the Final EIS adequately discusses and discloses the impacts of the preferred alternative. Consequently, the Trustee adopts the APHIS EIS and its analyses are herein incorporated. There are no negative impacts from removal of feral swine. APHIS has the authority to remove feral swine from private land, with land owner permission. By the Service bringing APHIS to the Refuge, opportunities exist for them to conduct additional removals, thus increasing the protection of migratory bird habitat in the county.

Because the proposed restoration activities also coincide within the same county as documented populations of the ABB, surveys would need to be done before any soil disturbance as part of a restoration activities can be implemented to ensure that the restoration actions would not adversely affect the ABB. If ABBs are located in the restoration area, upon consultation with the Service, significant impacts may be avoided by removing the species from the project area by using protocols set forth in the USFWS conservation approach for the species (USFWS 2005).

5.3 Alternative C: Land Acquisition and Enhancement for Wildlife Habitat

The acquisition of property would create a more contiguous tract of habitat for wildlife to migrate, forage and breed. While enhancement projects such as fencing, and removal of exotic or invasive species through mechanical applications may cause temporary ground disturbance, these impacts are considered to be short term and not significant. Adverse impacts caused by planting and/or prescribed burning would be considered in Refuge

planning and compliance documents which include impact analyses for each of these tasks. Many of these proposed activities have been addressed in the Refuge's Comprehensive Conservation Plan (CCP) and associated Environmental Assessment approved in 1999 (USFWS 1999). Planning and compliance documents would be prepared for any planned activities not addressed in the CCP.

Impacts to biological resources (e.g. terrestrial and aquatic wildlife, including migratory birds) may occur from disturbances during construction activities, erosion between the removal of exotic/invasive species and re-colonization of native, hardwood species, and public use of the Refuge. However, these adverse impacts would be minimized by best management practices, such as temporally spacing the actions during times of least sensitive use by birds (non-nesting periods), visitors (off-season), and the use of erosion control structures (e.g., hay bales, silt screens, etc).

Since this alternative provides a means for protecting and enhancing bottomland hardwood habitat from agriculture or other development activities, the potential for some negative socioeconomic impacts could occur due to changes in economic activity through the transfer of land ownership from private to public and/or restrictions on public access. However, since the acquisition of land is for conservation purposes, the Trustees believe that the potential negative impacts from the transfer of ownership would be outweighed by the positive, beneficial effects of gaining additional Refuge habitat. Implementation of this alternative would not adversely impact the environment.

This alternative was evaluated regarding its impacts to biological resources, specifically fish and wildlife species listed under the ESA and MBTA, and is also common to the following alternative. Because the proposed restoration activities would occur within an area known to be bald eagle habitat, surveys would need to be done before any restoration activities can be planned or implemented to ensure that the restoration actions would not result in adverse impacts occurring to this species.

Because the proposed restoration activities also coincide within the same county as documented populations of the ABB, surveys would need to be done before any soil disturbance as part of a restoration activities can be implemented to ensure that the restoration actions would not adversely affect the ABB. If ABBs are located in the restoration area, upon consultation with the Service, significant impacts may be avoided by removing the species from the project area by using protocols set forth in the USFWS conservation approach for the species (USFWS 2005).

5.4 Alternative D: Activities to Enhance Conservation of Wildlife Habitat

This alternative compensates the public for lost use through the creation of educational infrastructure for wildlife viewing and access points in the Refuge. This alternative contributes benefits by providing the public opportunities to learn and understand the Refuge ecosystem while promoting conservation activities for migratory birds and threatened and endangered species.

Public use facilities at the Refuge include existing and potential trails, roads, a boardwalk, an overlook, and a photo blind. Possible impacts from the public using these facilities include trampling of vegetation, erosion, littering, increased wildlife disturbance, and dust and noise from the roads. These activities can be minimized by educating the public about the sensitivity of the Deep Fork ecosystem and the need to respect wildlife resources and the environment by providing signage or pamphlets that demonstrate the effects of noise, litter, and trampling on vegetation will significantly reduce adverse impacts to the Refuge from public use.

5.5 Cumulative Impacts

Although the restoration actions for the alternatives would not equivocally replace specific natural resources injured from the releases, the Trustee believes that the restoration projects would provide comparable services for the trust natural resources that were lost or injured. With the exception of the No Action/Natural Recovery Alternative, each of the proposed alternatives focuses on the protection and restoration of natural resources and services associated with the Refuge. However, there is the potential for cumulative impacts to occur from the projects and activities on or near the Refuge.

While no specific projects are currently known for areas upstream of the proposed projects, activities such as mechanically removing invasive species, prescribed burning, and maintaining trails and roads frequently occur on the Refuge and surrounding properties as part of the overall wildlife management program. Implementation of other projects upstream of the proposed projects could cause sedimentation and erosion that would be additive to the downstream proposed project site(s). To prevent the impacts of erosion and turbidity from the combined activities adversely effecting resources, management actions such as silt fencing or screening, hay bale placement, seasonal timing for prescribed burns, and limiting personnel access into the River during project implementation would be implemented to greatly reduce silt loading and maximize dilution capabilities. Additionally, these management practices also would shorten the duration the River is exposed to sediments. Therefore, the potential impacts from the upstream activities combined with the potential project impacts would not cause significant, negative cumulative environmental effects.

5.6 Summary of Environmental Impacts by Alternative

The information in Table 3 - Summary of Environmental Consequences by Alternative summarizes the consequences from implementing each alternative. The Trustee used this analysis to select the preferred alternative and ultimately, the preferred restoration project(s).

5.7 Coordination with the Public

Public review is an important component of the restoration planning process. The Trustees gave the public the opportunity to provide comments on the Draft RP/EA in a 30-day period from November 21, 2019 through December 23, 2019. The Trustees received no comments on the Draft RP/EA. As restoration progresses, the Trustee may amend the RP/EA if significant changes are made to the type, scope, or impact of the project. In the event of a significant modification to the RP/EA, the Trustee will provide

the public with an opportunity to comment on that particular amendment. The final RP/EA is posted here:

<https://www.fws.gov/southwest/es/oklahoma/nrdar.htm>

List of Preparers

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Table 2. Summary of Environmental Consequences by Alternative

Attributes	Alternative A (No Action/Natural Recovery)	Alternative B – Preferred Alternative (Feral Hog Removal)	Alternative C (Acquisition/enhancement)	Alternative D (Educational opportunities)
Bottomland Hardwood Habitat	Natural recovery	Protect existing habitat by reducing impacts from Feral Swine	Preserve and enhance existing habitat	Does not restore habitat
Vegetation	Natural Recovery	Protect existing habitat by reducing impacts from Feral Swine	Protect existing resources	Does not restore habitat
Migratory Birds	Natural recovery	Protect existing habitat by reducing impacts from Feral Swine	Protect existing resources	Does not restore habitat
Wildlife Species	Does not address wildlife species	Protect existing habitat by reducing impacts from Feral Swine	Increase in protection, potential increase in populations	Protection of wildlife species through education
Surface Water Resources	No protection of water quality	Improve water quality by reducing erosion from hog wallows	Protection of surface water in acquisition area	Protection of surface water through education
Cultural Resources	Does not address Cultural Resources	Protect existing resources	Protect existing resources	Increase of awareness of cultural resources and how to conserve them
Socioeconomic Issues	No compensation for interim resource service losses	Reduce the Feral swine impacts lose to property	Enhance local economy through additional recreational opportunities; decrease in development opportunities	Increases awareness of hazardous waste releases, conservation of Refuge habitats

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**U.S. Department of the Interior Approval of the Final Restoration Plan and
Environmental Assessment for the Creta Copper Site, Oklahoma**

In accordance with the U.S. Department of the Interior (DOI) policy regarding documentation for natural resource damage assessment and restoration projects (521 DM 3), the Authorized Official for the DOI must demonstrate approval of draft and final Restoration Plans with their associated National Environmental Policy Act documentation, with concurrence from the DOI's Office of Solicitor. The Authorized Official for the Creta Copper Site is the Regional Director for the DOI Region 6.

By signature below, the Final Restoration Plan and Environmental Assessment for the Creta Copper Site, Oklahoma is hereby approved.

Approved:

AMY LUEDERS Digitally signed by AMY
LUEDERS
Date: 2020.08.03 14:02:22 -06'00'

Regional Director
Department of the Interior
Region 6

Date

DEPARTMENT OF INTERIOR
U.S. FISH AND WILDLIFE SERVICE 500
GOLD AVE SW
ALBUQUERQUE, NEW MEXICO 87102

FINDING OF NO SIGNIFICANT IMPACT

ISSUANCE OF A RESTORATION PLAN FOR THE CRETA COPPER SITE

Pursuant to the National Environmental Policy Act of 1969 (NEPA), we prepared an Environmental Assessment (EA) for the issuance of the Restoration Plan (RP) to compensate for natural resource injuries and associated lost services resulting from hazardous substance releases from the Creta Copper Site (Site) under the Natural Resources Damage Assessment and Restoration (NRDAR) claims. The Trustees, the United States (U.S.) Department of the Interior represented by the U.S. Fish and Wildlife Service solicited, reviewed, evaluated and selected a suite of restoration projects that offset the injury estimated at the Site.

Preferred Alternative

The Preferred Restoration Alternative consists of contracting with the U.S. Animal and Plant Health Inspection Service (APHIS) to trap and remove feral swine from the Deep Fork National Wildlife Refuge (Refuge). The damage from feral swine and benefits of removal are well documented in the APHIS EIS. The Trustee conducted an independent review of the EIS and determined the Final EIS adequately discusses and discloses the impacts of the preferred alternative. Consequently, the Trustee adopted the APHIS EIS and its analyses. There are no negative impacts from removal of feral swine. APHIS has the authority to remove feral swine from private land, with landowner permission. By the Service bringing APHIS to the Refuge, opportunities exist for them to conduct additional removals, thus increasing the protection of migratory bird habitat in the county.

Alternatives Considered

No Action Alternative

Evaluation of a No action Alternative is required under NEPA [40 CFR 1502.14(d)]. Under the No Action Alternative the Trustees would take no direct action to restore injured natural resources or compensate for lost services. Further, the Trustees would not pursue restoration projects beyond the already completed remediation and any further restoration would instead occur through natural recovery alone. Remedial actions, designed to protect human health

and the environment from unacceptable risk, are ongoing. These remedial requirements have not returned natural resources to baseline conditions (i.e., conditions but for the release of hazardous substances). Similarly, the No Action Alternative would not compensate the public for interim ecological and human use service losses (i.e., losses that occurred pre-remedy and extend until hazardous substance concentrations return to baseline) due to releases at the Site. Remedial actions reduce future injury but do not fully compensate the public for the natural resource injuries and associated service losses. Therefore, the No Action Alternative serves as a point of comparison to determine the context, duration, and magnitude of any environmental consequences that might result from the implementation of other restoration actions.

Land Acquisition and Enhancement for Wildlife Habitat

The acquisition of property would create a more contiguous tract of habitat for wildlife to migrate, forage and breed. While enhancement projects such as fencing, and removal of exotic or invasive species through mechanical applications may cause temporary ground disturbance, these impacts are considered to be short term and not significant. Adverse impacts caused by planting and/or prescribed burning would be considered in Refuge planning and compliance documents which include impact analyses for each of these tasks. Many of these proposed activities have been addressed in the Refuge's Comprehensive Conservation Plan (CCP) and associated Environmental Assessment approved in 1999.

Activities to Enhance Conservation of Wildlife Habitat

This alternative compensates the public for lost use through the creation of educational infrastructure for wildlife viewing and access points in the Refuge. This alternative contributes benefits by providing the public opportunities to learn and understand the Refuge ecosystem while promoting conservation activities for migratory birds and threatened and endangered species.

Public Comment

The Trustees made the Draft RP/EA available for a public comment for a period of 30 days (from November 21, 2019 through December 23, 2019). The Trustees received no comments and finalized the RP/EA in January 2020.

Determination

Based upon information contained within the Final RP/EA, we have determined that this action is not a major Federal action that would significantly affect the quality of the human environment within the meaning of NEPA section 102(2)(c). Effects to physical, biological, socio-economic, and cultural resources are identified in the RP/EA, all are minor and beneficial. This action is not an action that would typically require the development of an Environmental Impact Statement (EIS). Accordingly, preparation of an EIS on the proposed action is not warranted.

It is my decision to issue the Restoration Plan and begin implementation.

AMY LUEDERS Digitally signed by AMY LUEDERS
Date: 2020.08.03 14:02:47 -06'00'

Regional Director Date
Department of the Interior
Region 6

**United States Fish and Wildlife Service
Environmental Action Statement**

Within the spirit and intent of the Council of Environmental Quality's regulations for implementing the National Environmental Policy Act (NEPA) and other statutes, orders, and policies that protect fish and wildlife resources, I have established the following administrative record and have determined that the restoration actions, as described in the *Restoration Plan and Environmental Assessment for the Creta Copper Site*:

_____ is a categorical exclusion as provide by 516 DM 6 Appendix 1 and 516 DM 6, Appendix 1. No further documentation with therefore be made.

 X is found not to have significant environmental effects as determined by the attached Environmental Assessment and Finding of No Significant Impact.

_____ is found to have significant effects, and therefore further consideration of this action will require a notice of intent to be published in the Federal Register announcing the decision to prepare an EIS.

_____ is not approved because of unacceptable environmental damage, or violation of Fish and Wildlife Service mandates, policy, regulations, or procedures.

_____ is an emergency action with the context of 40 CFR 1506.11. Only those actions necessary to control the immediate impacts of the emergency will be taken. Other related actions remain subject to NEPA review.

Other supporting documents (list):

 X Restoration Plan and Environmental Assessment for the Creta Copper Site.

AMY LUEDERS Digitally signed by AMY LUEDERS
Date: 2020.08.03 14:03:11 -06'00'

Regional Director/DOI Authorized Official

Date