

DRAFT

**Restoration Plan and Environmental Assessment
for
Calmus Creek Injuries
Cerro Gordo County, Iowa**

November 26, 2007

U.S. Department of the Interior
Fish and Wildlife Service
Union Slough National Wildlife Refuge and
Rock Island, IL Ecological Services Field Office

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1.0 Purpose and Need

1.1 Purpose

The purpose of this assessment is to consider and evaluate various alternatives available to the action agencies to restore injured wetlands. The wetland injuries were the result of chalky solid materials released into Calmus Creek in Cerro Gordo County, Iowa.

The Comprehensive Environmental Compensation and Liability Act (CERCLA) (Title 42 United States Code Sections 9601 to 9675), the Clean Water Act (Title 33 U.S.C. Section 1251 *et seq*), and the Natural Resource Damage Assessment and Restoration (NRDAR) regulations (Title 43 Code of Federal Regulations Part 11) are laws and rules that direct the restoration of natural resources that have been injured by such a release. According to the laws, government Trustees for natural resources are responsible for ensuring that the public is fairly compensated for these kinds of injuries to natural resources.

The natural resource Trustees sought damage claims from the responsible party for the Calmus Creek releases because natural resources under their Trusteeship were injured and the response actions did not restore them to the condition that existed prior to the releases or provide compensation for losses during the recovery period. The U.S. Fish and Wildlife Service is the Federal natural resource Trustee. The injured natural resources included surface waters, aquatic life, and wetland dependent wildlife such as migratory birds.

In 2000, the Federal government received a natural resource damage settlement from the responsible party. In 2000, the government entered into a civil consent decree with the responsible party.

The Trustees are now required to use the settlement monies for a restoration project. The Trustees are obligated to develop and adopt a Restoration Plan before the settlement monies can be used for a project, and that in doing so, there must be adequate public notice, opportunity for public comment, and consideration of available restoration alternatives. In addition, the Federal government must balance engineering and economic decisions with the environmental consequences of its actions according to the National Environmental Policy Act (NEPA). Therefore, this RP was developed as an Environmental Assessment (EA) to facilitate public involvement and to be in compliance with agency environmental decision-making requirements.

1.2 Need

There is the need to compensate the public for injuries from contamination of the surface water, affects to aquatic life and wetland dependent wildlife. Furthermore, the Trustees are responsible for satisfying the requirements in the 2000 consent decree with the responsible party. The requirements of the consent decree included using the settlement funds to restore natural resources as compensation for injuries. The Trustees plan to use the restoration funds in such a manner as to provide the maximum benefits to the injured natural resources. To accomplish this, the Trustees hope for partnership opportunities to leverage the settlement funds to be part of larger scale projects. Partnerships will also be needed to help protect the natural resources on into the future.

1.3 Background

The area of Calmus Creek affected by the chalky material deposits was estimated to be 4.5 acres. Calmus Creek flows through Cerro Gordo County on into the Winnebago River. The first documentation of contamination was in 1984 and the creek was expected to recover by 2004 without additional releases. The natural resource injuries were the result of chalky solid materials being transported into the creek from adjacent cement plant areas. The chalky materials covered the creek substrate and created high pH conditions in the surface water.

2.0 The Alternatives

Various restoration alternatives were considered when preparing the Restoration Plan according to NRDAR regulations (Title 43 Code of Federal Regulations Part 11.8). Restoration, as defined in the NRDAR regulations, is an action or group of actions taken to either: 1) rehabilitate the injured natural resource if cleanup or remediation was sufficient to prevent future problems; 2) replace the injured natural resource by creating new habitat or enhancing existing habitat; or 3) acquisition of equivalent natural resources to those that were injured.

Two broad categories of restoration actions include in-kind and out-of-kind activities. In-kind restoration projects focus on natural resources comparable to those that were lost, while out-of-kind restoration focuses on natural resources different than those lost. Out-of-kind restoration projects are usually considered because in-kind projects are often not available or feasible.

Generally, the Trustees prefer to locate the restoration action/s at the site of the natural resource loss or as close to that site as possible. However, it is often necessary to locate the restoration actions further away from the natural resource loss because of the restoration opportunities available.

2.1 Alternatives Eliminated from Detailed Analysis

The Trustees did not consider on-site rehabilitation as the restoration alternative for the following two reasons. First, because the release of chalky substrate occurred in 1984, it was believed the creek would recover by 2004, barring any additional releases. Secondly, in order to provide maximum benefits to area natural resources, the Trustees sought partnerships, notably the Cerro Gordo County Conservation Board (CGCCB) staff located at Lime Creek Conservation Area, for restoration opportunities. The Lime Creek Conservation Area is located immediately adjacent to the cement plant responsible for the release of contaminated materials.

2.2 Alternatives Carried Forward for Detailed Analysis

Four alternatives were identified to meet the restoration purpose and need to compensate the public for the injured natural resources caused by the release of hazardous materials into Calmus Creek, Cerro Gordo County, Iowa. The alternatives include: 1) the enhancement of upland and wetland habitats at the Lime Creek Conservation Area; 2) the enhancement of upland and wetland habitats at the Winnebago Oxbow Wildlife Area; 3) fish stocking of the Winnebago River at Lime Creek Conservation Area; and 4) natural recovery only or no action.

2.2.1 Alternative A: Enhancement of Lime Creek Conservation Area Wetlands and Uplands (preferred alternative)

This alternative will be constructed on the grounds of the Lime Creek Conservation Area in Cerro Gordo County, Iowa (Figure 1). The Lime Creek Conservation Area is owned and operated by the Cerro Gordo County Conservation Board. There is a location on the property that was previously mined and reclaimed, and then used for row crop production of corn and soybeans. This location is currently planted to cool season grasses.

First, existing vegetation at the construction area will be eliminated with an environmentally safe herbicide. Then the soils will be scraped to a depth of between one and a few feet to create uneven shaped depressions. The depressions will be placed in such a manner as to collect rainwater from existing wet gullies in the fields.

The spoil from the excavations will be used construct dikes along drainage areas to help impound water in the depressions. The dikes will be placed on the previously disturbed areas and seeded to appropriate vegetation to discourage erosion and provide long term protection of the soil.

In addition, a wooden boardwalk and/or dock will be constructed to allow pedestrians to visit the existing wetland from a nearby parking lot. The areas around the wetlands and in the field would be planted to native warm season grasses and forbs suitable for this soil type and moisture content.

2.2.2 Alternative B: Enhancement of the Winnebago Oxbow Wildlife Area Wetlands and Uplands (preferred alternative)

This alternative will be constructed on the grounds of the Winnebago Oxbow Wildlife Area in Cerro Gordo County, Iowa (Figure 2). The Winnebago Oxbow Wildlife Area is owned and operated by the Cerro Gordo County Conservation Board. There is a location in the property that is wet and is currently covered in nonnative grasses that is suitable for wetland enhancement.

First, existing vegetation at the construction area will be eliminated with an environmentally safe herbicide. Then the soils in the floodplain will be scraped and excavated to a depth not to exceed one foot, to create uneven shaped depressions. The depressions will be placed in such a manner as to collect rainwater, floodwater, or shallow groundwater.

The spoil from the excavation will be used construct dikes along drainage areas on the floodplain to help impound the water in the depressions. The dikes will be planted with appropriate vegetation to discourage erosion and provide long term protection of the soil.

2.2.3 Alternative C. No Action

Under the no action alternative, injuries to natural resources would be uncompensated. Given sufficient time, natural processes should enable the natural resources at the Site to recover to pre-injury levels. The public would not be compensated for its interim lost use of the natural resources during the recovery period.

2.2.4 Alternative D: Fish Stocking

Under the stocking alternative, natural resource losses would be compensated by purchasing game fish available from hatcheries and/or collecting fish from other river systems and placing them in the Winnebago River.

The objectives for Alternative C are to make game fish available for fishermen and to speed up the natural recovery of ecological services through augmentation of the non-game fish populations.

3.0 Affected Environment

3.1 Alternative A: Enhancement of Lime Creek Conservation Area Wetlands and Uplands

Description: The project site is located adjacent to the Winnebago River. Based on prior ownership of the area by the Lehigh Portland Cement Company, the surface was mined for clays to be used in concrete manufacturing. Once the land was transferred to the County it was reclaimed for reuse which included filling the surface mine pits with clean soils. The reclaimed surfaces were initially used for row crops for a period of time and then planted to cool season grasses as a conservation practice.

Soils: The soils at the proposed project site include fill material up to several feet deep brought in to reclaim a former surface mining area.

Cultural Resources: We reviewed the historical plat maps and inspected the project site. No farmsteads or towns occur in the immediate vicinity of the proposed project site according to the historical maps. No structures or foundations were found at the proposed project site. No pre-historic cultural resources or human remains are expected to occur in the reclamation fill soils because it was previously disturbed.

Habitat Resources: The current habitat at the project site includes 27 acres of old smooth brome/bluegrass pasture, 1.5 acres of a restored wetland, 1 acre of mature bur oak timber stand arranged in three clusters, and 1.5 acres of mowed grass trails. There are also two drainages containing hydric soil indicators including a variety of sedges and prairie cordgrass.

Biological Resources: The project site is within range of two federally listed threatened plant species (western prairie fringed orchid - *Platanthera praeclara* and prairie bush clover - *Lespedeza leptostachya*), but there is no suitable habitat present for these species at the project site. The grass and wetland cover currently provide limited habitat for migratory birds and wetland dependent wildlife because it consists predominantly of non-native vegetation and a limited amount of wetlands.

Surrounding Land Use: Agricultural and livestock production and heavy industrial.

3.2 **Alternative B: Enhancement of the Winnebago Oxbow Wildlife Area Wetlands and Uplands**

Description: The project site is located in the 100 year floodplain of the Winnebago River. Based on aerial photo interpretation by a soil scientist from the Cerro Gordo County Natural Resource Conservation Service, it was determined that the site had been farmed dating back to 1939 and through the 1970s, probably for small grains.

Soils: The predominant soil type of the project site is the Coland Series which contains pre-settlement alluvium of either the Gunder or Roberts Creek Member. However, these soils were disturbed as a result of farming prior to ownership by Cerro Gordo County.

Cultural Resources: As requested by the U.S. Fish and Wildlife Service Regional Historic Preservation Officer, a records search was conducted by the Iowa Office of State Archaeologist to determine a list of identified archaeological sites and previous archaeological surveys of the Area of Potential Effect (APE). In 1995, there was an archaeological survey conducted on and adjacent to the APE and no archaeological sites were reported. Thus, no shallow buried pre-historic cultural resources or human remains are expected to occur in the pre-settlement alluvium. We also reviewed the historical plat maps, aerial photos, and inspected the project site. No farmsteads or towns occur in the immediate vicinity of the proposed project sites according to the historical maps. No structures or foundations were found at the proposed project site.

Habitat Resources: The current habitats at the project site include 15 acres of old smooth brome/bluegrass pasture, 8 acres of reed canarygrass and 3 acres of a restored wetland.

Biological Resources: The project site is within range of two federally listed threatened plant species (western prairie fringed orchid - *Platanthera praeclara* and prairie bush clover - *Lespedeza leptostachya*), but there is no suitable habitat present for these species at the project site. The grass and wetland cover currently provide limited habitat for migratory birds and wetland dependent wildlife because it consists predominantly of non-native vegetation and a limited number of wetlands and restored native vegetation.

Surrounding Land Use: Agricultural and livestock production.

3.3 Alternative C: Fish Stocking

Description: The project site is located at the Winnebago River, on the north boundary of Lime Creek Recreation Area.

Cultural Resources: The project site includes the Winnebago River and/or Calmus Creek.

Habitat Resources: The native habitat at the project sites include a mid order stream.

Biological Resources: The Winnebago River supports a warm water fishery. There are no resident federally listed endangered species in the project area.

Surrounding Land Use: Agricultural and livestock production and heavy industrial.

Table 1. Summary of current environmental characteristics for the action alternatives considered in the alternative analysis.

Attribute	Alternative A Lime Creek Conservation Area	Alternative B Winnebago Oxbow	Alternative C Fish Stocking
County	Cerro Gordo	Cerro Gordo	Cerro Gordo
Project Area Size	28 acres	11 acres	Winnebago River
Buildings in Project Area	No	No	No
Archeological Resources	None known	None known	None known
Primary Land Cover	Old Pasture	Old Pasture	Row crops, pasture
Surrounding Land Use	Agriculture	Agriculture	Agriculture
Wetlands Present	Limited	Limited	No
Grasslands Present	Limited	Limited	No
Migratory Birds	Limited Use	Limited Use	Foraging Use
Federally Listed Endangered (E), Threatened (T) and Candidate (C) Species	None	None	None

4.0 Environmental Consequences of Action Alternatives

4.1 Effects Common to All

Historical Resources: The project sites considered under the action alternatives contain no historic buildings, as no buildings are present based on site inspections by Cerro Gordo County Conservation Board staff.

Environmental Justice: Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, 59 Federal Register 7629 (1994), directs Federal agencies to incorporate environmental justice in their decision making process. Federal agencies are directed to identify and address as appropriate, any disproportionately high and adverse environmental effects of their programs, policies, and activities on minority or low-income populations.

No environmental justice issues exist for any of the action alternatives. The action alternatives would all take place on County-owned lands used primarily for recreational public use. Surrounding landscapes are primarily used for agriculture and livestock production, as well as industry. None of the alternatives would create significant environmental pollution. No minority or low-income populations would be displaced or negatively affected in any other way by the proposed action or any alternative.

Cumulative Impacts: The phrase “cumulative impacts” refers to the overall effect of the proposed action or series of actions in a landscape or regional setting. Enhancing wetland and upland habitats, and fish stocking are considered to have positive environmental consequences. Native habitats, fish, and wildlife populations would all benefit on both the landscape and regional scale. The action alternatives would not only have a positive impact on wildlife populations, but also improve water quality and the quality of life for the citizens who use these areas.

4.2 **Alternative A: Enhancement of Lime Creek Conservation Area Wetlands and Uplands**

Archeological Resources: The project will cause no adverse affects to archeological resources because the subsurface activities are entirely within a mine reclamation area which has been filled and graded with clean fill.

Habitat Resources: The project will cause no adverse affects to native habitats because limited native habitat is present. The enhancement of wetlands and the planting of native grasses and forbs will increase wetland habitat, improve grassland habitat, reduce soil erosion, and improve water quality.

The Cerro Gordo County Conservation Board will initiate Clean Water Act permitting processes for working in wetlands and in the floodplain from the Federal and State authorities if necessary. Only those projects with Clean Water Act permits and State permits or under appropriate exemptions are constructed.

Biological Resources: No negative responses are anticipated for federally listed species as none are found on the project site during the construction season. There may be short term impacts to wetland and grassland species as the existing vegetation will be disturbed during implementation of the project. This impact would be minimized to an acceptable level by following the prescriptions to protect water quality in the Clean Water Act Section 404 Nationwide Permit that will be applied to this project if needed. These prescriptions are designed to eliminate or greatly reduce the input of sediments in the water body. Other wetland and upland fauna such as reptiles, amphibians, small mammals, wetland-dependent migratory birds, and grassland-dependent migratory birds will benefit in the long term from the reduced erosion and improvement of habitat suitability for these diverse species.

Drainage: The project would not cause any additional artificial increase to the natural level of surface water or groundwater. The project may improve drainage by keeping excess sediment deposits out of the Winnebago River. Thus, this project would not have any impact to drainage on neighboring lands.

Socioeconomic Impacts: No new loss of local taxes will occur because the property is currently exempt from property taxes.

4.3 **Alternative B: Enhancement of the Winnebago Oxbow Wildlife Area Wetlands and Uplands**

Archeological Resources: This project will cause no adverse effects to archaeological sites because no archaeological sites were identified or recorded on or within one mile of the APE per a 1995 archaeological survey. In addition, all wetland-related work will not exceed one foot in depth, only impacting previously disturbed soils due to farming from at least 1939 until the 1970s.

Habitat Resources: The project will cause no adverse affect to native habitat because limited native habitat is present. The creation of wetlands and the planting of native grasses and forbs will increase wetland habitat, improve grassland habitat and reduce soil erosion.

The Cerro Gordo County Conservation Board will initiate Clean Water Act permitting processes for working in wetlands and in the floodplain from the Federal and State authorities if necessary. Only those projects with Clean Water Act permits and State permits or under appropriate exemptions are constructed.

Biological Resources: No negative responses are anticipated for federally listed species as none are found on the project site during the construction season. There may be short term impacts to wetland and grassland species as the existing vegetation will be disturbed during implementation of the project. This impact would be minimized to an acceptable level by following the prescriptions to protect water quality in the Clean Water Act Section 404 Nationwide Permit that will be applied to this project if needed. These prescriptions are designed to eliminate or greatly reduce the input of sediments in the water body. Other wetland and upland fauna such as reptiles, amphibians, small mammals, wetland dependent migratory birds, and grassland dependent migratory birds will benefit in the long term from the reduced erosion and improvement of habitat suitability for these diverse species.

Drainage: The projects would not cause any additional artificial increase to the natural level of surface water or groundwater. The projects may improve drainage by keeping excess sediment deposits out of the Winnebago River. Thus, this project would not have any impact to drainage on neighboring lands.

Socioeconomic Impacts: No new loss of local taxes will occur because the property is currently exempt from property taxes.

4.4 **Alternative C: Fish Stocking**

Archeological Resources: This restoration project would not affect any prehistoric and historic resources, Native American human remains and Cultural objects, traditional and sacred sites. There are not any physical disturbances associated with stocking fish in the river by using existing access points. There are no archeological resources on the surface at the river access points.

Habitat Resources: The project would cause no adverse affects to native habitat. There are no physical disturbances associated with stocking fish in the river by using existing access points.

Biological Resources: No impacts to federally listed species are predicted because none are found at the project sites during the late summer stocking season. The Bald Eagle will benefit by replenishment of winter forage resources.

Drainage: The project would not cause any additional artificial increase to the natural level of surface water or groundwater. Thus, this project would not have any impact to drainage on neighboring lands.

Socioeconomic Impacts: No loss of local taxes will occur due to this project.

Table 2. Summary of environmental consequences by action alternative.

Attribute	Alternative A Lime Creek Conservation Area	Alternative B Winnebago Oxbow	Alternative C Fish Stocking
Culture Resources	No effects	No effects	No effects
Grasslands Pre-Project	Yes – Cool Season	Yes- Cool Season	No
Grasslands Post-Project	Yes –Native Prairie	Yes –Native Prairie	No
Migratory Birds	Benefits	Benefits	No change
Wetlands	Long term benefits	Long term benefits	No change
Resident Aquatic Dependent Wildlife	Benefits	Benefits	No change
Federally Listed Endangered, Threatened Species	No affects	No affects	No affects
Hydrology/Drainage	No affects to neighbors	No affects to neighbors	No affects
Socioeconomic Issues	No affects	No affects	No affects
Current Ownership	Public	Public	Public
Post Project Ownership	Public	Public	Public
Part of larger restoration effort	Yes	Yes	No

5.0 List of Preparers

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6.0 References, Consultation, and Coordination

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7.0 Public Review and Comment

Pending

Appendix A

Restoration Plan and Environmental Assessment for the Calmus Creek Injuries, Cerro Gordo County, Iowa

Figure 1. Map of the Winnebago River Watershed, including Calmus Creek, Cerro Gordo County, Iowa



Source: "Surf Your Watershed", EPA website: http://cfpub.epa.gov/surf/huc.cfm?huc_code=07080203

Figure 2. Aerial Photograph (2002) depicting vicinity of Calmus Creek injury site and the locations of the proposed project sites, Cerro Gordo County, Iowa. Site 1 is the Lime Creek Conservation Area. Site 2 is the Winnebago Oxbow.

