

FINAL

Restoration Plan and Environmental Assessment

for

**Natural Resource Injuries at the Mid-America Tanning
Superfund Site, Woodbury County, Iowa**

July 2002

**U.S. Fish and Wildlife Service
Rock Island 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 the various alternatives available to the action agency to restore the wetlands that were injured as a result of environmental contamination at a hazardous waste site. The action agency is obligated to locate a wetland restoration project as close as possible to the area where the injury occurred to ensure that the local community benefits fully from the project.

The Comprehensive Environmental Compensation and Liability Act (CERCLA) (Title 42 United States Code Sections 9061 to 9675) and the Natural Resource Damage Assessment and Restoration regulations NRDAR (Title 43 Code of Federal Regulations Part 11) are Federal laws that direct the removal or remediation of hazardous substances that have been released into the environment and the restoration of any natural resources that have been injured by such a release. According to these laws, the government trustees for natural resources are responsible for ensuring that the public is fairly compensated for injuries to natural resources from chemicals released into the environment at a hazardous waste sites.

The U.S. Fish and Wildlife Service (Service), as a Federal natural resource trustee, sought a natural resource damage claim from the responsible party of the Mid-America Tanning Company CERCLA Site (Site) because natural resources under the Service's trusteeship were injured and the remedial action at the Site was not able to restore the them. The injured natural resources included wetlands and wetland dependent wildlife such as aquatic migratory birds. Many of the aquatic migratory bird species that used the Site included ducks and geese.

In 1998, the Service received natural resource damage settlement monies from the responsible party. In 1999, the Federal government entered into a civil consent decree with the responsible party that granted a covenant not sue for the wetland damages.

The trustee is now required to use the settlement monies for a restoration project. The trustee is obligated to develop and adopt a Restoration Plan (RP) 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 all available restoration alternatives. In addition, the Service as a Federal agency, 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 due to contamination of wetlands at the Site. Furthermore, the Service is responsible for satisfying the requirements in the 1999 consent decree with the responsible party. The requirements of the consent decree included using the

settlement funds to restore wetland habitat as compensation for injuries to wetlands at the Site and migratory birds that use the Site.

The trustee plans to use the restoration funds in such a manner as to provide the maximum benefits since the extent of the injuries to the wetland complex and biological resources were not precisely delineated. This includes maximizing the utilization of the settlement fund amount and acreage of resources protected. To accomplish this the trustee will seek partnership opportunities to leverage the settlement funds to secure or be part of larger scale projects. Partnerships will also be needed to manage and protect the natural resources on into the future. The trustees plans to protect the natural resources developed for the restoration project in perpetuity because the exact time scale for recovery of the Site wetlands cannot be determined.

1.3 Background

The Site is located five miles south of the City of Sergeant Bluff, Woodbury County, in western Iowa. The Site facilities were used to process animal hides (curing and tanning) under several company names throughout much of the 1970s and 1980s. Due to the release of hazardous substances at the property, the Site was placed on the National Priorities List pursuant to CERCLA in 1989 for remediation.

The Site covers 98.7 acres and contains a 28-acre wetland. This wetland was contaminated with wastewater liquids discharged from the curing and tanning facilities. The wastewater liquids contained heavy metals. High concentrations of toxic heavy metals such as chromium were detected in the wetland's surface water, sediments, aquatic plants and waterfowl tissue collected from the Site. Ecological risks and injury to wetland dependent migratory birds were predicted due to the heavy metal contamination in the wetland. The wetland was not restored by the remedial actions at the Site. The wetland is expected to recover naturally over the long term.

2.0 The Alternatives

2.1 Alternatives Eliminated from Detailed Analysis

The trustee did not consider the restoration alternative of on-site rehabilitation for the following reason. The on-site rehabilitation alternative does not appear to be a feasible alternative because it would cost more than the settlement amount. The cost to remove contaminated sediments and vegetation alone may cost at least two million dollars based on estimates from another contaminated marsh clean up project in Iowa. On-site rehabilitation would need to include the treatment or purging of contaminated waters, dredging and disposal of contaminated sediments and the re-planting of aquatic vegetation.

2.2 The Alternatives Carried Forward for Detailed Analysis

In developing the RP, the trustee considered the various types of restoration alternatives that are prescribed in the NRDAR regulations (Title 43 Code of Federal Regulations Part 11.81). The term restoration as used here refers to an action or group of actions taken to either 1) rehabilitate the injured natural resource, 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. It is preferred to consider restoration projects in the following priority order:

- ! Rehabilitation of the natural resources at the same location, if clean-up or remediation was sufficient to prevent future problems;

- ! Replacement or creation of the same type of natural resources at or in the vicinity of the loss;
- ! Acquisition of similar natural resources in the vicinity of the loss.

Two broad categories of restoration actions include in-kind and out-of-kind. In-kind means that the project focuses on the restoration of natural resources that are comparable to those that were lost at the Site. Out-of-kind means that the project focuses on restoration of natural resources that are different than those that were lost. Out-of-kind projects are usually considered if in-kind projects are not available or feasible.

In our review for the RP, we were able to identify and develop the following alternatives and options to meet the restoration need. The available alternatives include the no action alternative, an off-site replacement project and three acquisition of equivalent resources projects. The on-site rehabilitation alternative was not considered further.

2.2.1 Alternative A: Acquisition of Equivalent Resources

The Natural Resource Conservation Service (NRCS) is currently developing a series of wetland restoration projects in western Iowa under their Wetland Reserve Program (WRP). Shallow excavations, the construction of dikes, plugging of drainage systems and planting of native species are the types of restoration activities prescribed for WRP projects. Several private landowners in Woodbury County and in the nearby county of Harrison have enrolled in the WRP. As a WRP project, the landowner and the NRCS enter into an agreement to cost share the restoration of wetlands and grasslands on existing croplands and maintain the restored wetlands and grasslands for the term of a conservation easement. Conservation easements may be set for a fixed number of years or permanent. The areas targeted for wetland restoration usually contain prior converted wetlands. The landowner has the option to sell the property at the fair market residual value¹. Three of these WRP properties are now being offered for sale and this presents an opportunity to acquire the equivalent natural resource which was lost at the Site. Local and state government agencies have expressed their interest in accepting fee title and managing these lands for public use in perpetuity.

2.2.1.1 Option One: Boehmer Property

The Option One property is in Woodbury County. A total of 587 acres of wetlands would be included in the acquisition. This property is currently for sale. No organization or government agency has agreed to purchase the property at this time. The residual property value is about \$118,000.00. The new owner would be responsible for the \$12, 231.60 in restoration costs per the WRP contract which includes a permanent conservation easement.

2.2.1.2 Option Two: Vatnsdal Property

The Option Two property in Harrison County. About 221 acres of wetlands would be included in the acquisition. This property was offered for sale. The Iowa Natural Heritage Foundation purchased this property to hold for reuse by a

¹ Residual Value refers to the fair market price of the land after the value of the conservation easement is considered.

conservation agency. The Harrison County Conservation Board is interested in receiving fee title and manage the property as part of its public lands program. The residual property value is \$48, 000.00. The new owner would be responsible for the \$11, 500.00 in restoration costs per the WRP contract which includes a permanent conservation easement.

2.2.1.3 Option Three: Rand Property

The Option Three Property in Woodbury County. About 335.1 acres of wetlands would be included in the acquisition. This property was offered for sale. The Iowa Natural Heritage Foundation purchased this property to hold for reuse by a conservation agency. The Iowa Department of Natural Resources (IADNR) is interested in receiving fee title and manage the property as part of its public lands program. The fair market residual property value is \$67, 020.00. The new owner would be responsible for the \$11, 900.00 in restoration costs per the WRP contract which includes a permanent conservation easement.

2.2.2 Alternative B: No Action

Under the no action alternative, injuries to natural resources would be uncompensated. Given sufficient time, potentially between 25 and 150 years, natural processes should enable the natural resources at the Site to recover to pre-injury levels.

2.2.3 Alternative C: Off Site Replacement

One off site replacement project was identified in Pottawattamie County. A private landowner expressed interest in restoring wetlands on their property in an area that was previously used for agricultural and is now being developed for wildlife management and hunting. The proposed construction activities for this wetland restoration project would include excavation to create a basin, building a dike to retain surface water, installing a groundwater pump to bring water to the newly created basin and planting of wetland vegetation. The engineering design, contracting, purchasing and oversight would be the responsibility of several Divisions within the Service. The settlement funds would have to cover the costs of the materials and implementation of the restoration project. The restoration project costs are estimated at roughly \$175,000.00. This is a conservative estimate. About a 45 acre wetland would be created with this construction project. The wetland would remain in private ownership.

2.3 Preferred Project

Based on a comparison of the alternatives, the preferred alternative is the Acquisition of Equivalent Resources Alternative and two of the options under this alternative. The preferred options selected are the Vatsdal Property and Rand Property projects. Implementation of these projects exceeds the need of the action and maximizes benefits.

The amount of the settlement does not completely cover all of the acquisition costs for these two options, but the partners have agreed to pay for the remainder of the acquisition costs, interest, back drainage and property taxes. The remainder of the acquisition costs not including interest and taxes are estimated at \$10, 023.00 for the Vatsdal property and \$13, 997.00 for the Rand properties. In addition the partners will be responsible for the landowner share of the WRP contract costs as described below for each property.

Table 1. Summary of alternative actions.

Attribute	Alternative A - Option One	Alternative A - Option Two	Alternative A - Option Three	Alternative B	Alternative C
Alternative Name	Acquisition of Equivalent Resources	Acquisition of Equivalent Resources	Acquisition of Equivalent Resources	No Action	Off Site Replacement
Type of Restoration	Purchase real property with wetland habitat	Purchase real property with wetland habitat	Purchase real property with wetland habitat	None	Wetland restoration project
Cost	\$118,000.00	\$48,000.00	\$67,020.00		\$175,000.00
Partnerships	No	Yes	Yes	No	No
Fee Title Holder Post Purchase	Remain in private ownership	Harrison County Conservation Board	Iowa Department of Natural Resources	Remain in private ownership	Remain in private ownership

3.0 Affected Environment

3.1 Alternative A: Acquisition of Equivalent Resources

3.1.1 Option One: Boehmer Property

Description: The project area is in Woodbury County (Attachment I). The project area size is 588.1 acres.

Cultural Resources: There are no buildings in the project area. There are no archeological resources known based on the NRCS WRP screening.

Habitat Resources: The project area was used for row crop production. The cropfields are currently being converted to conservation habitats. A total of 587 acres of wetlands and 1.1 acres of grasslands will be created for the NRCS WRP restoration project that is underway at this time.

Biological Resources: There are no federally listed endangered species in project area (Section 7 form Attachment 2). The bald eagle occurs in Woodbury County during the winter months. In addition, the federally listed endangered Interior least tern (*Sterna antillarum*) and the federally listed threatened piping plover (*Charadrius melodus*) are found in Woodbury County along the Missouri River during the breeding season.

The agricultural land use provided limited habitat for waterfowl, other aquatic migratory

birds and wetland dependent resident wildlife. However, the newly created wetlands and grasslands will support large numbers of migrating birds, nesting waterfowl and other aquatic birds once the WRP restoration is completed. It is anticipated that the populations of wetland dependent wildlife especially amphibians will increase dramatically.

Surrounding Land Use The property is within the WRP Designated Owego Wetland Restoration Complex Project area. The Owego Wetland Complex will encompass a portion of the Missouri River floodplain in Woodbury County. This area is bounded by county road D38 on the north, state road 982 and county road K67 on the east, the Woodbury/Monona county line on the south, and a staggered northwesterly line from county road K35 to county road K53 on the west. This region consists almost entirely of the Luton-Salix soil association of level to nearly level, dark colored, clayey soils that are moderately to very poorly drained. The national wetland inventory identifies many small temporarily and seasonally flooded palustrine (marsh/swamp) type wetlands. The project area includes approximately seventy square miles (45,000 acres).

3.1.2 Option Two: Vatsndal Property

Description: The project area is in Harrison County (Attachment I). The project area size is 240 acres.

Cultural Resources: There are no buildings in the project area. There are no archeological resources known based on the NRCS WRP screening.

Habitat Resources: The project area was used for row crop production. A total of 221 acres of wetlands and 19 acres of grasslands will be created on the crop fields for the NRCS WRP restoration project that is underway at this time.

Biological Resources: There are no federally listed endangered species in project area (Section 7 form Attachment 2). The bald eagle occurs in Woodbury County during the winter months.

The agricultural land use provided limited habitat for waterfowl, other aquatic migratory birds and wetland dependent resident wildlife. However, the newly created wetlands and grasslands will support large numbers of migrating birds, nesting waterfowl and other aquatic birds once the WRP restoration is completed. It is anticipated that the populations of wetland dependent wildlife especially amphibians will increase dramatically.

Surrounding Land Use This area is located adjacent to land owned by the Iowa Department of Natural Resources (St. John's Wildlife Park).

3.1.3 Option Three: Rand Property

Description: The project area is in Woodbury County (Attachment I). The project area size is 335.1 acres.

Cultural Resources: There are no buildings in the project area. There are no archeological resources known based on the NRCS WRP screening.

Habitat Resources: The project area was used for row crop production. A total of 335.1 acres of wetlands will be created on the crop fields for the NRCS WRP restoration project that is underway at this time.

Biological Resources: There are no federally listed endangered species in project area (Section 7 form Attachment 2). The bald eagle occurs in Woodbury County during the winter months. In addition the Interior least tern and the piping plover are found in Woodbury County along the Missouri River during the breeding season.

The agricultural land use provided limited habitat for waterfowl, other aquatic migratory birds and wetland dependent resident wildlife. However, the newly created wetlands and grasslands will support large numbers of migrating birds, nesting waterfowl and other aquatic birds once the WRP restoration is completed. It is anticipated that the populations of wetland dependent wildlife especially amphibians will increase dramatically.

Surrounding Land Use: The property is within the WRP Designated Owego Wetland Restoration Complex Project area. The Owego Wetland Complex will encompass a portion of the Missouri River floodplain in Woodbury County. This area is bounded by county road D38 on the north, state road 982 and county road K67 on the east, the Woodbury/Monona county line on the south, and a staggered northwesterly line from county road K35 to county road K53 on the west. This region consists almost entirely of the Luton-Salix soil association of level to nearly level, dark colored, clayey soils that are moderately to very poorly drained. The national wetland inventory identifies many small temporarily and seasonally flooded palustrine (marsh/swamp) type wetlands. The project area includes approximately seventy square miles (45,000 acres).

3.2 **Alternative C: Off Site Replacement**

Description: The project area is in Pottawattamie County (Attachment I). The project area size is 45 acres.

Cultural Resources: There are no buildings in the project area. The presence of archeological resources is unknown.

Habitat Resources: The project area is currently used for row crop production and contains a small grassy wetland. The current wetland size is three acres. This three acre wetland floods seasonally and is dry the remainder of the year. Forty two acres of new wetland habitat would be created around this three acre wetland for a total of 45 acres of wetlands when the restoration project is completed.

Biological Resources: There are no federally listed endangered species in project area (Section 7 form Attachment 2). The bald eagle occurs in Pottawattamie County during the winter months. In addition, the federally listed endangered Interior least tern (*Sterna antillarum*) and the federally listed threatened piping plover (*Charadrius melodus*) may be found in Pottawattamie County along the Missouri River during the breeding season.

The three acre wetland provides limited habitat for waterfowl and other aquatic migratory birds at this time. There may be some waterfowl use of the seasonally flooded three acre wetland during migration seasons. The seasonally flooded wetland may support amphibian populations such as

frogs and toads.

Surrounding Land Use: The dominant land use surrounding the project area is agriculture.

Table 2. Summary of current environmental characteristics for the four restoration project areas considered in the alternative analysis.

Attribute	Alternative A Option 1 Boehmer Property	Alternative A Option 2 Vatnsdal Property	Alternative A Option 3 Rand Property	Alternative C Goodman Property
County	Woodbury	Harrison	Woodbury	Pottawattamie
Project Area Size	588.1 acres	240 acres	335.1 acres	45 acres
Buildings in Project Area	No	No	No	No
Archeological Resources	None known based on NRCS WRP screening.	None known based on NRCS WRP screening.	None known based on NRCS WRP screening.	Unknown
Primary Land Cover	Row Crops, Conservation post WRP restoration	Row Crops, Conservation post WRP restoration	Row Crops, Conservation post WRP restoration	Row Crops
Surrounding Land Use	Mix of agricultural and within Owego Wetland Complex	Mix of agricultural and adjacent to State park	Mix of Agriculture and within Owego Wetland Complex	Agriculture
Wetlands Present	587 acres post WRP restoration	221 acres post WRP restoration	335.1 acres post WRP restoration	3 acres
Grasslands Present	1.1 acres post WRP restoration	19 acres post WRP restoration	0 acres post WRP restoration	0 acres
Waterfowl	No use now, high use post WRP restoration	No use now, high use post WRP restoration	No use now, high use post WRP restoration	Limited use
Aquatic Migratory Birds	No use now, high use post WRP restoration	No use now, high use post WRP restoration	No use now, high use post WRP restoration	Limited use

Other Wetland Dependent Wildlife	No use now, high use post WRP restoration	No use now, high use post WRP restoration	No use now, high use post WRP restoration	Limited use
Federally Listed Endangered (E), Threatened (T) and Candidate (C) Species	None in project area. Bald eagle, Interior least tern (E) and piping plover (T) found in region.	None in project area. Bald eagle found in region.	None in project area. Bald eagle, Interior least tern and piping plover found in region.	None in project area. Bald eagle, Interior least tern and piping plover found in region.

4.0 Environmental Consequences

4.1 Affects Common to all Action Alternatives

Historical Resources: The four projects considered under the action alternatives would have no affect on historic buildings for no buildings are within the project areas.

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 alternatives. The action alternatives currently are within unoccupied and unused for agricultural, industrial or any other economic activity. None of the alternatives would create any 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 a series of similar actions in a landscape or regional setting. Acquiring the wetland properties is considered to have positive environmental consequences. Native habitats and wildlife populations will all benefit on a regional basis especially for the WRP Owego Wetland Restoration Complex Project. The long term protection wetlands in particular will have an overall positive impact on the surrounding region and the human environment. For example, Alternatives B and C will all result in an increase in water retention. Water retention will have flood control benefits to downstream communities, and protection of the existing water supply for the area municipalities.

4.2 Alternative A: Acquisition of Equivalent Resources

4.2.1 Option One: Boehmer Property

Archeological Resources: Land acquisition generally will have no effect on archeological resources. Traditional cultural properties and sacred sites of concern to Indian tribes and other ethnic and cultural groups receive increased protection to the extent the public agency can obtain information about them.

Habitat Resources: The proposed acquisition action would cause no adverse affects to wildlife habitat. Acquisition would have a positive impact due to the long term protection and management of wildlife habitat by a conservation agency if one could be identified.

Biological Resources: No impacts to Federally listed species are predicted because none are found in the project area. However, the Federally listed threatened bald eagle, endangered Interior least tern and endangered piping plover use the Missouri River corridor and may potentially forage in the project area. Wetland enhancement would provide benefits to the listed species as additional foraging habitat in the region. No negative impacts to wildlife species are predicted because the action is acquisition only. The WRP restoration project and acquisition would have a positive impact for waterfowl, aquatic migratory birds and wetland dependent wildlife because this alternative would provide long term protection and management of wildlife habitat by a conservation agency. Waterfowl and aquatic bird species would have additional migration staging grounds for replenishment. Waterfowl and aquatic bird species would have an expanded breeding range for those species that nest in the central United States. Resident wetland dependent wildlife would have a population explosion as a large amount of suitable habitat becomes quickly available for recolonization.

Drainage: This project would not cause any additional artificial increase of the natural level, width, or flow of waters. Thus, this option would not have any impact on drainage from neighboring lands.

Socioeconomic Impacts: No loss of local taxes will occur because the property will remain in private ownership and property and drainage taxes will continue to be paid to the county.

4.2.2 Option Two: Vatnsdal Property

Archeological Resources: Land acquisition generally will have no effect on archeological resources. Traditional cultural properties and sacred sites of concern to Indian tribes and other ethnic and cultural groups receive increased protection to the extent the public agency can obtain information about them.

Habitat Resources: The proposed acquisition action would cause no adverse affects to wildlife habitat. Acquisition would have a positive impact due to the long term protection and management of wildlife habitat by a conservation agency.

Biological Resources: No impacts to Federally listed species are predicted because none are found in the project area. However, the Federally listed threatened bald eagle uses the Missouri River corridor and may potentially forage in the project area. Wetland enhancement would provide benefits to the listed species as additional foraging habitat in the region. No negative impacts to wildlife species are predicted because the action is acquisition only. The WRP restoration project and acquisition would have a positive impact for waterfowl, aquatic migratory birds and wetland dependent wildlife because this alternative would provide long term protection and management of wildlife habitat by a conservation agency. Waterfowl and aquatic bird species would have additional migration staging grounds for replenishment. Waterfowl and aquatic bird species would have an expanded breeding range for those species that nest in the central United States. Resident wetland dependent wildlife would have a population explosion as a large amount of suitable habitat becomes quickly available for recolonization. The rate of

increased use of the newly created WRP restoration areas by migratory birds and amphibians is expected to be faster at this project site as compared to the others because of the proximity to the established state plant and wildlife conservation area.

Drainage: This project would not cause any additional artificial increase of the natural level, width, or flow of waters. Thus, this option would not have any impact on drainage from neighboring lands.

Socioeconomic Impacts: No significant loss of tax revenue is predicted. There would be a decrease of property tax because the property fee title would transfer to Harrison County and the county is tax exempt. The contribution of the property tax from this property is relatively small compared to the overall county tax revenue. In addition, there may be additional revenues in sales tax as the public land serves as a tourist attraction. Drainage taxes would continue to be paid because the local government is not exempt.

4.2.3 Option Three: Rand Property

Archeological Resources: Land acquisition generally will have no effect on archeological resources. Traditional cultural properties and sacred sites of concern to Indian tribes and other ethnic and cultural groups receive increased protection to the extent the public agency can obtain information about them.

Habitat Resources: The proposed acquisition action would cause no adverse affects to wildlife habitat. Acquisition would have a positive impact due to the long term protection and management of wildlife habitat by a conservation agency.

Biological Resources: No impacts to Federally listed species are predicted because none are found in the project area. However, the Federally listed threatened bald eagle, endangered Interior least tern and endangered piping plover use the Missouri River corridor and may potentially forage in the project area. Wetland enhancement would provide benefits to the listed species as additional foraging habitat in the region. No negative impacts to wildlife species are predicted because the action is acquisition only. The WRP restoration project and acquisition would have a positive impact for waterfowl, aquatic migratory birds and wetland dependent wildlife because this alternative would provide long term protection and management of wildlife habitat by a conservation agency. Waterfowl and aquatic bird species would have additional migration staging grounds for replenishment. Waterfowl and aquatic bird species would have an expanded breeding range for those species that nest in the central United States. Resident wetland dependent wildlife would have a population explosion as a large amount of suitable habitat becomes quickly available for recolonization.

Drainage: This project would not cause any additional artificial increase of the natural level, width, or flow of waters. Thus, this option would not have any impact on drainage from neighboring lands.

Socioeconomic Impacts: No significant loss of tax revenue is predicted. There would be a decrease of property tax because the property fee title would transfer to the Iowa Department of Natural Resources and the state is tax exempt. The contribution of the property tax from this property is relatively small compared to the overall county tax revenue. In addition, there may be additional revenues in sales tax as the public land serves as a tourist attraction. Drainage taxes would continue to be paid because the local

government is not exempt.

4.3 Alternative B: No Action

There will be negative effects to habitat and biological resources from the residual contamination in the Site wetlands. These negative effects are expected to diminish over time as the wetland recovers by natural processes. The recovery period may last decades. The increment of natural resource uses and services lost to the public in the past related to chemical contamination and during the recovery period would not be compensated for under the no action alternative. Further, no natural resource benefits or positive effects would be realized from the settlement with the responsible party and the obligations of the consent decree would not be met. The cumulative impacts related to the trustees taking no action on these types of settlements would result in the permanent loss of natural resources.

4.4 Alternative C. Off-Site Replacement

Archeological Resources: This restoration project would be completed by the Service. The Service might affect some archeological resources if present when it expands the size of the wetland. The potential for the wetland construction project to affect prehistoric and historic resources, Native American human remains and cultural objects, and traditional and sacred sites would be determined early in project planning. The Service field office, with the assistance of the Regional Historic Preservation Officer, would develop a program for conducting inventory surveys and attempt to obtain funding for those surveys. The requirements of the several cultural resources laws, executive orders, Federal regulations, policies and standards specified in the Fish and Wildlife Service Manual 614 FW 1-5 apply in all cases. Archeological investigations and collecting are performed only in the public interest by qualified archeologists working under an Archaeological Resources Protection Act or Antiquities Act permit

Habitat Resources: The three acre wetland currently in the project area would be enhanced to create an additional 42 acres of wetland habitat. No other habitat changes are predicted based on the proposed project construction design.

Biological Resources: No impacts to Federally listed species are predicted because none are found in the project area. However, the Federally listed threatened bald eagle, endangered Interior least tern and endangered piping plover use the Missouri River corridor and may potentially forage in the project area. Wetland enhancement would provide benefits to the listed species as additional winter foraging habitat. No long term impacts to wildlife species are predicted because the area that is being enhanced is currently being used for row crop production and would not typically support a diverse wildlife species community. Short term impacts to wetland dependant wildlife may occur if the construction activities around the existing three acre wetland coincided with breeding season for these species. However, wetland dependent wildlife would benefit over the long term from the project.

Drainage: This project as proposed would cause an increase of the natural level and size of surface water. However, the change in hydrology would be limited to adjacent lands under the same fee title ownership, therefore, no real estate interest, flowage easement or cooperative agreement is needed. Thus, this project alternative would not have any impact on drainage from neighboring lands.

Socioeconomic Impacts: No loss local taxes will occur because the property will remain in private ownership and all taxes will continue to be paid to the county.

Table 3. Summary of environmental consequences by alternative.

Attribute	Alternative A Acquisition Option 1 Boehmer Property	Alternative A Acquisition Option 2 Vatnsdal Property	Alternative A Acquisition Option 3 Rand Property	Alternative B No Action	Alternative C Off Site Replacement
Cultural Resources	No affects	No affects	No affects	No affects	No affects
Wetlands Present Pre-project	587 acres	221 acres	335.1 acres	28 acres injured	3 acres
Wetlands Present Post-project	587 acres	221 acres	335.1 acres	28 acres recovered after 25 - 150 years	45 acres
Grasslands Pre-project	1.1 acres	19 acres	0 acres	0 acres	0 acres
Grasslands Post-Project	1.1 acres	19 acres	0 acres	0 acres	0 acres
Waterfowl	No affects.	No affects. Long term benefits due to public ownership.	No affects. Long term benefits due to public ownership.	Adverse affects from exposure to toxicants.	No affects. Long term benefits due to increased habitat size.
Aquatic migratory Birds	No affects	No affects. Long term benefits due to public ownership.	No affects. Long term benefits due to public ownership.	Adverse affects from exposure to toxicants.	No affects. Long term benefits due to increased habitat size.
Resident Wetland Dependent Wildlife	No affects	No affects. Long term benefits due to public ownership.	No affects. Long term benefits due to public ownership.	Adverse affects from exposure to toxicants.	Possible short term impacts. Long term benefits due to increased habitat size.

Federally Listed Endangered, Threatened Species	Enhancement potential for three listed species	Enhancement potential for one listed species	Enhancement potential for three listed species	Adverse affects from exposure to toxicants should any listed species use the Site.	Enhancement potential for one listed species
Hydrology/Drainage	No additional changes	No additional changes	No additional changes	No additional changes	Localized changes
Socioeconomic Issues	No affects	No to minimal affects	No to minimal affects	No to minimal affects	No affects
Current Ownership	Private	Private	Private	Private	Private
Post Project Ownership	Private	Harrison County Conservation Board	Iowa Department of Natural Resources	Private	Private
Part of larger restoration effort	Yes, within Owego Complex	Yes, adjacent to state park	Yes, within Owego Complex	No	No

5.0 List of Preparers

Michael J. Coffey, Contaminants Biologist, Rock Island Ecological Services Field Office, 4469 48th Avenue Court, Rock Island, IL 61201

6.0 References, Consultation and Coordination

Grosse, Jeff. U.S. Fish and Wildlife Service. Regional Office, Minneapolis, Minnesota,

Van Riper, Steve. U.S. Fish and Wildlife Service, DeSoto National Wildlife Refuge, Iowa

Wiener, Ed. Iowa Department of Natural Resources, Des Moines, Iowa

Sproul, Tim. Harrison County Conservation Board, Woodbine, Iowa

Stockfleth, Neil. Natural Resources Conservation Service, Iowa

Kurth, Russell, Natural Resources Conservation Service, Iowa

Mountain, Bruce, Iowa Natural Heritage Foundation, Des Moines, Iowa

7.0 Public Review and Comment

A press release was issued by the Service on April 5, 2002 to solicit issues or concerns from the public. The public comment period was open between the dates of April 5 to May 6, 2002. There were no comments or questions received on the RP/EA during the public review and comment period. We did

receive a request for information on the Mid-America Tanning Company Superfund Site from one individual and the contact person from the U.S. Environmental Protection Agency was provided.

Attachment I

Map of Project Site Locations

Attachment II

**Endangered Species Act
Section 7 IntraService Consultation Form**