Final

Restoration Plan and Environmental Assessment

for the

March 2002 Yellow River Fish Kill
Allamakee County, Iowa

September 24, 2007

U.S. Department of Interior
Fish and Wildlife Service
Ecological Services Field Office
1511 47th Avenue
Moline, Illinois 61265

Table of Contents

1.0 Purpose and Need for Action 1
- 1.1 Purpose 1
- 1.2 Need 1
- 1.3 Background 2

2.0 The Alternatives 2
- 2.1 Alternatives Considered but Eliminated from Further Study 2
- 2.2 Alternatives Carried Forward for Analysis 3
  - 2.2.1 Alternative A. Enhancement of Stream Habitat 3
  - 2.2.2 Alternative B. No Action 4
  - 2.2.3 Alternative C. Fish Stocking 4

3.0 Affected Environment 5
- 3.1 Alternative A. Enhancement of Stream Habitat 5
- 3.2 Alternative B. No Action 6
- 3.3 Alternative C. Fish Stocking 6
- Table 1. Summary of environmental conditions 7

4.0 Environmental Consequences 8
- 4.1 Effects Common to All Action Alternatives 8
- 4.2 Alternative A. Enhancement of Stream Habitat 8
- 4.3 Alternative B. No Action 9
- 4.4 Alternative C. Fish Stocking 10
- Table 2. Summary of environmental consequences 11

5.0 List of Preparers 12

6.0 References, Consultation, and Coordination 12

7.0 Public Review and Comment 12

Appendices

Appendix A. Map of the Yellow River Watershed and Map of Project Site Locations

Appendix B. Endangered Species Act IntraService Section 7 consultation form

Restoration Plan and Environmental Assessment for the March 2002 Yellow River Fish Kill Allamakee County, Iowa

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 the natural resources that were injured as a result of a fish kill in Hecker Creek and the Yellow River of Allamakee County, Iowa. The fish kill occurred in March 2002 from the un-permitted release of partially treated sewage into the before mentioned waters.

The Comprehensive Environmental Compensation and Liability Act (CERCLA) (Title 42 United States Code Sections 9061 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 parties for the Yellow River fish kill because natural resources under their Trusteeship were injured and the response actions did not restore them to the condition that existed prior to the kill. The U.S. Fish and Wildlife Service along with the National Park Service are Federal natural resource Trustees and the Iowa Department of Natural Resources is the State natural resource trustee for the injured natural resources. The injured natural resources included surface waters, surface water that flows through a National Monument, aquatic life including fishes, and aquatic dependent wildlife such as migratory birds.

In 2004, the Federal and/or State governments received natural resource damage settlement monies from two of three responsible parties. In 2004, the government entered into a civil consent decree with these responsible parties.

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 to the surface water, loss of aquatic life, and affects to migratory birds. Furthermore, the Trustees are responsible for satisfying the requirements in the 2004 consent decrees with the responsible parties. The requirements of the consent decrees 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 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 length of stream affected by the fish kill is estimated to be 3.1miles long and included the lower reach of Hecker Creek and part of the Yellow River starting at the confluence with Hecker Creek. The Yellow River flows through Allamakee County in northeastern Iowa on into the Mississippi River (see map in Appendix A). This part of Iowa is within the Driftless Area. The Driftless Area is a region of the corners of Minnesota, Wisconsin, Iowa and Illinois that contains un-glaciated hills and valleys including cold water streams. The lower reach of the Yellow River flows through the Effigy Mounds National Monument.

The fish kill was the result of releasing the partially treated sewage that had built up in the nearby municipal sewage treatment lagoons from its industrial clients. The partially treated sewage contained high ammonia concentrations and harmful biological oxygen demand conditions that were toxic to aquatic life. A total of 4,860 fish were found dead including 4467 minnows, 276 darters, 106 suckers, and 11 stonecats. The Yellow River is used for recreational fishing. The fish serve as food for resident wildlife and migratory birds

2.0 The Alternatives

In developing the Restoration Plan, the Trustees considered the various types of restoration alternatives that are defined in the NRDAR regulations (Title 43 Code of Federal Regulations Part 11.81). Restoration is defined as an action or group of actions taken to either: 1) rehabilitate the injured natural resource if clean-up 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. In-kind means that the project focuses on the restoration of natural resources that are comparable to those that were lost. 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.

The Trustees prefer to locate the restoration action in the vicinity of the natural resource loss. However, it is often necessary to locate restoration actions further away, but as close as possible, based on the restoration opportunities available.

2.1 Alternatives Eliminated from Analysis

The Trustees did not consider the restoration alternative of on-site rehabilitation for the following reason. The on-site rehabilitation alternative was deemed unnecessary because the partially treated sewage was either washed downstream and diluted by the Mississippi River or decayed in Hecker Creek and in the Yellow River.

It is expected that over time, aquatic life will re-colonize the affected reaches of these streams and fish species, numbers, and age structures will recover to the pre-spill condition. Therefore, our restoration action is intended to compensate for the interim lost use of the natural resources.

2.2 The Alternatives Carried Forward for Analysis

In our review for the Restoration Plan, we were able to identify and develop the following alternatives to meet the restoration purpose and need to compensate the public for the interim fish losses. The available alternatives include enhancement of stream habitat quality in the Yellow River Watershed, natural recovery (no action), or stocking of fish into the Yellow River.

2.2.1 Alternative A: Enhancement of Stream Habitat (preferred alternative)

Under the enhancement alternative, injuries to natural resources would be compensated by improving the habitat conditions of the stream which in turn will promote good water quality and increase the production of fishes and other aquatic life.

The objectives for Alternative A are to enhance stream quality by construction of projects that offer aquatic habitat structures and reduce sedimentation. Typical projects that accomplish these objectives include stream bank stabilization and stream bed stabilization. These kinds of projects create additional habitat features that are suitable for many kinds of aquatic life and they reduce sediment loads in the stream through stabilization of the bank or bed substrates. Better water quality and increased quantity and/or quality of habitat support greater aquatic life productivity, survival, and diversity.

Bank stabilization projects are constructed in streams with steep eroding banks. Bed stabilization projects are constructed in streams with a migrating eroding bed escarpment. The Yellow River and its tributaries would benefit from stream bank stabilization projects because of the many steep un-vegetated banks that cave during high flow events.

There is a Yellow River Watershed initiative lead by the Allamakee Soil and Water Conservation District and the U.S. Department of Agriculture's Natural Resource Conservation Service. There are several other partners that support this initiative including the Iowa Department of Natural Resources, Iowa Department of Agriculture and Land Stewardship, National Park Service, and other local organizations. This partnership has a similar objective to improve stream habitat and water quality.

Staff from the Allamakee County Soil and Water Conservation District and the Natural Resource Conservation Service have solicited interest from local landowners to develop stream bank stabilization projects in the Yellow River Watershed as part of a grant proposal package. A number of landowners have responded to this request. The potential projects were ranked based on protocols developed by the Allamakee County Soil and Water Conservation District and the Natural Resource Conservation Service, and a fishery benefit determination by the Iowa Department of Natural Resources.

The project ranking protocol include scores for severity of erosion problem, suitability for stream bank stabilization structures, cooperation (including cost share) by the landowner, and environmental review for incidental affects to cultural and natural resources (See Appendix A for resource affects analysis checklist). The fishery benefits determination included presence of cold water fish species and the potential for a diverse assemblage of fishes in the stream.

There is an annual flux of partnership funds from a variety of sources so it is not possible to determine the exact number of projects that can be funded in any given year. It is predicted that about five projects will be funded and constructed from the contributions of these consent decree settlement funds.

The proposed projects will be constructed by contractors of the Allamakee Soil and Water Conservation District and the Natural Resource Conservation Service.
The specific stream bank stabilization projects will be located on private properties along the Yellow River in the vicinity of the fish kill reaches. See Appendix B for a map of the proposed project sites.

The proposed individual stream bank stabilization projects have seven main steps in this case. These features are described below.

a. Excavate the incised steep stream bank to a gentle slope in the floodplain for about 16 feet back and about 300 to 400 feet along the stream reach.
b. Cover slope with at least two feet of rip rap.
c. Install fish hides (LUNKER Structures) at the toe where feasible.
d. Spread the spoil out over the new slope and on to the adjacent floodplain area.
e. Seed the top of the new stream bank slope with native grasses and forbs.
f. Monitor the performance of the construction project. Re-install any features that fail or move the project site if repeated failures occur.
g. The landowner enters into a 10 year maintenance agreement with terms and conditions enforced by the Natural Resources Conservation Service. The agreement includes an access provision for the government during construction and afterwards for compliance monitoring.

2.2.2 Alternative B: No Action

Under the no action alternative, natural resource losses would be uncompensated. Given sufficient time, natural processes should enable the natural resources at the Site to recover to pre-spill conditions.

2.2.3 Alternative C: 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 Yellow 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. The Yellow River is stocked with brown and rainbow trout by the Iowa Department of Natural Resources. No trout were found dead during the fish kill investigation. However, other fish species such as the minnows, suckers, darters, and stonecats were found dead during the fish kill investigation. The minnows, darters, and stonecats are non-game species and the suckers are pursued by some fishermen for food. It is unlikely that these non-trout species are available from hatcheries and would have to be collected and relocated from other river systems.

3.0 Affected Environment

3.1 Alternative A: Enhancement of Stream Habitat

Project Area: The Yellow River originates in southwestern Winneshiek County, Iowa and flows through southern Allamakee County receiving tributaries from northern Clayton County before joining the Mississippi River near Marquette and Effigy Mounds National Monument. Much of river's course is very scenic, coursing between vegetated limestone cliffs. The watershed is located in northeastern Iowa's unglaciated Driftless area. The catchment measures 154,666 acres (626 km²) and is mainly state forest or farmland. Much of the region is quite rugged, and little urban development has encroached upon it. Its beauty, lack of development, recreational potential and interesting wildlife habitats make it a candidate for development as a park. The state has developed Yellow River State Forest over time. Effigy Mounds National Monument has also grown. See Appendix A for map of the Yellow River Watershed. The above taken from http://en.wikipedia.org/wiki/Yellow_River_(Iowa)

Soils: The proposed project sites are located along the banks of the active channel for the middle reaches of the Yellow River (see map in Appendix B). The proposed project sites were surveyed and visually inspected by the Allamakee Soil and Water Conservation District and the Natural Resource Conservation Service. The proposed project sites are all characterized by a vertical eroding stream bank in the floodplain. The depth of the stream bank cut is five to eight feet. The proposed project sites contain about four to five feet of post settlement alluvial material deposits overlaying pre-settlement alluvium of the floodplain. Alluvial fans were not present at the project sites.

Cultural Resources: We used the results of the cultural resources review by the Allamakee County Soil and Water District and the Natural Resources Conservation Service which was conducted in accordance to the State Level Programmatic Agreement between the U.S. Department of Agriculture and the Iowa Historic Preservation Office (ftp://ftp-fc.sc.egov.usda.gov/IA/technical/NRCS_SHPOagreement.pdf). Personnel trained in the standards of the State Level Programmatic Agreement by the Natural Resources Conservation Service's State Office Archeologist examined the State cultural resource site records database, historical plat maps / atlases, and inspected the floodplain and stream banks at the proposed project sites. No site records occur at or adjacent to the proposed project sites. No farmsteads or towns occur at or adjacent to the proposed project sites. No objects were found on the floodplain surface and no objects or soil discolorations were found on the stream bank cut surface.

Habitat Resources: The results of site environmental review and field inspection mentioned above indicate that the native habitats at the project sites include riverine and associated floodplain. The stream bank is bare soil from the erosion disturbance. There are no other wetland types (such as ponds, oxbows, scrub-shrub wetlands, or forested wetlands) in the floodplain at the proposed project sites. The adjacent uplands are used for pasture or row crop (corn and soybean) production.

Biological Resources: The Yellow River supports a cold water fishery in the upstream reaches and a warm water fishery in the lower reaches. The dominant fish species includes minnows, darters, suckers, and trout. There is a limited mussel fauna with no rare species according to recent surveys by the U.S. Geological Survey. The stream bank, floodplain, or adjacent upland land cover as currently described provide limited benefits for wetland dependent wildlife or migratory birds because it contains substrates and vegetation associated with disturbed conditions (high erosion or livestock grazing).

Endangered Species: We reviewed the federally listed species database for Iowa maintained by the U.S. Fish and Wildlife Service. There are no resident federally listed endangered species found at proposed project area except for the federally listed threatened and State listed threatened bald eagle (*Haliaeetus leucocephalus*) may have nest territories in the Yellow River valley depending on annual use patterns (Appendix B). The bald eagle forages along the rivers and streams of Allamakee County mostly during the winter months. The bald eagle has recently been delisted from the Federal Endangered Species Act due to recovery of this species.

Surrounding Land Use: Agriculture including livestock use.

3.2 Alternative B: No Action

Resources and land use will remain in the reduced baseline conditions under the no action alternative until natural recovery is completed which is expected to take up to several years.

3.3 Alternative C: Fish Stocking

Project Area: The Yellow River originates in southwestern Winneshiek County, Iowa and flows through southern Allamakee County receiving tributaries from northern Clayton County before joining the Mississippi River near Marquette and Effigy Mounds National Monument. Much of river's course is very scenic, coursing between vegetated limestone cliffs. The watershed is located in northeastern Iowa's unglaciated Driftless area. The catchment measures 154,666 acres (626 km²) and is mainly state forest or farmland. Much of the region is quite rugged, and little urban development has encroached upon it. Its beauty, lack of development, recreational potential and interesting wildlife habitats make it a candidate for development as a park. The state has developed Yellow River State Forest over time. Effigy Mounds National Monument has also grown. See Appendix A for map of the Yellow River Watershed. The above taken from http://en.wikipedia.org/wiki/Yellow_River_(Iowa)

The proposed project sites are located at boat ramps or other vehicle access points in the middle reaches of the Yellow River.

Cultural Resources: We used the results of the cultural resources review by the Allamakee County Soil and Water District and the Natural Resources Conservation Service which was conducted in accordance to the State Level Programmatic Agreement between the U.S. Department of Agriculture and the Iowa Historic Preservation Office (Appendix F). Personnel trained in the standards of the State Level Programmatic Agreement by the Natural Resources Conservation Service's State Office Archeologist examined the State cultural resource site records database, historical plat maps / atlases, and inspected the floodplain and stream banks at the proposed project sites. No site records occur at or adjacent to the proposed project sites. No farmsteads or towns occur at or adjacent to the proposed project sites. No objects were found on the floodplain surface and no objects or soil discolorations were found on the stream bank cut surface.

Habitat Resources: The native habitat at the proposed project site is riverine. The riverine habitat includes riffles, runs, and pools.

Biological Resources: The Yellow River supports a cold water fishery in the upstream reaches and a warm water fishery in the lower reaches. The dominant fish species includes minnows, darters, suckers, and trout. There is a limited mussel fauna with no rare species according to recent surveys by the U.S. Geological Survey. The river supports wetland dependent wildlife and

migratory birds. Examples of resident wildlife along streams in this part of Iowa include frogs, toads, turtles, snakes, raccoon, mink, and the river otter. Examples of migratory bird use along rivers in this part of Iowa include the song sparrow, red-winged blackbird, great-blue heron, and the barred owl.

Endangered Species: We reviewed the federally listed species database for Iowa maintained by the U.S. Fish and Wildlife Service. There are no resident federally listed endangered species found at proposed project area except for the federally listed threatened and State listed threatened bald eagle may have nest territories in the Yellow River valley depending on annual use patterns (Appendix B). The bald eagle forages along the rivers and streams of Allamakee County mostly during the winter months. The bald eagle has recently been delisted from the Federal Endangered Species Act due to recovery of this species.

Surrounding Land Use: Agriculture including livestock use.

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

Attribute	Alternative A Stream Habitat Enhancement	Alternative C Fish Re-Stocking
County	Allamakee	Allamakee
Project Area	Yellow River	Yellow River
Surrounding Land Use	Agriculture	Agriculture
Cultural Resources	None known based on field inspection and records review.	None known based on field inspection and records review.
Habitats	Riverine Floodplain	Riverine
Wetlands	Yes	Yes
Grasslands	No	No
Aquatic Resources	Cold water fishery	Cold water fishery
Resident Wildlife	Limited Use	Foraging Use
Migratory Birds	Limited Use	Foraging Use
Federally Listed Endangered (E), Threatened (T) and Candidate (C) Species	Bald eagle (Recently delisted)	Bald eagle (Recently delisted)

4.0 Environmental Consequences

4.1 Effects Common to All

Historical Resources: The historical maps and site inspections by the Allamakee County Soil and Water Conservation and the Natural Resources Conservation Service indicated that no farmstead or town buildings existed at the proposed project sites.

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 currently are within unoccupied lands used for agricultural or livestock pasture. 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 a series of similar actions in a landscape or regional setting.

Enhancing stream habitat is considered to have positive environmental consequences. Native habitats, fish, and wildlife populations will all benefit on a regional basis. The long term protection of streams in particular will have an overall positive impact on the surrounding region and the human environment. For instance, the action alternatives will all result in an increase in water quality to the benefit of fish and wildlife or direct benefits to fish and wildlife. Water quality will have benefits to downstream communities, and protection of the existing water resources for active and passive human uses.

Fish stocking or re-introductions may have positive environmental consequences if the stocking does not cause ecological food web changes or introduce diseases. The increase of available game fish will be attractive to outdoor enthusiasts.

4.2 Alternative A: Enhancement of Stream Habitat

Archeological Resources: Field Office staff from the Natural Resources Conservation Service, as the lead Federal agency for these actions, are following instructions in the State Level Programmatic Agreement between the U.S. Department of Agriculture and the Iowa State Historic Preservation Office for the stream bank stabilization construction projects as part of the Yellow River Watershed Initiative to ensure protection of archeological resources and compliance with applicable laws and policies.

Specifically, the bulk of the excavated material will be from post settlement alluvial sediment deposits. In some instances, the excavation material may also include a small slice (up to about two feet by two feet by 400 feet) of pre-settlement alluvium (non alluvial fan) that was deposited by the historically meandering stream as it moved across the floodplain. There is a possibility that cultural resources could be un-covered in this deeper pre-settlement alluvium during construction. A Natural Resource Conservation Service technician trained in the standards of the State Level Programmatic Agreement will be on site during the excavation of the stream bank throughout the

construction phase. The Natural Resource Conservation Service has control over the contractor doing the excavation through the landowner agreement. Field Office staff from the Natural Resource Conservation Service will physically oversee and direct each excavation. If historic resources, prehistoric resources, human remains, burials, other cultural objects or sites are discovered, the construction would be ordered to stop. The Field Office staff from the Natural Resources Conservation Service will follow all protocols established in the State Level Programmatic Agreement between the U.S. Department of Agriculture and the Iowa State Historic Preservation Office for any construction discoveries. In addition, the U.S. Fish and Wildlife Service, as a supporting or participating Federal agency, will assist the Natural Resources Conservation Service in the protection of cultural resources. Any of the sites selected for a stream bank restoration projects could be abandoned if deemed appropriate due to discovery of cultural resources and another priority site selected for funding.

Habitat Resources: The proposed projects would not cause adverse affects to native habitats because limited native habitat is present. The placement of stream bank stabilization features will create habitat by the planting of native grasses along in the riparian corridor. The stream bank stabilization will have a positive effect due to the long term protection along the stream and stabilization of floodplain habitat by reducing further erosion of the bank.

Biological Resources: There may be short term impacts to stream's aquatic life as the shoreline is disturbed during the construction 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 and other State permit instructions that will be applied for this project. These prescriptions were designed to eliminate or greatly reduce the input of sediments in the waterbody. Other stream 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 habitat stability.

Endangered Species: No negative responses are predicted for federally listed species because none are found at the project sites during the construction season. The bald eagle will benefit by replenishment of winter forage resources.

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

Socioeconomic Impacts: No loss of local taxes will occur because the property will remain in private ownership and property and there are no drainage taxes so just property taxes will continue to be paid by the landowner.

Regulatory Considerations: The Allamakee County Soil and Water Conservation District and the Natural Resources Conservation Service have initiated the Clean Water Act permitting processes including compliance with the Nationwide Permit for working in wetlands and in floodplain from the Federal and State authorities. Only those projects with Clean Water Act permits and State permits or under appropriate exemptions are constructed.

Partnership Considerations: Joining the partnership has many advantages including leveraging funding to gain larger scale actions, pooling technical resources, and promoting cooperative conservation. It is recognized that the settlement with one of the responsible parties was a joint action by the Federal and State Trustees. Therefore, these funds are considered as non-federal monies for the purpose of partnership matches. The other settlement was a Federal only action and these funds are considered as Federal monies for the purpose of partnership matches. The

Allamakee County Soil and Water Conservation District and the Natural Resource Conservation Service will track the use of all partnership funds to ensure that Federal funds will not be used as a match for when non-federal funds are required.

4.3 Alternative B. 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 also known as the baseline condition. The public would not be compensated for its interim lost use of the natural resources during this recovery period. No cultural or natural resources impacts are expected from implementing the no action alternative.

4.4 Alternative C. Fish Stocking

Archeological Resources: This restoration project would not affect any cultural resource because there are not any physical disturbances associated with stocking fish in the river by using existing 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 roads or access points.

Biological Resources: Augmentation of the fishery would have recreational benefits and would likely speed up natural recovery thus providing ecological benefits too. However, there is the possibility of adverse ecological effects. The negative consequences include introduction of disease pathogens if not carefully controlled and loss of fish from the river systems exploited for stocking of the Yellow River. The stocked fish would be of limited size or age classes. Migratory birds and resident wetland dependent wildlife will benefit from replenishment of forage resources.

Endangered Species: No negative responses are predicted for federally listed species because none are found at the access points during the summer stocking season. The bald eagle will benefit by replenishment of winter forage resources.

Drainage: The project would not cause any additional artificial increase of 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.

Regulatory Considerations: The propagation, transportation, and collecting of fish are typically subject to special permits.

Partnership Considerations: No partnership opportunities identified during the scoping process.

Table 2. Summary of environmental consequences by alternative.

Impacts	Alternative A Stream Enhancement	Alternative B No Action	Alternative C Fish Stocking
Soils	Short term adverse effects, long term benefits	No change	No change
Cultural Resources	No adverse effects	No adverse effects	No adverse effects
Habitat Resources	No adverse effects	Recovery over time	No changes
Wetlands	Short term adverse effects, long term benefits	No change	No change
Grasslands	Grassland Habitat Created	No change	No change
Aquatic Life	Ecological and recreational benefits	Recovery over time	Ecological and recreational benefits with potential for adverse ecological effects
Resident Aquatic or Wetland Dependent Wildlife	Benefits	Recovery over time	Benefits
Migratory Birds	Benefits to wetland dependent and grassland dependent species	Recovery over time	Benefits to wetland dependent species
Federally Listed Endangered, Threatened Species	Benefits	Recovery over time	Benefits
Hydrology/Drainage	Possible beneficial affects, and no adverse effects	No changes	No changes
Socioeconomic Issues	No changes	No changes	No changes
Current Ownership	Private	Private	Private
Post Project Ownership	Private + maintenance agreement	Private	Private
Part of larger restoration effort	Yes	No	No

5.0 List of Preparers

Michael J. Coffey, Ecological Services Field Office, 1511 47th Avenue, Moline, IL 61265. Phone number 309-757-5800 extension 206. E-mail address michael_coffey@fws.gov.

6.0 References, Consultation, and Coordination

Kelly Bakayza, U.S. Department of Interior – Pittsburgh, PA

John Dobrovolny, U.S. Fish and Wildlife Service - Regional Office, Minneapolis, Minnesota

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

Frank Horvath, U.S. Fish and Wildlife Service - Regional Office, Minneapolis, Minnesota

Bill Kalishek, Iowa Department of Natural Resources - Decorah, Iowa

Steve Kiley, Allamakee County Soil and Water Conservation District – Waukon, Iowa

Jody Millar, U.S. Fish and Wildlife Service - Rock Island, IL Ecological Services Field Office

Dr. Richard Rogers, Natural Resources Conservation Service – Des Moines, Iowa

Luann Rolling, Natural Resources Conservation Service – Waukon, Iowa

Rodney Rovang, National Park Service – Effigy Mounds National Monument, Iowa

Dr. Shirley Schermer, Office of the State Archeologist – Iowa City, Iowa

7.0 Public Review and Comment

The RA / EA report was posted on the Service's Region 3 web site on August 15th, 2007. A public notice of availability was published in "The Standard Newspaper" by the Service on August 15th, 2007 to solicit issues or concerns from the public. The public comment period was open between the dates of August 15 to September 15, 2007. There were no comments or questions received on the RP / EA during the public review and comment period.

Appendix A

Restoration Plan and Environmental Assessment for the March 2002 Yellow River Fish Kill, Allamakee County, Iowa

Figure 1. Map of the Yellow River watershed, Allamakee County, Iowa.

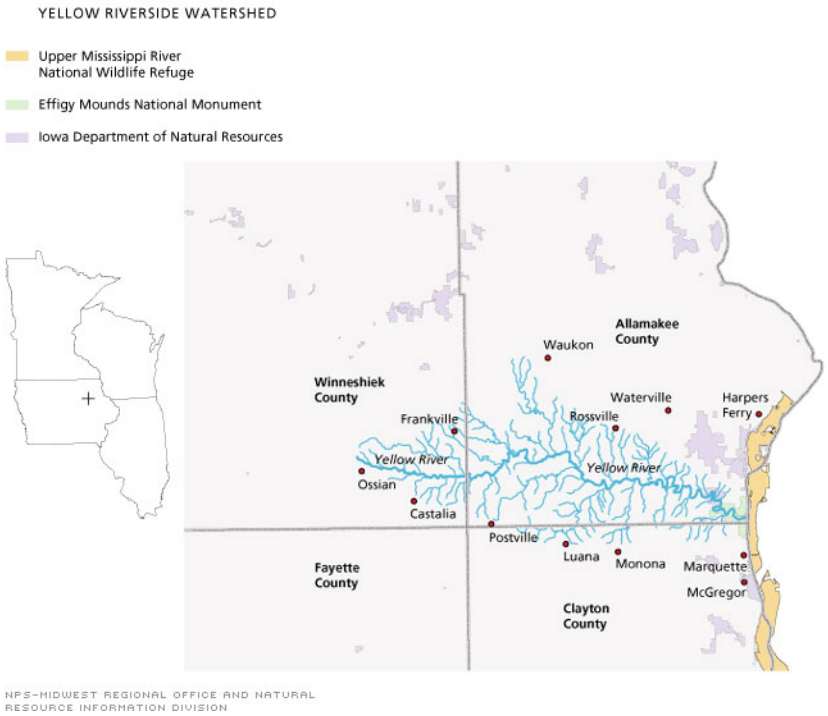
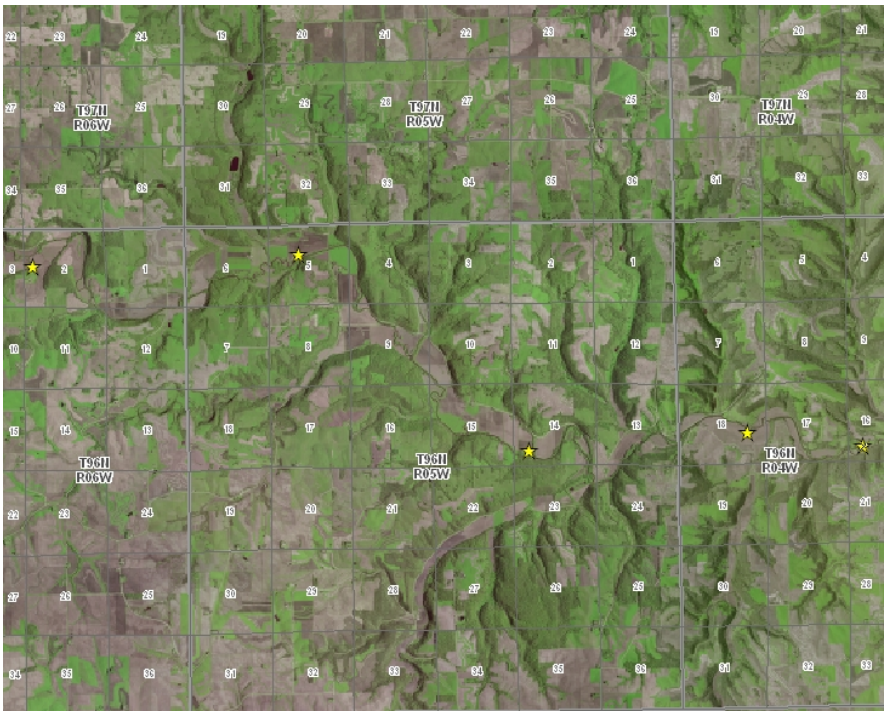


Figure 2. Air photograph of the Yellow River with Township boundaries and locations (yellow stars) of proposed stream bank stabilization sites.



Appendix B

Intra-Service Section 7 Biological Evaluation Form
Region 3

Originating Person: Michael Coffey Telephone Number: 309-757-5800

Date Submitted: July 23, 2007

For assistance with section 7 reviews, go to Region 3's Section 7 Technical Assistance website: http://www.fws.gov/midwest/endangered/section7/s7process/

I. **Service Program and Geographic Area or Station Name**: Rock Island, IL Ecological Services Field Office
II. **Location**: Location of the project including County, State and TSR (township, section & range):

Allamakee County, IA, Yellow River middle reaches.

III. **Species/Critical Habitat**: List federally-listed, proposed, and candidate species or designated or proposed critical habitat that may occur within the action area. :

The inland portion or none Mississippi River part of Allamakee County, IA is within the range of the following federally listed species:
Bald eagle (*Haliaeetus leucocephalus)*: rivers, lakes, stream valleys
Western prairie fringed orchid (*Platanthera praeclara):* wet prairies and sedge meadows
Prairie bush clover (*Lespedeza leptostachya*): dry to mesic prairies with gravelly soil
Northern monkshood (*Aconitum novaboracense*): algific slope

IV. Project Description: Describe proposed project or action, including all conservation elements. If referencing other documents, prepare an executive summary. Include map and photos of site, if possible. (Attach additional pages as needed):

Excavation of stream banks within the floodplain of the Yellow River valley to install stream bank stabilization structure.

V. Determination of Effects:

A. Description of Effects Describe how the action(s) will affect the species and critical habitats listed in item III. Your rationale for the Section 7 determinations made below (in VB.) should be fully described here.

There are no bald eagle nest territories at the proposed project sites and construction will be during the warm season months thus avoiding winter range forage use by the bald eagle. There is no suitable habitat present at the proposed project sites for the remaining federally listed species within range.

B. Determination: Determine the anticipated effects of the proposed project on species and critical habitats listed in item III. Check all applicable boxes and list the species (or attach a list) associated with each determination**. For assistance with making appropriate Section 7 determinations, go to Region 3's Section 7 Technical Assistance website: http://www.fws.gov/midwest/endangered/section7/s7process/**

	Mark all that apply
No Effect: This determination is appropriate when the proposed project will not directly or indirectly affect (neither negatively nor beneficially) individuals of listed/proposed/candidate species or designated/proposed critical habitat of such species. No concurrence from ESFO required.	X
List species/critical habitat: Western prairie fringed orchid, Prairie bush clover, Northern monkshood	
May Affect but Not Likely to Adversely Affect: This determination is appropriate when the proposed project is likely to cause insignificant, discountable, or wholly beneficial effects to individuals and designated critical habitat. Concurrence from ESFO required.	X
List species/critical habitat: Bald eagle	
May Affect and Likely to Adversely Affect: This determination is appropriate when the proposed project is likely to adversely impact individuals of listed species or designated critical habitat of such species. Concurrence from ESFO required.	
List species/critical habitat:	
Not Likely to Jeopardize candidate or proposed species/critical habitat: This determination is appropriate when the proposed project is not expected to jeopardize the continued existence of a species proposed for listing or a candidate species, or adversely modify an area proposed for designation as critical habitat. Concurrence from ESFO required.	
List species/critical habitat:	
Likely to Jeopardize candidate or proposed species/critical habitat: This determination is appropriate when the proposed project is reasonably expected to jeopardize the continued existence of a species proposed for listing or a candidate species, or adversely modify an area proposed for designation as critical habitat. Concurrence from ESFO required.	
List species/critical habitat:	

Signature [Supervisor at originating station] /s/ Richard C. Nelson Date 7/25/07

Reviewing Ecological Services Office Evaluation (check all that apply):

A. Concurrence X **Nonconcurrence** _____

Explanation for nonconcurrence:

B. Formal consultation required _____

List species or critical habitat unit(s):

C. Conference required _____

List species or critical habitat unit(s):

Name of Reviewing ES Office: Rock Island, IL Ecological Services Field Office, IL

Signature /s/ Richard C. Nelson Date 7/25/07

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JSzymanski\19 June 2002