



**US Army Corps
of Engineers**
St. Paul District

Upper Mississippi River System Environmental Management Program

Definite Project Report / Environmental Documentation (SP-2)

GUTTENBERG WATERFOWL PONDS

HABITAT REHABILITATION AND ENHANCEMENT PROJECT

**Pool 11
Upper Mississippi River
Clayton County, Iowa**

July 1988

UPPER MISSISSIPPI RIVER SYSTEM
ENVIRONMENTAL MANAGEMENT PROGRAM
DEFINITE PROJECT REPORT/ENVIRONMENTAL DOCUMENTATION (SP-2)

GUTTENBERG WATERFOWL PONDS
HABITAT REHABILITATION AND ENHANCEMENT PROJECT
POOL 11, UPPER MISSISSIPPI RIVER
CLAYTON COUNTY, IOWA

JULY 1988
ST. PAUL DISTRICT, CORPS OF ENGINEERS
1421 U.S. POST OFFICE AND CUSTOMS HOUSE
ST. PAUL, MINNESOTA 55101-1479

EXECUTIVE SUMMARY

Three large fish rearing ponds totaling about 35 acres were formerly part of the Guttenberg National Fish Hatchery. In 1971, the hatchery was closed and the ponds were transferred to the Upper Mississippi River National Wildlife and Fish Refuge. At that time a water management plan for the ponds was implemented to enhance migratory bird habitat within the 12-Mile Island Closed Area by providing greater food resources to help meet the nutritional needs of migrating waterfowl. Due to an inefficient and ineffective means for managing water levels because of water supply and drainage problems, the water management plan for making food supplies in the ponds available to waterfowl was abandoned by the Refuge in 1973. However, it is still desirable to expend a minimal effort to renovate and operate the ponds as moist-soil units to obtain maximum waterfowl benefits. This opportunity was identified in 1980 by the Great River Environmental Action Team and a project had been conceptualized by the U.S. Fish and Wildlife Service and the Iowa Department of Natural Resources. It is proposed to accomplish this objective by providing adequate water supply and drainage control facilities that are not presently available.

The plan formulation process considered various alternatives for drainage and water supply. Drainage alternatives included providing from 1 to 3 outlet structures, discharging into various sloughs adjacent to the ponds, resloping or ditching the interior of the ponds, and several outlet structure designs. Water supply alternatives included gravity flow from the existing spillway of dam 10, siphoning water over the dam, gravity flow through the dam, pumping water from adjacent sloughs, and an open ditch.

The selected plan includes ditching and breaching of dikes within the ponds to provide drainage to a simple corrugated metal pipe drop outlet structure on the east side of the pond complex. Discharge would be into Cassville Slough, just downstream of the dam 10 spillway. A gated water supply line, 1050 feet long, would be constructed from the dam 10 spillway to the ponds. This supply line would provide 80 acre-feet of water to the ponds in 6 days to raise the pond water 3 feet. An additional control structure would be constructed to provide a water supply to Big Pond Slough via the ponds. This would permit limited water level control in Big Pond for waterfowl food production in unison with the pond complex. Total direct construction cost of the selected project is \$147,000. Indirect costs bring the total project cost to \$203,000. \$35,000 of the total project cost has been expended for the general design phase of the project. Average annual operation and maintenance costs of the project are estimated to be \$2,000 and would be the responsibility of the U.S. Fish and Wildlife Service.

By renovating the existing ponds for operation as a moist-soil impoundment, it is expected that vegetation coverage and plant species diversity would increase and that use of the area by migratory waterfowl would increase three- to fivefold. In addition to increases in waterfowl use, the ponds would provide attractive habitat to wading birds, rails, snipe, and passerines. Raptors such as bald eagles and hawks would be attracted by the abundant prey. Improved water level control of Big Pond could also provide greater fish management opportunities.

The following information would be collected each year for 3 years in order to evaluate the performance of the project and to allow effective changes in the operating schedule, if needed: pond versus tailwater elevations; timing and duration of drawdown; extent of plant germination; vegetation response to reflooding; and wildlife use before, during, and after flooding. Data collection in 1988 would provide 1 year of pre-construction information. Evaluation of the project effects would be performed qualitatively based on the empirical knowledge of local wildlife managers and on expected outputs determined from published data.

Approval for construction of the Guttenberg Waterfowl Ponds project for habitat rehabilitation and enhancement is recommended by the St. Paul District Engineer at a 100-percent Federal cost estimated to total \$203,000. The District Engineer further recommends that funds in the amount of \$168,000 be allocated in fiscal year 1988 for final design and construction of the project.

UPPER MISSISSIPPI RIVER SYSTEM
ENVIRONMENTAL MANAGEMENT PROGRAM
DEFINITE PROJECT REPORT/ENVIRONMENTAL DOCUMENTATION (SP-2)

GUTTENBERG WATERFOWL PONDS
HABITAT REHABILITATION AND ENHANCEMENT PROJECT
POOL 11, UPPER MISSISSIPPI RIVER
CLAYTON COUNTY, IOWA

TABLE OF CONTENTS

<u>SUBJECT</u>	<u>PAGE</u>
INTRODUCTION	DPR-1
AUTHORITY	DPR-1
PARTICIPANTS AND COORDINATION	DPR-1
PROJECT PURPOSE AND LOCATION	DPR-1
EXISTING CONDITIONS	DPR-2
PHYSICAL SETTING	DPR-2
WATER RESOURCES	DPR-2
ENVIRONMENTAL RESOURCES	DPR-2
Vegetation	DPR-2
Fish and Wildlife	DPR-3
Threatened and Endangered Species	DPR-3
Cultural Resources	DPR-4
SOCIOECONOMIC RESOURCES	DPR-5
RECREATION	DPR-5
FUTURE WITHOUT PROJECT CONDITIONS	DPR-5
PLAN FORMULATION	DPR-5
INTRODUCTION	DPR-5
ALTERNATIVES CONSIDERED	DPR-6
Drainage	DPR-6
Water Supply	DPR-7
SELECTED PLAN OF ACTION	DPR-7
PROJECT OPERATION	DPR-8
REAL ESTATE REQUIREMENTS	DPR-9
PROJECT ACCOMPLISHMENTS AND OUTPUTS	DPR-9
ENVIRONMENTAL EFFECTS	DPR-10
NATURAL RESOURCES EFFECTS	DPR-10
Air Quality	DPR-10
Water Quality	DPR-10
Vegetation and Wildlife Habitat	DPR-11
Wildlife	DPR-11
Fish	DPR-12
Threatened and Endangered Species	DPR-12
Diversity	DPR-12
Archeological-Historical	DPR-12
SOCIAL FACTORS	DPR-13
Noise Pollution	DPR-13
Aesthetic Values	DPR-13
Recreation	DPR-13
Economics	DPR-13
Other Social Factors	DPR-13

COMPLIANCE WITH ENVIRONMENTAL LAWS AND REGULATIONS	DPR-15
National Environmental Policy Act of 1969	DPR-15
Clean Water Act of 1977	DPR-15
Fish and Wildlife Coordination Act	DPR-15
Endangered Species Act of 1977	DPR-15
National Historic Preservation Act	DPR-15
National Wildlife Refuge Administration Act	DPR-15
PROJECT REQUIREMENTS	DPR-17
OPERATION AND MAINTENANCE	DPR-17
COST ESTIMATE	DPR-18
PROJECT EVALUATION	DPR-19
PROJECT IMPLEMENTATION	DPR-19
DIVISION OF PLAN RESPONSIBILITIES	DPR-19
COST APPORTIONMENT	DPR-19
STEPS PRIOR TO PROJECT CONSTRUCTION	DPR-20
RECOMMENDATIONS	DPR-20
REFERENCES	DPR-21

List of Tables

DPR-1. Environmental Impact Assessment Matrix	DPR-14
DPR-2. Compliance status of the proposed project with Environmental Laws and Regulations	DPR-16

List of Attachments

1. Plates (4)
2. Finding of No Significant Impact
3. Section 404(b)(1) Evaluation Report
4. Coordination
5. Distribution List

GUTTENBERG WATERFOWL PONDS
DEFINITE PROJECT REPORT/ENVIRONMENTAL DOCUMENTATION

INTRODUCTION

AUTHORITY

The authority for this report is provided by Section 1103 of the Water Resources Development Act of 1986 (Public Law 99-662). The proposed project would be funded and constructed under this authorization, specifically, subsection (e)(1)(A): "a program for the planning, construction, and evaluation of measures for fish and wildlife habitat rehabilitation and enhancement."

PARTICIPANTS AND COORDINATION

Participants in this study included the Iowa and Wisconsin Departments of Natural Resources, the U.S. Fish and Wildlife Service (Upper Mississippi River Refuge and Regional Office), and the St. Paul District, Corps of Engineers. The U.S. Fish and Wildlife Service was a cooperating agency throughout the process required by the National Environmental Policy Act. Meetings were held at the project site and at the St. Paul District Office to discuss project objectives and designs. An initial draft of this report was reviewed by the above agencies and the appropriate modifications to the report or project were incorporated in this report. Correspondence was also initiated between the agencies to coordinate the project at various stages of development. This Definite Project Report/Environmental Documentation and/or the proposed project public notice was sent to the agencies and interests listed on attachment 5. Written comments that were received are included in attachment 4.

PROJECT PURPOSE AND LOCATION

The purpose of the project is to renovate abandoned fish hatchery ponds in order to create an enhanced waterfowl habitat management unit. This renovation will allow recovery of water level control of the ponds and provide a more efficient means of operation than previously existed. The project would be operated as a seasonally flooded impoundment under the principles of moist-soil management (Fredrickson and Taylor 1982) and would provide beneficial wetland and wildlife management capabilities not presently available in the general project vicinity. This opportunity was identified in 1980 by the Great River Environmental Action Team (GREAT I) and the project concept was initially proposed by the U.S. Fish and Wildlife Service.

The project is located in Clayton County, Iowa, directly east of the city of Guttenberg. The project area is within the floodplain of the Mississippi River, immediately downstream from Lock and Dam 10 at river mile 615 (see plate 1). It lies within the Upper Mississippi River Wildlife and Fish Refuge. The site is also within the 12-Mile Island Closed Area established by the U.S. Fish and Wildlife Service and, as such, is closed to hunting and trapping during the waterfowl season.

EXISTING CONDITIONS

PHYSICAL SETTING

The proposed project is at the site of an abandoned fish rearing pond complex, formerly part of the Guttenberg National Fish Hatchery. The portion of the rearing pond complex to be renovated consists of three adjacent ponds of the following sizes: pond 2 = 9.0 acres, pond 4 = 13.7 acres, and pond 3 = 12.5 acres. These ponds are bordered by Cassville Slough on the east and Dead Slough on the west (see plate 2).

WATER RESOURCES

Since abandonment in 1973, the original water supply pump and existing pond outlet control structures have been rendered inoperable by disuse, vandalism, and beaver activity. Under present conditions, water levels in the ponds either change with river levels or remain stable because vegetation and beaver activity have clogged the outlet structures. Consequently, the water depth in the ponds varies seasonally and yearly and is partly dependent upon the level of the river at any particular time.

ENVIRONMENTAL RESOURCES

Vegetation - Woody vegetation, including 15- to 25-foot tall trees, has invaded the pond dikes at the site. Early successional vegetation is present including elm, silver maple, mulberry, and poison ivy. When water levels are conducive, the ponds support growths of aquatic vegetation which are beneficial to waterfowl including cattail, river bulrush, prairie cordgrass, reed canary grass, smartweeds, barnyard millet, and coontail. In 1972, the vegetation present in two of the ponds included (in declining order of coverage) rice cut grass, cocklebur, spike rush, sagittaria, loosestrife, wild millet, smartweed, burreed, chufa, cord grass, fleabane, and bulrush. This vegetation was present during a year when a complete drawdown was not possible.

Below the diked pond complex is a 30-acre "natural" pond called Big Pond which remains wet throughout the year and supports desirable species of aquatic plants, attracting waterfowl and other wetland species to the area. Approximately 300 acres of mature floodplain forest is present within a 1/2-mile radius of the project site and consists of silver maple, willow, green ash, cottonwood, dogwood, nettle, poison ivy, and wild grape.

Fish and Wildlife - Wildlife species using the general area include those common to Upper Mississippi River backwater areas and other species common to mesic/floodplain deciduous forest habitat. Adjacent sloughs are used extensively by wading birds for feeding, by waterfowl for nesting and brood sites, and by furbearers for den and feeding areas. Wildlife using the area include several species of frogs, snapping turtles, painted turtles, osprey, bald eagles, and red shouldered hawks. All species of waterfowl that use the Mississippi Flyway use the site; especially common are blue winged teal, mallard, and coot. Great blue herons, common egrets, muskrat, mink, beaver, and otter also make use of the area. Although minnows and rough fish are present in low numbers, sport fish are uncommon in the ponds because of low and fluctuating water levels and because access points (water control structures) are usually clogged with debris. Fish species common to Big Pond and nearby sloughs include bluegill, crappie, largemouth bass, carp, bullhead, and bowfin. Additional species may depend on these areas as spawning and rearing areas. An extensive list of species using floodplain habitat in the area can be found in Vanderford (1980).

The only documented data on waterfowl use of the ponds is from an unpublished refuge document (Smith 1972). The relative importance of the ponds to different species of ducks can be seen below in the description by Smith (1972) of peak duck use during the week of November 4, 1972:

"With the exception of ring-necks and occasional red heads, divers have made little use of the ponds. During the week ending November 4, the ponds had their greatest use. Pond 1 had 60 green-winged teal, 30 mallards, 20 ring-necks, and 7 miscellaneous. Pond 2 had 500 mallards, 4 black ducks, 30 green-winged teal, 90 coot, and 25 miscellaneous. Pond 3 had 30 ring-necks, 10 mallards, 60 coot, 5 green-winged teal, and 6 miscellaneous. The relative number of ducks in each pond remained relatively constant throughout the fall. On November 11, there were 160 ring-necks on Pond 1, the most recorded all year."

This amount of use was considered low by Smith. Additional species that migrate early, such as blue-winged teal, also would be expected to use the ponds but would be missed by censuses late in the season.

Because the method by which the above data was tabulated is unknown (peak numbers versus sum of several censuses), it is assumed for analysis purposes that in 1972 the peak number of birds per day may have varied from 292 to 877. These values translate into densities on the project ponds ranging from 8 to 25 birds per acre. Using the assumptions of Bellrose et al. (1979), the mean number of duck use days in the fall (MDD) can be calculated from estimates of peak duck numbers (PDN)(the assumption is that MDD/PDN for mallards is 22.5). For this analysis, the estimate of fall duck use days (based on the 1972 census) ranges from 6,570 to 19,733 days.

Threatened and Endangered Species - State and/or Federally listed threatened or endangered species potentially present in the area include the bald eagle, osprey, peregrine falcon, and Higgins' eye pearly mussel.

Cultural Resources - There are no known archeological resources located within the project area. The closest sites are located south and west of the fish hatchery. These sites were located in 1984 when Great Lakes Archaeological Research Center conducted an archeological survey of pool 11 for the Rock Island District, Corps of Engineers. This survey included portions of Island 189 in the vicinity of the fish hatchery. The eastern shore of Island 189 along Cassville Slough was surveyed from Big Pond north to nearly the dam. The western shore of the island was surveyed from Ackerman Slough north to the dam. These survey efforts were limited to erosional surfaces with some silt probe and auger coring done at specific locations.

Site 13 CT 210 is a prehistoric archeological site located along the south shore of Ackerman Slough. This Woodland site was located 1.4 meters below the surface of Island 189. At least 0.33 meter of post settlement alluvium was deposited at this location. Site 13 CT 213, a historic shell button blank site, is located to the west of the fish hatchery along the main channel of the Mississippi River. Site 13 CT 219, a historic/prehistoric site located west of Big Pond, was highly disturbed during the construction of the fish hatchery. A historic archeological site (13 CT 220) is located to the west of the fish hatchery along the east bank of Swift Slough. Site 13 CT 221, a probable historic homestead site, is located immediately south of site 13 CT 219.

Carrying the geomorphic units identified by Church in 1984 downstream of Lock and Dam 10, the western portions of Island 189 are lateral accretion deposits. The eastern part of the island was identified as vertical accretion deposits over lateral accretion deposits. The lateral accretion deposits have a high potential for being associated with archeological sites. Late period archeological sites found on lateral accretion deposits are likely to be found near the surface, whereas late period sites associated with lateral accretion deposits, but buried by vertical accretion deposits, would be found below the surface. The results of the survey conducted by Overstreet seem to support this fact, as the only surface sites found by Overstreet in the vicinity of the fish hatchery are historic sites. Site 13 CT 210, the only undisturbed prehistoric site in the area, is covered by more than a meter of alluvium.

The only historic resource within the project area is Lock and Dam 10 which has been determined eligible for the National Register of Historic Places. This lock and dam is part of a thematic nomination which also includes Locks and Dams 3 through 9. This thematic group represents an important phase in water transportation improvement along the Upper Mississippi River that was initiated by President Hoover and was rapidly accelerated under the New Deal of the Roosevelt Administration. Construction of Lock and Dam 10, as part of the 9-foot navigation channel, incorporated a systematic approach to the design of the navigation system where standardization of component parts played a major role in design of the project.

SOCIOECONOMIC RESOURCES

Guttenberg, Iowa, located in Clayton County and adjacent to Lock and Dam 10, had a 1980 population of 2,177. The population of Clayton County (21,098 in 1980) showed a slight (2.4 percent) increase between 1970 and 1980. The population of Clayton County is slightly older than the median age in Iowa:

	Median Age	Percent over 65
Clayton County	32.0	16.3
Iowa	30.3	13.3

Median family income (1979) is less in Clayton County (\$16,408) than in Iowa (\$20,052). Agriculture and services are the primary industries in the county; trade and manufacturing are also important.

Percent of employed working in:	agriculture	32.7
	services	19.0
	trade	17.2
	manufacturing	16.5

RECREATION

The ponds in the project area are closed to hunting and are remote from main channel recreational boating activities. The minimal recreation benefits are not quantifiable.

FUTURE WITHOUT PROJECT CONDITIONS

The future without project condition would mean continuation of the present wildlife and public use of this area. Water levels in the ponds would continue to fluctuate more or less randomly, depending on river stage and/or beaver and muskrat activity. Without project implementation, successional trends in wetland and upland vegetation could be expected to continue. Although wildlife use of the area would likely remain at present levels, the potential for increasing the productivity of the area would be foregone.

PLAN FORMULATION

INTRODUCTION

The area of the proposed project includes three large fish rearing ponds totaling about 35 acres which were formerly part of the Guttenberg National Fish Hatchery. In 1971, the hatchery was closed and the ponds were transferred to the Upper Mississippi River National Wildlife and Fish Refuge. At this time a water management plan for the ponds was implemented to enhance migratory bird habitat within the 12-Mile Island Closed Area by providing greater food resources to help meet the nutritional needs of migrating waterfowl. Although a pump facility was available just east of pond 3, the logistics of actively pumping to manipulate water levels made this alternative unfeasible. Gravity flow via outlets on each pond

permitted draining and refilling of the ponds, but the effectiveness of this approach was dependent on variations in tailwater elevations. High water in the fall for reflooding the ponds was not dependable and, thus, a water source became the limiting factor for making food supplies in the ponds available to waterfowl. Due to an inefficient and ineffective means for managing water levels, it was no longer feasible for the Refuge to maintain this management tactic, and the water management plan was abandoned in 1973. However, it is still desirable to expend a minimal effort to renovate and operate the principal ponds as moist-soil units to obtain maximum waterfowl benefits. It is proposed to accomplish this objective by providing adequate water supply and drainage control facilities.

ALTERNATIVES CONSIDERED

Project alternatives were considered in two general areas: drainage and water supply.

Drainage -

(a) The alternative of providing three outlets (one for each pond) was considered too expensive to construct and would increase operation and maintenance costs. The possibility of reducing costs by rehabilitating and using the existing outlet structures instead of constructing a new outlet could be examined during the preparation of plans and specifications, but it is anticipated that the cost of this option would still be higher than providing just one outlet structure. Therefore, one outlet structure is the desired mode of operation and drainage.

(b) Tailwater elevations and operational opportunities determined the location of the outlet structure. An outlet from pond 3 to Cassville Slough was considered a more feasible outlet location than from pond 4 to Dead Slough because the tailwater elevation of Dead Slough appears to be higher than that of Cassville Slough. An outlet into Big Pond was considered desirable as a means to supply water to Big Pond for possible additional operational opportunities in the area. Surveys of the existing Big Pond and its outlet indicated that water level elevations and the outlet channel thalweg would not permit drainage of the fish ponds as effectively as an outlet to Cassville Slough. However, a structure to supply water to Big Pond would still be desirable.

(c) Three different types of outlet structures were considered: a simple corrugated metal pipe (CMP) with gate well, a cast-in-place concrete drop structure with stop logs, and a CMP drop structure with stop logs. A CMP with gate well would require maintenance on the gate, debris removal from the CMP, and would be subject to vandalism and beaver activity. A concrete or CMP drop structure would seldom need to be attended once the desired height of stop logs was set, would require minimal maintenance, and is the lower cost outlet structure. The CMP drop structure using stop logs would be lower cost than a concrete structure and installation would be much simpler.

(d) The only alternative considered feasible to drain the three ponds was to excavate a ditch near the toe of the dikes. The ditch would be excavated by working from the top of the dikes because of unstable bottom substrate and standing water within the ponds. The least amount of tree clearing necessary to construct the project occurs with the proposed design. Because the bottoms of the ponds slope down toward their outer dikes, the best way to allow drainage via one outlet is by breaching the interior pond dikes to connect the ditches.

Water Supply - Several structural alternatives to fill the ponds were considered including: gravity flow from the existing spillway of the dam; siphoning water over the dam; gravity flow through the dam; and pumping from surface waters. All options were considered constructible and operable, but the installation, operation, and maintenance costs of a siphon, gravity flow through the dam, or pumping were considered too high. A siphon would also limit the ability to easily control a wide range of flow to the ponds. A gravity flow design (pipeline) from the existing spillway would provide the ability to fine-tune the inflow rate to the ponds as needed for water level management with minimal operation and maintenance costs. An open ditch was also evaluated but ground elevations did not make it a viable alternative.

Environmental impacts would be similar for all alternatives, although noise and air quality impacts would be greater with the pumping alternative. A gravity flow system also will not consume fuel resources.

SELECTED PLAN OF ACTION

Project construction would involve several activities (see plate 2):

1) Trees would be cleared from the top of the west dike of pond 4, from the top and pond side of the east dike of pond 3, and from the top and pond side of the south dikes of ponds 3 and 4 to provide access for construction equipment and an area to place excavated material. Trees would be placed at a suitable location near the ponds and burned.

2) Breaches with a 10-foot bottom width would be excavated in the existing dikes at the northwest and southeast corners of pond 4 to allow for flow of water between ponds 2, 4, and 3 via excavated ditches.

3) A 10-foot-wide ditch would be excavated in the pond bottom adjacent to and along the toe of the south dike of ponds 3 and 4 and the east dike of pond 3 to allow drainage of ponds 2 and 4 to the outlet control structure in pond 3. The bottom elevation of the ditch (elevation 604.0) would be the same as the elevation of the outlet. Material excavated from the ditch would be sidecast and placed on the inner side of the dikes (within the ponds).

4) A gated water supply line would be constructed from the right abutment of the dam 10 spillway to the northeast corner of pond 3. The line would consist of 275 feet of steel pipe, 775 feet of corrugated metal pipe, a knife valve at the ogee weir, and a knife valve at a manhole installed near the ogee weir (see plate 3). The upstream invert of the line at the spillway would be elevation 608.0 (minimum pool 10 elevation determined by the spillway is 611.0) and the invert at the discharge into pond 3 would be elevation 606.0. This design would provide 80 acre-feet of water to the ponds in 6 days. The pond water surface would rise from elevation 605 (empty) to 608 (design level) during this 6-day period, assuming there are no other inputs to or outlets from the ponds. Rock riprap would be placed at the pipe outlet to prevent erosion and to dissipate water energy.

5) A drop outlet structure would be constructed in the east dike of pond 3, for drainage into Cassville Slough. The outlet structure would consist of a 5-foot diameter corrugated metal pipe (CMP) drop structure with stop logs to be used for controlling the discharge of water from the ponds (see plate 4). The elevation of the base of the structure would be 604.0, based on survey information of water levels in the area. The time needed to lower the water in the ponds from elevation 608 to 605 will vary depending on tailwater elevation in Cassville Slough. However, the structure would provide adequate discharge capacity to drain the ponds in a week or less if the tailwater is lower than 605.0. A gage has been placed in Cassville Slough near the ponds to better define water levels in the slough. A plan to locate the outlet structure to discharge into Big Pond was rejected because there is an existing water control structure at the outlet of Big Pond that is used to maintain the water surface elevation in Big Pond at a higher elevation than that of Cassville Slough. This would limit the project operation significantly.

6) The 10-foot-wide ditch would be extended along the east dike of pond 3 to an existing, abandoned pump facility. This could provide additional dewatering capabilities during years when river levels are high by allowing the use of portable pumping equipment to supplement the gravity flow from the outlet structure. This will depend on tailwater elevations in Cassville Slough, groundwater conditions, the actual need for additional drainage, and available equipment.

7) An additional control structure in the southwest corner of pond 3 would be constructed to provide a water supply to Big Pond via pond 3. This would enhance the operational opportunities by permitting limited water level control in Big Pond for waterfowl food production. The existing outlet structure in Big Pond would be cleaned out so that limited water level manipulation of Big Pond could be accomplished in unison with the pond complex. Another control structure placed in the breach between ponds 3 and 4 to provide additional operational opportunities was considered but was not included in the selected plan because the cost of the structure was not judged to be reasonable for the limited operational benefits obtained.

PROJECT OPERATION

After completion of the pond renovation, the pond complex would be operated as a seasonally flooded (moist-soil) impoundment. This management practice consists of three basic steps:

1) The ponds would be drained in late spring to stimulate germination of moist soil plants including grasses, sedges, and herbs. These plants and the seeds produced provide valuable food resources for migrating waterfowl and provide other habitat values for a variety of wildlife species.

2) During the summer, the area would be monitored to determine the presence of both desirable and undesirable plant species.

3) In mid-summer or early fall (specific timing determined by post-drawdown monitoring) the ponds would be reflooded slowly to stimulate plant growth and to allow use by various species of water birds and wildlife. The ponds could also be reflooded in early spring for use as spring moist soil units if water levels in the area are conducive.

Based on historic flow records, it is anticipated that the optimum desired operation would be possible in 1 out of 7 years. In the other years, the facility would be operated in various ways to accomplish the desired waterfowl food production, depending on water levels and the conditions conducive to the desired plant species. The varied operation would not make the ponds non-functional or unbeneficial. The ability to add water to the ponds via gravity flow would provide a means to control nuisance vegetation that might appear. The high water conditions would also produce wetland habitat for migrating waterfowl and other wildlife at least as valuable as current conditions. Continuous annual drawdowns can actually lead to a gradual encroachment of undesirable vegetation and thus are not a necessary requirement for moist-soil management (Schmidt 1951). The U.S. Fish and Wildlife Service and the Iowa Department of Natural Resources are satisfied that the predicted allowable water level control would be useful and would satisfy the project objectives.

REAL ESTATE REQUIREMENTS

No land needs to be acquired for the project since the ponds are located on the Upper Mississippi River Refuge on fee title lands. The Corps of Engineers is authorized to construct the project on these lands (see attachment 4).

PROJECT ACCOMPLISHMENTS AND OUTPUTS

The expected outputs of the project are estimated by extrapolation from published data, but would be evaluated semi-qualitatively because most of the available information is empirical knowledge of local wildlife managers (see Project Evaluation in this report).

Renovation of the existing ponds for operation as a moist-soil impoundment would convert 35 acres of ponds into an area managed primarily for the production of food resources (preferred moist-soil plants and associated invertebrates) for the benefit of migratory waterfowl. This management practice is widely used throughout the country to maintain or increase wetland productivity by simulating natural dynamic wetland water regimes. It is expected that vegetation coverage and plant species diversity would increase, and that use of the area by migratory waterfowl

would likewise increase significantly as the additional food supply becomes available. Based on the evaluation of several studies, an increase in waterfowl use of threefold to fivefold could be expected after project implementation. For example, Kadlec (1962) reported a threefold increase in peak fall duck numbers after lake drawdown and reflooding. Burgess (1969) reported over 8,300 waterfowl use days per acre on a national wildlife refuge using moist-soil management techniques. Based on the limited data on current waterfowl use of the ponds, it is estimated that after project implementation, peak waterfowl density could range from 24 to 125 ducks per acre, peak duck numbers from 876 to 4,385, and fall duck use days from 19,710 to 98,665. These ranges are large, but actual use is expected to be in the upper half of these estimates.

In addition to increases in waterfowl use, the ponds would provide attractive habitat to a variety of wildlife throughout the year. Moist-soil management would benefit wading birds, rails, snipe, and passerines such as swamp, white-crowned, white-throated, and song sparrows. Raptors such as bald eagles, marsh hawks, and red-tailed hawks would be attracted by the abundant prey. Improved water level control of Big Pond could provide greater fish management opportunities.

ENVIRONMENTAL EFFECTS

The environmental effects of the proposed action are described below and are summarized in table DPR-1 (environmental impact assessment matrix).

NATURAL RESOURCES EFFECTS

Air Quality - The proposed actions would have minor negative effects on air quality. Construction equipment would degrade air quality slightly for short periods from exhaust emissions. Renovation and earthwork along the dikes may add dust to the air. Burning of the trees removed from the dikes would degrade air quality slightly for a short period. This temporary change in air quality could disturb people using adjacent areas of the river, but the overall effect on people, vegetation, and wildlife should be negligible because of the small size of the project. After construction is completed, no negative effects on air quality would occur.

Water Quality - Since the integrity of the existing wetland complex would be maintained, the proposed project should have minimal impact on existing water quality. The existing ponds may serve as settling basins for inflow water or may allow resuspension of some material in the water column during drawdowns. However, drawdowns would occur at a low rate (about 10 cfs) and thus sediment release to the river should be insignificant. Flooding of ponds could be timed to occur during low sediment transport periods in the river to minimize sediment accretion in the ponds. Nutrient release to the river may occur during drawdowns due to natural nutrient cycling processes. Because the greatest amount of plant senescence and nutrient release generally takes place in the fall, drawdowns should not adversely affect the overall water quality in the area. Drawdowns would take place in the spring, when nutrients are being taken up by plants, dissolved oxygen levels are high, and most phosphorus is tied up in sediment. Nutrient uptake by plants and chemical processes leading to

sediment nutrient accumulation or loss (e.g., denitrification) may actually result in improved water quality of the outlet water.

Cleaning out the existing Big Pond outlet structure could result in a temporary increase in suspended sediment in Cassville Slough. The impacts of this increase are expected to be insignificant.

The little information available on the impacts of large concentrations of waterfowl on water quality, suggest that no adverse impacts should occur (Have 1973).

Vegetation and Wildlife Habitat - The potential for invasion by purple loosestrife and other undesirable vegetation, potentially hindering effective and efficient moist-soil management, would require increased management control efforts. Cattail and especially purple loosestrife are difficult to control once established, but close monitoring and quick response should be sufficient to avoid problems with nuisance vegetation.

Any vegetation removed from the dikes would regenerate through natural succession processes. However, it is expected that periodic clearing of portions of the dike would occur for access to the structures or for maintenance of the dikes.

Wildlife - Some burrowing mammals such as woodchucks, moles, and shrews would be displaced by any breaching or renovation of existing earthwork dikes that may be required. Otter that might be using the area would be detrimentally affected by increased management activities and loss of aquatic food organisms such as fish and crayfish. Overall, the impacts should not be significant because the dikes affected by the project are narrow and part of a much larger mesic deciduous/bottomland forest community.

Waterfowl and aquatic shorebird feeding and resting would be temporarily disrupted during project renovation activities, but should ultimately benefit from project implementation. Songbirds may be forced to relocate along adjacent shorelines if trees and brush are removed from the dikes. However, the area affected along the dikes is small compared to the edge habitat within a 1/2-mile radius of the project area, and no significant negative impacts should result.

Project implementation would most likely result in higher concentrations of migratory birds in and around the project vicinity. While this is desirable, it raises points of potential concern. Large concentrations of birds within constricted management units may pose additional disease hazards to the birds themselves. Increased opportunity for botulism, cholera, or other common waterfowl disease outbreaks could occur. By avoiding mid- to late-summer shallow and receding water levels, by reflooding ponds as late as practical, and with close monitoring, disease problems should be minimized.

Because the project is designed mainly to attract and hold dabbling ducks (primarily mallards), increased kills of mallards in areas open to hunting around the project area are possible. Most of these birds would be migratory transients, and higher kill rates could have a negative impact on flyway populations. At present, hunting opportunities are enhanced by waterfowl leaving the river bottoms to feed in fields on the river bluffs. However, these increased opportunities could be offset by a reduced number of feeding flights resulting from the greater food resources produced within the ponds. Because the pond complex is located in a closed hunting area, and because the project would provide important food resources for migrating birds, the overall impact on waterfowl should be positive.

Fish - Rough fish and minnows within the ponds would be adversely affected by this project since periodic drawdown of impounded waters would curtail their use of the area. In addition, depending on seasonal timing of water level manipulations, life stages of other river fish species may be impacted. Although fish spawning and nursery values would be reduced, they are not currently important functions of the ponds. Improved water level control of Big Pond could provide greater fish management opportunities. The ability to add and control water in Big Pond could allow for improvement of spawning habitat. Although drawdowns would be temporarily detrimental, as described above for the three waterfowl ponds, the overall impacts should be beneficial.

Threatened and Endangered Species - The proposed project would not have significant impacts on threatened or endangered species. The bald eagle and osprey could be negatively affected by the loss of perch trees. However, the largest trees in the area (the likely perch trees) are not located on the dikes, where the major tree removal would occur. Any large, potential perch trees along the water supply pipe area would not be removed.

The immediate project area does not provide the kind of habitat preferred by peregrine falcons or Lampsilis higginsii, and no impacts on these species are expected. The U.S. Fish and Wildlife Service has concurred with this biological determination of no impact to threatened or endangered species (see attachment 4).

Diversity - Overall species diversity could decline slightly by implementation of management objectives aimed specifically at waterfowl. This is inherent in any species management approach. However, after construction and renovation, overall productivity of the wetland complex should be increased. Because the ponds have a somewhat varied topography (approximately 3 feet within each pond), draining and flooding would provide varied water levels to attract numerous species of wildlife ranging from shorebirds feeding on mudflats, to herons feeding in deeper water areas. Therefore, a decrease in diversity seems unlikely, but if it occurs, it is expected to be overshadowed by benefits resulting from increased management of the impoundments.

Archeological-Historical - The only site in the vicinity of the project that has been listed on or determined eligible for the National Register of Historic Places is Lock and Dam 10. Some physical alteration to the spillway (submersible dam) would be required to provide flow to the fish ponds through the water supply conduit. This alteration would not have an adverse effect on this National Register of Historic Places property.

No known archeological sites would be affected by any of the proposed work. Construction within the fish hatchery itself would not affect any archeological resources as this area was severely disturbed during the initial construction of the ponds. It is possible, though, that the water supply conduit connecting the ponds to the submersible dam could affect undisturbed archeological resources. For the most part, disturbance would be kept at a minimum, but because the conduit would be laid underground, some preliminary archeological surveying will be conducted in 1988 prior to construction of the conduit. Based on the work conducted by Overstreet in pool 11, historic sites are the most likely to be affected by this work. Woodland sites may be buried by more than a meter of sediment if conditions similar to those found at 13 CT 210 exist.

SOCIAL FACTORS

Noise Pollution - The immediate vicinity around the water control structures and dikes would be temporarily disrupted by renovation activities. Some disturbance may occur from noise and human activity, although these impacts are temporary and adverse impacts to the general public would be insignificant. No disturbance would occur during operation of the facility.

Aesthetic Values - Because of the location of the site in the middle of the Mississippi River and the mature floodplain vegetation surrounding the site, visual impacts would be detectable only to boaters going up to the pond complex via Cassville Slough or Dead Slough. Most of the tree clearing would be limited to the inside and top portions of the dikes; thus, aesthetic impacts should be negligible.

Recreation - Secondary, but insignificant, impacts to recreation would occur because of the project. An increase in waterfowl could enhance the hunting opportunities in the open areas near the project site. Big Pond has been popular as a backwater fishery, and public use of the area is a consideration, however, no negative impacts to the sport fishery in Big Pond are expected from the project. Interest in a waterfowl management project in this locality is very high among area waterfowl enthusiasts as documented in a communication from the Iowa Department of Natural Resources.

Economics - Large numbers of migrating birds might create depredation problems for local farmers on either side of the river. Because the amount of small grain acreage close to the project area is small and because a primary goal of the project is to produce abundant waterfowl food resources within the ponds, depredation problems on private land should not result from the project.

Other Social Factors - Large numbers of waterfowl congregating in this area could pose a hazard for aircraft that use the Abels Island Airport. This grass-strip airport is 1.5 miles northwest of the proposed project site and has limited use. Because of the large number of birds already migrating down the river, safety problems at the airport should not increase.

Increased hunting pressure in areas open to hunting around the project area could require adjustments in law enforcement efforts. Because the pond complex is located in a closed hunting area, this adjustment should be minimal.

TABLE DPR-1. ENVIRONMENTAL IMPACT ASSESSMENT MATRIX

MAGNITUDE OF PROBABLE IMPACT

NAME OF PARAMETER	INCREASING BENEFICIAL IMPACT			NO APPRECIABLE EFFECT	INCREASING ADVERSE IMPACT		
	SIGNIFICANT	SUBSTANTIAL	MINOR		MINOR	SUBSTANTIAL	SIGNIFICANT
A. SOCIAL EFFECTS							
1. Noise Levels						X	
2. Aesthetic Values						X	
3. Recreational Opportunities				X			
4. Transportation				X			
5. Public Health and Safety						X	
6. Community Cohesion (Sense of Unity)				X			
7. Community Growth and Development				X			
8. Business and Home Relocations				X			
9. Existing/Potential Land Use				X			
10. Controversy				X			
B. ECONOMIC EFFECTS				X			
1. Property Values				X			
2. Tax Revenues				X			
3. Public Facilities and Services			X				
4. Regional Growth				X			
5. Employment				X			
6. Business Activity				X			
7. Farmland/Food Supply				X			
8. Commercial Navigation				X			
9. Flooding Effects				X			
10. Energy Needs and Resources				X			
C. NATURAL RESOURCE EFFECTS		X					
1. Air Quality						X	
2. Terrestrial Habitat				X			
3. Wetlands		X					
4. Aquatic Habitat			X				
5. Habitat Diversity and Interspersion			X				
6. Biological Productivity		X					
7. Surface Water Quality				X			
8. Water Supply				X			
9. Groundwater				X			
10. Soils				X			
11. Threatened or Endangered Species				X			
D. CULTURAL EFFECTS				X			
1. Historic Architectural Values				X			
2. Prehistoric and Historic Archaeological Values				X			

DPR-14

COMPLIANCE WITH ENVIRONMENTAL LAWS AND REGULATIONS

A summary of compliance with environmental statutes can be found in table DPR-2. All applicable laws and regulations would be fully complied with upon completion of the environmental review process. All applicable local and State permits would be obtained prior to project construction.

National Environmental Policy Act of 1969 - Completion of this document and signing of the finding of no significant impact (see attachment 2) by the District Engineer will fulfill requirements of the National Environmental Policy Act of 1969 and of Council on Environmental Quality and Corps of Engineers regulations for implementation of that act.

Clean Water Act of 1977 - The proposed actions would comply with the Clean Water Act of 1977. An evaluation, as required by Section 404(b)(1) of the act, has been completed (see attachment 3) and has been coordinated with the Environmental Protection Agency. State water quality certification is being requested from the Iowa Department of Natural Resources, as required by Section 401 of the act.

Fish and Wildlife Coordination Act - The proposed actions comply with the Fish and Wildlife Coordination Act. The project has been coordinated with the U.S. Fish and Wildlife Service (cooperating agency) and the Iowa and Wisconsin Departments of Natural Resources.

Endangered Species Act of 1977 - The proposed actions have been coordinated with the U.S. Fish and Wildlife Service (USFWS), relative to endangered and threatened species. The USFWS has concurred with the St. Paul District's biological determination that no protected species, or their habitat, would be negatively affected by this project (see attachment 4).

National Historic Preservation Act - This document has been coordinated with the Iowa and Wisconsin State Historic Preservation Officers, the State Archeologist's Office of Iowa, the National Park Service, and the Advisory Council on Historic Preservation, and represents the St. Paul District's requests for comments on the impact of the project on Lock and Dam 10, a property determined eligible for the National Register of Historic Places. Copies of comments from the State Historic Preservation Officers will be forwarded to the Advisory Council to complete the District's Section 106 compliance procedures. Should cultural resources be discovered during the survey for the conduit, additional coordination will be conducted in accordance with the regulations of the Advisory Council.

National Wildlife Refuge Administration Act - This act provides a vehicle for such habitat alterations if the Regional Director determines that the activity is compatible with the purposes for which the area was originally established. This project is compatible with refuge-wide objectives and consistent with management objectives of the area. It would not significantly affect the lands within the Upper Mississippi River National Wildlife and Fish Refuge (see attachment 4).

Table DPR-2. Compliance status of the proposed project with Environmental Laws and Regulations

<u>Federal Statutes</u>	<u>Compliance Status</u>
Archeological and Historic Preservation Act	Full
Clean Air Act of 1977, as amended	Full
Clean Water Act of 1977, as amended	Partial
Coastal Zone Management Act	N/A
Endangered Species Act of 1973, as amended	Full
Estuary Protection Act	N/A
Federal Water Project Recreation Act, as amended	Full
Fish and Wildlife Coordination Act, as amended	Full
Land and Water Conservation Fund Act, as amended	Full
Marine Protection, Research & Sanctuaries Act, as amended	N/A
National Environmental Policy Act of 1969, as amended	Full
National Historic Preservation Act of 1966, as amended	Full
Rivers and Harbors Act	Full
Watershed Protection & Flood Prevention Act, as amended	N/A
Wild and Scenic Rivers Act, as amended	N/A

Executive Orders, Memorandums, etc.

Floodplain Management (E.O. 11988)	Full
Protection of Wetlands (E.O. 11990)	Full
Environmental Effects Abroad of Major Federal Actions (E.O. 12114)	N/A
Analysis of Impacts on Prime and Unique Farmlands (CEQ Memorandum, August 11, 1980)	N/A
Protection and Enhancement of Environmental Quality (E.O. 11514, as amended by E.O. 11991)	Full
Protection and Enhancement of the Cultural Environment (E.O. 11593)	Full

NOTES:

1. Full Compliance. Having met all requirements of the statutes for the current stage of planning (either preauthorization or postauthorization).
2. Partial Compliance. Not having met some of the requirements that normally are met in the current stage of planning. Explained in the report and referenced in the table.
3. Noncompliance. Violation of a requirement of the statute. Explained in the report and referenced in the table.
4. Not Applicable (N/A). No requirements for the statute apply.

PROJECT REQUIREMENTS

OPERATION AND MAINTENANCE

After construction of the project, annual operation and maintenance (O&M) would be the responsibility of the U.S. Fish and Wildlife Service. The U.S. Fish and Wildlife Service will assure that non-Federal O&M responsibilities are in conformance with Section 906(e) of the Water Resources Development Act of 1986. The non-Federal sponsor of all Environmental Management Program projects in the State of Iowa is the Iowa Department of Natural Resources. An O&M manual would be prepared by the Corps during the plans and specifications phase. On an average annual basis, the O&M costs are estimated as follows:

Operation	=	\$1,300
Maintenance	=	\$ 700
Total O&M	=	\$2,000

COST ESTIMATE

A detailed cost estimate for the project is shown below.

Item	Quantity	Unit Cost	Total Cost
Mobilization & demobilization	SUM	-----	\$ 8,000
Dike excavation (2 sites)	1,000 CY	\$ 3.00	3,000
Ditch excavation	3,000 CY	1.50	4,500
Water supply (gravity from spillway)			
Clear & grub	5,000 SY	0.60	3,000
Fill & backfill	1,000 CY	3.00	3,000
Dewatering box	SUM	-----	10,000
Remove spillway concrete	15 CY	600.00	9,000
Place concrete	14 CY	300.00	4,200
Bar screen	1 EA	500.00	500
Steel pipe, 24" dia	275 LF	100.00	27,500
CMP, 24" dia	775 LF	25.00	19,375
Knife valves	2 EA	6,000.00	12,000
Manhole (6' deep, 6' dia)	SUM	-----	3,000
Riprap	85 CY	50.00	4,250
Outlet (Drop structure with stop logs)**			
Clear & grub	500 SY	0.60	300
Cut & fill	600 CY	3.00	1,200
Concrete	2 CY	500.00	1,000
CMP, 60" dia (half)	16 LF	75.00	1,200
CMP, 30" dia	60 LF	30.00	1,800
Steel channel (4")	40 LF	15.00	600
Riprap	80 CY	50.00	4,000
Temporary dewatering	SUM	-----	1,000
Stop logs	SUM	-----	<u>400</u>
	Subtotal:		\$122,875
	Contingencies (20%):		<u>24,125</u>
	Total direct costs:		147,000
	E&D:		44,000*
	S&A:		<u>12,000</u>
	TOTAL:		\$203,000

*Includes prior fiscal year allocations of \$35,000.

**Quantities are for two structures.

Average annual first costs, based upon a 50-year economic life and an 8-5/8 percent discount rate, would amount to \$17,800. With the addition of annual operation and maintenance costs as indicated above, the total average annual costs are estimated to be \$19,800.

PROJECT EVALUATION

The following information would be collected in order to evaluate the performance of the project and to allow effective changes in the operating schedule, if needed: pond versus tailwater elevations; timing and duration of drawdown; extent of plant germination; vegetation composition and vigor; reflooding schedule (depths); vegetation response to reflooding; and wildlife use before, during, and after flooding. This information would be recorded each year for 3 years to determine if the project is functioning as desired. Data collection in 1988 would provide 1 year of pre-construction information. However, because construction may occur during the fall migration period, disturbance may invalidate the 1988 waterfowl counts. Because of the high variability in the magnitude of the fall waterfowl flight (due to weather, continental population levels, local hunting pressure, etc.) and duration of stay at stopover areas (due to physiological condition of individual birds, food availability, etc.), project evaluations should not be based data from only one year. Evaluation of the project effects would be performed qualitatively because of the limited quantitative information available for comparison. The evaluation would be based on the empirical knowledge of local wildlife managers familiar with the site and on expected outputs determined from published data.

PROJECT IMPLEMENTATION

DIVISION OF PLAN RESPONSIBILITIES

The responsibilities of plan implementation and construction fall to the Corps of Engineers as the lead Federal agency. Operation and maintenance of the completed facility would be the responsibility of the U.S. Fish and Wildlife Service.

COST APPORTIONMENT

The project is located on the Upper Mississippi River National Wildlife and Fish Refuge. Therefore, in accordance with Section 906(e)(3) of Public Law 99-662, the first costs for construction of the project would be 100 percent Federal and would be borne by the Corps of Engineers.

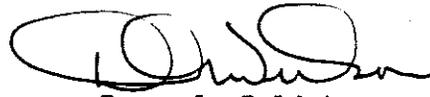
All Federal costs for operation and maintenance of the project would be borne by the U.S. Fish and Wildlife Service. The U.S. Fish and Wildlife Service will assure that non-Federal operation and maintenance responsibilities are in conformance with Section 906(e) of the Water Resources Development Act of 1986. The non-Federal sponsor of all Environmental Management Program projects in the State of Iowa is the Iowa Department of Natural Resources. Specific operation and maintenance features would be defined in an O&M manual for the project.

STEPS PRIOR TO PROJECT CONSTRUCTION

Upon review and approval of this report by the Office of the Chief of Engineers, funds in the amount of \$9,000 could be provided to prepare final plans and specifications for construction of the project. The construction contract would be advertised by the competitive bid process and awarded. A contract award is anticipated for the fourth quarter of fiscal year 1988. Construction would be completed in fiscal year 1989.

RECOMMENDATIONS

I recommend that the Secretary of the Army, under the provisions of Public Law 99-662, approve this project for habitat rehabilitation and enhancement at the Guttenberg Fish Ponds in Clayton County, Iowa. The total estimated cost of the project is \$203,000, which amount would be a 100-percent Federal cost according to Section 906(e)(3) of Public Law 99-662. I further recommend that funds in the amount of \$168,000 be allocated in fiscal year 1988 for preparation of plans and specifications and project construction.

 LTC, CE, DDE
Roger L. Baldwin
Colonel, Corps of Engineers
For District Engineer

Attachments:

1. Plates:
 - Location Map
 - Project Plan
 - Water Supply Details
 - Outlet Drop Structure
2. Finding of No Significant Impact
3. Section 404(b)(1) Evaluation Report
4. Coordination
5. Distribution List

REFERENCES

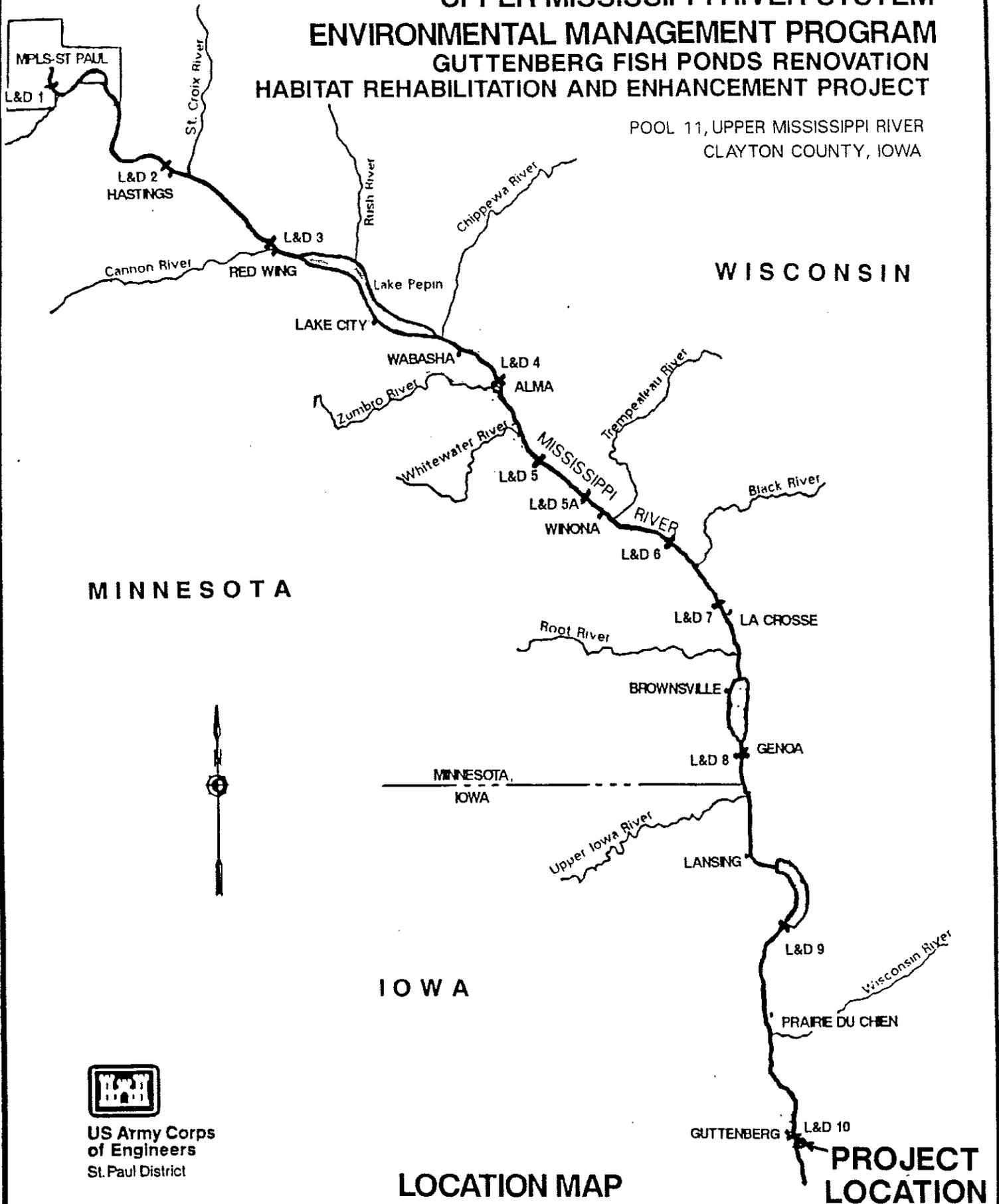
- Bellrose, F.C. 1968. Waterfowl migration corridors east of the Rocky Mountains in the United States. Illinois Natural History Survey Biological Notes 61. 24 pp.
- Burgess, H. 1969. Habitat management on a mid-continent waterfowl refuge. J. Wildl. Manage. 33:843-847.
- Fredrickson, L.H. and T.S. Taylor. 1982. Management of seasonally flooded impoundments for wildlife. U.S. Fish and Wildlife Service, Resource Publication 148. 29 pp.
- Have, M.R. 1973. Effects of migratory waterfowl on water quality at the Montezuma National Wildlife Refuge, Seneca County, New York. Journal Research, U.S. Geological Survey 1(6):725-734.
- Kadlec, J.A. 1962. Effects of a drawdown on a waterfowl impoundment. Ecology 43:267-281.
- Schmidt, F.V. 1951. Planned water level control and the resultant effect on vegetation. Seventh Proceedings of the Northeastern Fish and Wildlife Conference. 7 pp.
- Smith, J.P. 1972. 1973 Water Program and 1972 Water Use Data, Upper Mississippi River N.W.R., Guttenberg District. Unpublished report of the District Refuge Manager. 3 pp.
- Vanderford, M.J., ed. 1980. Fish and Wildlife Work Group I, Final Report to the GREAT I, Volume 5. Great River Environmental Action Team I. St. Paul, MN.

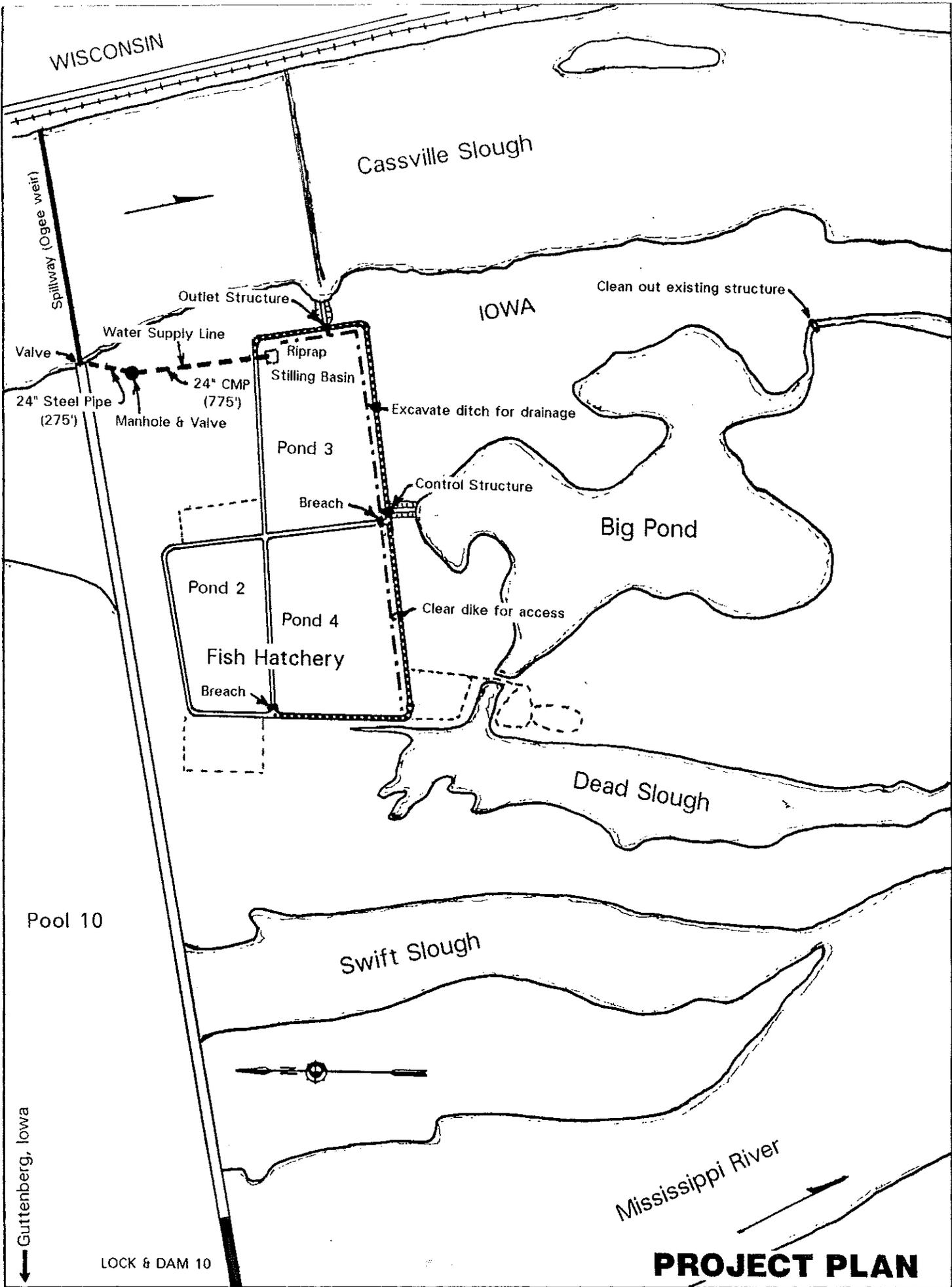
Attachment 1

Plates

UPPER MISSISSIPPI RIVER SYSTEM
ENVIRONMENTAL MANAGEMENT PROGRAM
GUTTENBERG FISH PONDS RENOVATION
HABITAT REHABILITATION AND ENHANCEMENT PROJECT

POOL 11, UPPER MISSISSIPPI RIVER
CLAYTON COUNTY, IOWA





WISCONSIN

Cassville Slough

IOWA

Clean out existing structure

Spillway (Ogee weir)

Outlet Structure

Water Supply Line

Valve

Manhole & Valve

24" Steel Pipe (275')

24" CMP (775')

Riprap

Stilling Basin

Excavate ditch for drainage

Pond 3

Control Structure

Breach

Big Pond

Pond 2

Pond 4

Clear dike for access

Fish Hatchery

Breach

Dead Slough

Pool 10

Swift Slough

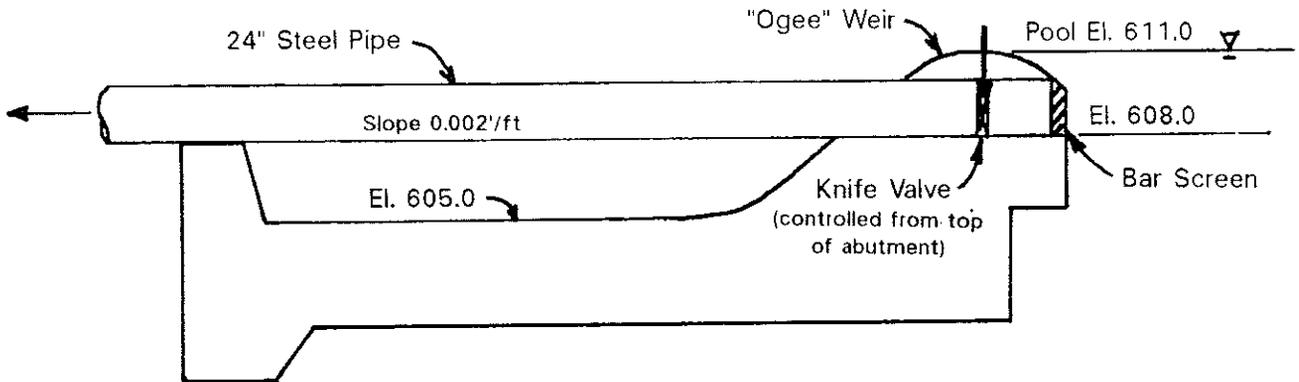
Mississippi River

Guttenberg, Iowa

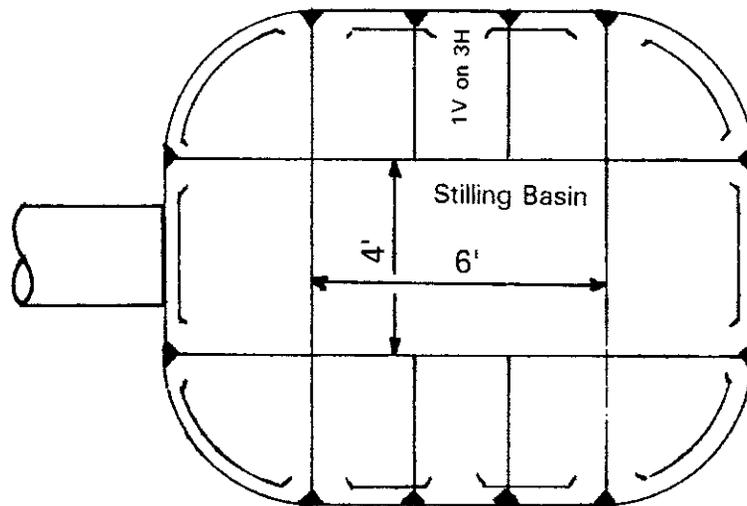
LOCK & DAM 10

PROJECT PLAN

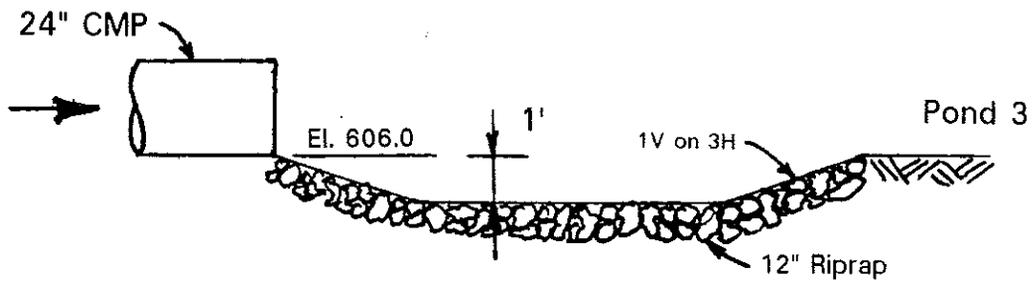
PLATE 2



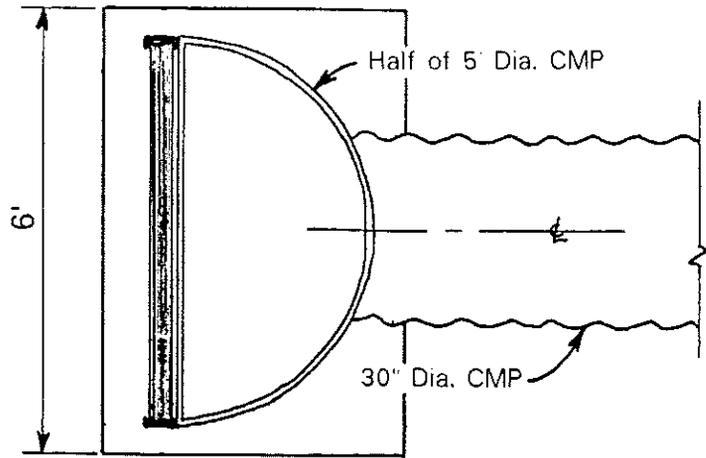
SUPPLY LINE INLET SECTION
AT SPILLWAY



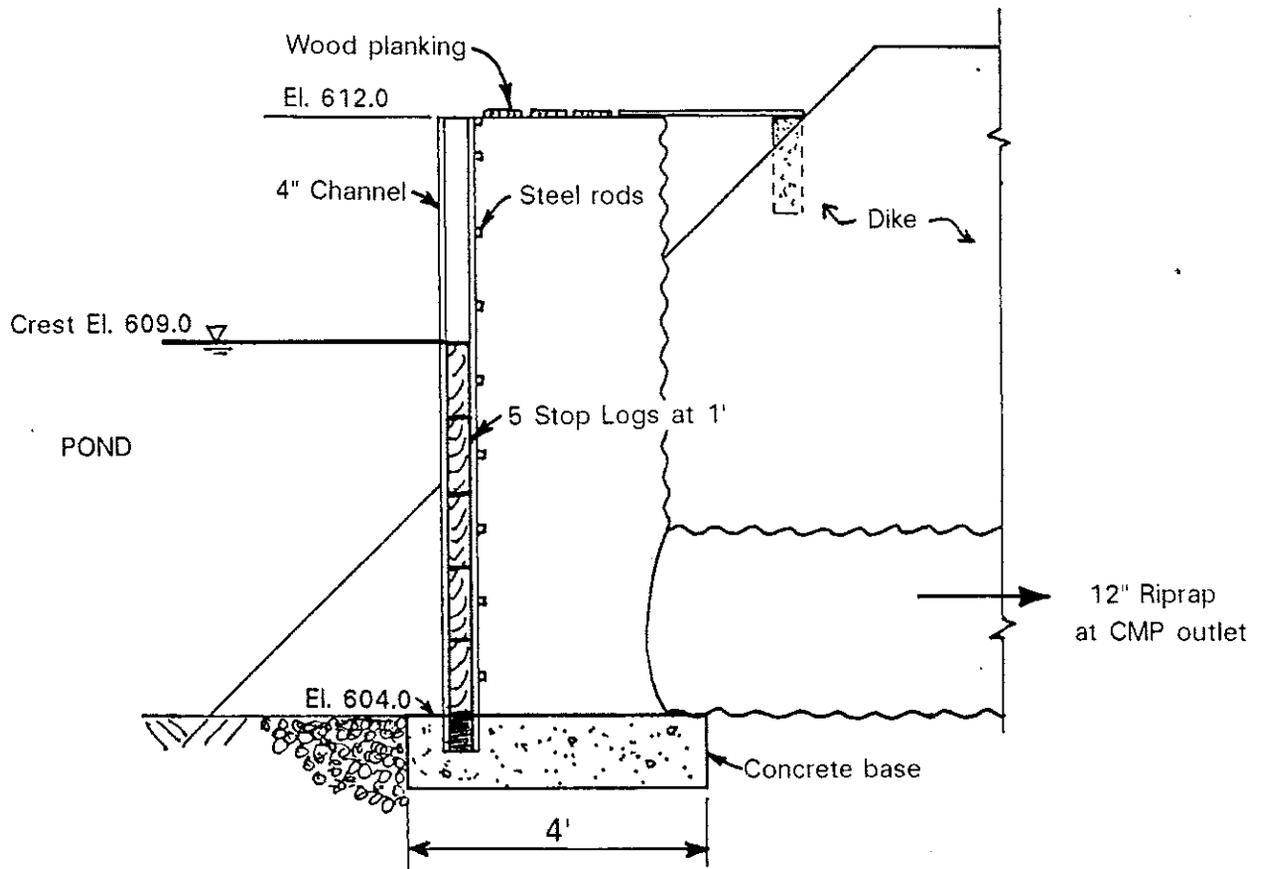
PLAN



SUPPLY LINE OUTLET SECTION
AT POND 3



PLAN



SECTION
IN DIKE

OUTLET DROP STRUCTURE

Attachment 2

Finding of No Significant Impact

Environmental Resources Branch
Planning Division

FINDING OF NO SIGNIFICANT IMPACT

In accordance with the National Environmental Policy Act of 1969, the St. Paul District, Corps of Engineers, has assessed the environmental impacts of the following project.

UPPER MISSISSIPPI RIVER SYSTEM - ENVIRONMENTAL MANAGEMENT PROGRAM
GUTTENBERG WATERFOWL PONDS
HABITAT REHABILITATION AND ENHANCEMENT PROJECT
POOL 11, CLAYTON COUNTY, IOWA

The purpose of the project is to provide beneficial wetland and wildlife management capabilities not presently available in the general project vicinity. Some ditch excavation and tree clearing would be required and a gravity flow water supply line and outlet structure would be constructed to allow recovery of water level control of abandoned fish hatchery ponds. After completion of the pond renovation, the pond complex would be operated as a seasonally flooded moist-soil impoundment.

This finding is based upon the fact that no significant environmental impacts were identified as resulting from the proposed actions. Both positive and negative social and environmental impacts would occur, but these impacts would be minor or short-term, because the project is designed to enhance overall environmental conditions, and to increase productivity of the ponds. Temporary negative impacts would occur to air quality and noise levels during construction activities. Waterfowl and aquatic shorebird feeding and resting would be temporarily disrupted during project renovation activities, but should ultimately benefit from project implementation. It is expected that use of the area by migratory waterfowl would increase significantly as additional foods become available. The proposed project would not have significant impacts on threatened or endangered species. Positive impacts on vegetation would result from moist-soil management activities. The proposed project should have minimal impact on, and would likely improve, overall water quality. Environmental impacts are described in detail in the Definite Project Report/Environmental Documentation.

The environmental review indicates that the proposed action does not constitute a major Federal action significantly affecting the quality of the human environment. Therefore, an environmental impact statement will not be prepared.

20 July 1988
Date


Roger L. Baldwin
Colonel, Corps of Engineers
District Engineer



Attachment 3

Section 404(b)(1) Evaluation Report

SECTION 404(b)(1) EVALUATION
UPPER MISSISSIPPI RIVER SYSTEM - ENVIRONMENTAL MANAGEMENT PROGRAM
GUTTENBERG WATERFOWL PONDS RENOVATION PROJECT
POOL 11, GUTTENBERG, IOWA

I. PROJECT DESCRIPTION

PURPOSE AND LOCATION

The purpose of the project is to allow recovery of water level control of abandoned fish hatchery ponds to provide beneficial wetland and wildlife management capabilities not presently available in the general vicinity. The Guttenberg Fish Ponds are located in Clayton County, Iowa, directly east of the city of Guttenberg. The project area is immediately downstream from Lock and Dam No. 10 at river mile 615 and is within the floodplain of the Mississippi River (Plate 1).

GENERAL DESCRIPTION

The project, a joint effort between the St. Paul District Army Corps of Engineers (COE), the U.S. Fish and Wildlife Service, Department of the Interior (FWS), and the Iowa Department of Natural Resources (IDNR), would result in the renovation of the former fish rearing ponds to create an enhanced waterfowl habitat management unit. The rearing pond complex to be renovated consists of three ponds totaling approximately 35 acres. Since 1973, disuse, vandalism, and beaver activity have damaged the pump and existing pond water control structures. Under present conditions, water levels in the ponds either change with river levels or remain stable because of beaver activity which clogs the outlet structures. Thus, the amount and duration of inundation during the waterfowl season varies yearly and is partly dependent upon the level of the river at any particular time.

Project construction would involve several activities (see plate 2). Breaches with a 10-foot bottom width would be excavated in the existing dikes at the northwest and southeast corners of pond 4 to allow for flow of water between ponds 2, 4, and 3 via excavated ditches. A 10-foot-wide ditch would be excavated in the pond bottom adjacent to and along the toe of the south dike of ponds 3 and 4 to allow drainage of ponds 2 and 4 to the outlet control structure in pond 3. The bottom elevation of the ditch (elevation 604.0) would be the same as the elevation of the outlet sill. Material excavated from the ditch would be sidecast along the dike within the ponds.

A gated water supply line would be constructed from the right abutment of the dam 10 spillway to the northeast corner of pond 4 to provide 80 acre-feet of water to the ponds in 6 days, assuming other inputs to or outputs from the ponds are minor and tailwater elevation is conducive. A dewatering box would be used to allow construction work at the spillway. The dewatering box would not require the placement of fill material (cofferdam) into the open river. A trench would be dug to allow placement of the inlet pipe at the elevation and slope necessary for adequate gravity flow of water into the ponds. Rock riprap would be placed at the pipe outlet to prevent erosion and to dissipate water energy.

A stop log outlet structure would be constructed in the east dike of pond 3 for drainage to Cassville Slough. The outlet would consist of a corrugated metal pipe drop structure with stop logs to be used for controlling the discharge of water from the ponds (see plate 4). The elevation of the base of the structure would be 604.0. Another control structure would be constructed in the south dike of pond 3 as a means of water supply to Big Pond. The existing outlet on the lower side of Big Pond would be cleaned out to allow additional and optimal water management capabilities.

The 10-foot-wide ditch would be extended to parallel the east dike of pond 3 to an existing pump site. This would provide additional dewatering capabilities during years when river levels are high by allowing the use of portable pumping equipment to supplement the gravity flow from the outlet structure. This will depend on tailwater elevations in Cassville Slough, groundwater conditions, and the actual need for additional drainage.

After completion of the pond renovation, the pond complex would be operated by the U.S. Fish and Wildlife Service and the Iowa Department of Natural Resources as a seasonally flooded (moist soil) impoundment. This management practice consists of draining the ponds in late spring to stimulate germination of moist soil plants and slowly reflooding the ponds in mid-summer or early fall to stimulate plant growth and to allow use by various species of water birds and wildlife. The timing and rate of drawdowns and reflooding influence, in part, the plant species that will become dominant. Thus, proper water level control is the key to controlling desirable plants for optimizing the habitat, energy, or nutritive requirements for wildlife.

AUTHORITY

Public Law 95-502 authorized the construction of a new dam and 1,200-foot lock at Alton, Illinois, and directed the Upper Mississippi River Basin Commission to prepare a comprehensive Master Plan for the management of the Upper Mississippi River System. The Basin Commission completed the Master Plan report and submitted it to Congress on 1 January 1982. The report recommended an environmental management program that included construction of habitat rehabilitation and enhancement projects.

The authority for this project is provided by Section 1103 of the Water Resources Development Act of 1986 (Public Law 99-662). The proposed project would be funded and constructed under this authorization, specifically, subsection (e)(1)(A): "a program for the planning, construction, and evaluation of measures for fish and wildlife habitat rehabilitation and enhancement".

GENERAL DESCRIPTION OF DREDGED MATERIAL

Soils near Big Pond were sampled in 1984 in conjunction with archeological investigations. The upper 2.5 meters were identified as disturbed, mixed lateral and vertical accretion deposits of silty fine sand, silt, silty sand, and fine sand (mottled and gleyed, and non-calcareous). There has also likely been surface organic matter enrichment within the ponds due to accumulation of marsh plant detritus.

DESCRIPTION OF DISPOSAL METHOD

A crane working along the pond dikes would remove the material from the drainage ditch and deposit it along the dikes inside the ponds. Excess material would be added to the inner-side of the pond dikes. A backhoe would be used to dig and refill the water supply pipe trench. Rock riprap would be placed at the pipe outlet in pond 3 with a crane or backhoe.

II. FACTUAL DETERMINATIONS

A. Proposed Disposal Site Determinations

The dredged material would be placed on the pond side of the dikes along the ditch created to allow drainage of water from the ponds. All dredged material would thus be placed within a completely contained and previously disturbed area (the diked ponds). No dredged material would be released into flowing water, and no water would be released from the ponds until the summer after construction.

B. Physical Substrate Determinations

The major change to the physical substrate would be from changes in bottom elevations by ditch creation. These activities would affect approximately 1.0 acre of the diked ponds (less than 3% of the total pond area). The physical characteristics of the dredged material and the disposal site would be identical. The bottom substrate of the ditches would be subject to longer periods of inundation than now occurs. The dredged material would not be subjected to high erosive forces and should remain stable once natural revegetation occurs (within the first year after construction). This would reduce impacts that might be associated with displacement of the deposited material.

Rock riprap placed for the inflow pipe and outlet structure stilling basins would change the bottom substrate in these locations from clay and silt to rock. This would change a total of 100-150 square feet of substrate at each location, but would be necessary to prevent erosion during project operation.

The outlet structures would be kept closed during construction and until drawdown the following year, thus no material released into the ponds from construction activities would be immediately released into flowing water. Any sediment released during subsequent drawdowns should not be greater than occurs under present conditions and should be small enough to have negligible physical effects upon the river substrate.

C. Water Circulation, Fluctuation, and Salinity Determinations

The proposed action would alter these parameters within the ponds but the effects should be positive. The construction and operation of the project should not produce greater physical or chemical fluctuations than now occur.

However, those fluctuations would be controlled to the extent possible so the timing would produce optimal biological benefits. The purpose of constructing the ditch is to allow drainage of the ponds and thus water circulation within the ponds would be affected. However, because of the presence of the berms and artificial bottom contours due to previous construction activities, water circulation and fluctuations do not currently follow "natural" patterns. The hydrologic regime would be modified whenever possible to follow moist soil management criteria and should lead to increased productivity of the ponds. Because the water inlet pipe would be buried and the preconstruction topography reestablished, water circulation and fluctuations should not be affected outside the ponds. Water released from the ponds during drawdowns would be undetectable compared to the large volume of water moving through Cassville Slough.

D. Suspended Particulate/Turbidity Determinations

Since the integrity of the existing wetland complex would be maintained, the proposed project should have minimal impact on existing water quality. A small amount of sediment may be released during and after burial of the water supply pipe and construction activities could increase the existing suspended solids/turbidity values within the ponds temporarily. Such transient increases in suspended load should not have an adverse effect on the aquatic biota, and would not be detectable in releases to the river during subsequent drawdowns. The existing ponds may serve as settling basins for river-run water and pumping and drawdown may resuspend some materials into the water column. However, drawdowns would occur at a slow rate (draining a total volume of approximately 80 acre-feet in seven days) and would permit some consolidation of bottom sediments. Thus, resuspension of sediment should be insignificant.

E. Contaminant Determinations

The relatively sandy soils of the floodplain should contain low levels of contaminants and no increase in contaminants in the aquatic environment would be expected from the proposed fill material placement. Any disturbance to the substrate from construction activities should stabilize during the months preceding the first drawdown (direct release to the river).

F. Aquatic Ecosystem and Organism Determinations

Changes in the structure or function of the aquatic ecosystem and organisms could be affected by both the construction activities and the operation of the moist soil unit. Ditch excavation and stilling basin construction would result in the direct loss of benthic organisms, but rapid recolonization should occur because the substrate type would not change. Currently, a small number of fish (mainly carp and bullhead) are present in the ponds, and seasonal drawdowns could decrease survival. However, the drainage ditch would likely hold water continuously and could thereby increase fish survival compared to present conditions. The importance of fish, however, in the functioning and productivity of the ponds is currently minor, and

would remain so after construction. Improved water level control of Big Pond could lead to greater fish management opportunities. The ability to add and control water in Big Pond could allow for improvement of spawning habitat. Although drawdowns would be temporarily detrimental to fish, the long-term impacts should be beneficial.

Species diversity could decline slightly by implementation of management objectives aimed specifically at waterfowl. This is inherent in any species management approach. However, after construction and renovation, any damage to vegetation would regenerate through natural successional processes, and the pre-renovation conditions of the dikes would return. Because the ponds have a somewhat varied topography (approximately three feet within each pond), draining and flooding would provide varied water levels to attract many species of wildlife ranging from shorebirds feeding on mudflats to herons feeding in deeper water areas. Any decrease in diversity is expected to be largely offset by benefits resulting from increased management of the impoundments.

G. Determination of Cumulative Effects Upon the Aquatic Ecosystem

The habitats affected by the project are not unique in the Upper Mississippi River. An overall increase in marsh and forest habitats is likely because of the processes of ecological succession. Construction and operation of the project would tend to set back succession which would create a greater mix of diverse habitats in the area. The improved ability to control and maintain desired conditions through tested methods of water level control (Fredrickson and Taylor 1982) should provide overall positive effects to the aquatic ecosystem. No cumulative effects of ditch excavation should occur because any negative effects (described above) would be confined within the diked ponds or would have subsided before water is released from the ponds. The cumulative impacts of the project, though difficult to measure, should be insignificant compared to natural processes and other management activities occurring in the Upper Mississippi River System.

H. Determination of Secondary Effects on the Aquatic Ecosystem

Nutrient release may occur during drawdowns as a result of natural nutrient cycling processes. However, the greatest amount of plant senescence and nutrient release generally takes place in the fall. Because drawdowns would take place in the spring (usually in June), when nutrients are being taken up by plants, drawdowns should not adversely effect overall water quality in the area. No other negative secondary effects should occur.

I. Determination of Potential Effects on Human Use Characteristics

The immediate vicinity around the water control structures and dikes would be temporarily disrupted by renovation activities. Impacts to the general public from noise and human activity would be insignificant. No disturbance would occur during operation of the facility. No long-term changes in use of the project area by the general public should occur due to construction of the project.

Secondary impacts to recreation would occur because of operation of the project. At present, hunting opportunities are enhanced by waterfowl leaving the river bottoms to feed in fields on the river bluffs. An increase in waterfowl near the project site could enhance the hunting opportunities in the nearby open areas. However, these increased opportunities could be offset by a reduced number of feeding flights resulting from the greater food resources produced within the ponds. Interest in a waterfowl management project in this locality is very high among area waterfowl enthusiasts as documented in communication from the Iowa Department of Natural Resources.

Big Pond Slough has been popular as a backwater fishery and public use of the area is a consideration, however, no long term negative impacts to the sport fishery in Big Pond are expected from the project. Big Pond would generally remain subject to the same flooding regime as now occurs. However, since a controllable supply of water would be provided to Big Pond, greater fish management opportunities will exist after project construction.

III. FINDINGS OF COMPLIANCE

A. Evaluation of Availability of Practicable Alternatives to the Proposed Discharge that Would Have Less Impact upon the Aquatic Ecosystem

1. No Action - Successional trends in wetland and upland vegetation could be expected to continue without project implementation. Direct negative impacts to fish and wildlife would be less, but opportunities for increased management and productivity of the site (positive impacts) would be foregone. This alternative is considered less desirable than the proposed alternative.

2. Alternatives Considered - Disposal of dredged material outside the bermed dikes (within the floodplain) would have greater impacts than in the proposed bermed area. Disposal on an upland site (if available) would be considerably more expensive than disposal at the proposed site.

Because the ponds slope down toward their outer dikes, the best way to allow drainage via one outlet is by breaching the interior pond dikes and ditching. The alternative of providing three outlets (one for each pond) was considered too expensive to construct and would increase operation and maintenance costs. The outlets to Cassville Slough and Big Pond are expected to allow maximum control of drawdowns in the moist soil ponds.

B. Compliance with Applicable State Water Quality Standards

The proposed action should not violate State standards for fish and aquatic life or recreation. The amount of suspended sediment produced should be minimal because no immediate release of water from the pond area would occur during construction. The physical, biological, and chemical integrity of the receiving waters should be maintained at present levels. The St. Paul District has requested water quality certification and approval for the proposed work in Iowa waters from the Iowa Department of Natural Resources.

C. Compliance with Section 307 of the Clean Water Act

The proposed action would not violate any applicable effluent standard or prohibition covered in Section 307 of the Clean Water Act. Water quality certification from the State of Iowa is pending.

D. Compliance with the Endangered Species Act

The proposed action has been coordinated with the Fish and Wildlife Service, relative to endangered or threatened species. The St. Paul District's biological assessment has determined that no protected species, or their habitat, would be negatively affected by this project. The Fish and Wildlife Service has concurred with that determination.

E. Evaluation of Extent of Degradation of Waters of the United States

1. The proposed action would not have any significant adverse effects on human health and welfare.

2. The proposed action would not have any significant adverse effects on life stages of aquatic life or on other wildlife dependent upon aquatic ecosystems.

3. The proposed action would not have any significant adverse effects on aquatic ecosystem diversity, productivity, or stability.

4. The proposed action would not have any significant adverse effects on recreational, aesthetic, cultural, or economic values.

F. Appropriate and Practicable Steps Taken to Minimize Potential Adverse Impacts of the Discharge on the Aquatic Ecosystem

1. All dredged material would be placed within the diked ponds.

2. No release of water from the ponds would occur until the summer following construction, allowing the dredged material to stabilize and revegetate.

3. Construction equipment would work on top of the dike to minimize disturbance to the bank and pond bottom.

G. Findings

Based on this evaluation, the proposed action for the discharge of dredged material as specified complies with the requirements of the guidelines.

20 July 1988
Date


Roger L. Baldwin LTC, CE, DDE
Colonel, Corps of Engineers
District Engineer
Jr

Attachment 4

Coordination



United States Department of the Interior



FISH AND WILDLIFE SERVICE
FEDERAL BUILDING, FORT SNELLING
TWIN CITIES, MINNESOTA 55111

IN REPLY REFER TO:

FWS/ARW

JUL 5 1988

Colonel Joseph Briggs
District Engineer
U. S. Army Engineer District, St. Paul
1135 U. S. Post Office and Custom House
St. Paul, Minnesota 55101

Dear Colonel Briggs:

The Fish and Wildlife Service (Service) has reviewed the Definite Project Report/Environmental Documentation (SP-2) for the Guttenberg Waterfowl Ponds rehabilitation and enhancement project. This project located near Guttenberg, Iowa, is proposed under the Water Resources Development Act of 1986 (Public Law 99-662) as part of the Upper Mississippi River System Environmental Management Program.

The Guttenberg project has been coordinated with the Service and we approve and support the project as planned and described in the Definite Project Report. The Service agrees with the preferred alternative action contained in the Environmental Assessment and has affected a Finding of No Significant Impact (copy enclosed). This project is situated on Service fee title lands and the Corps of Engineers is authorized to construct the proposed project on these lands.

Operation and maintenance responsibilities for this project will be assumed by the Fish and Wildlife Service. The Service has entered into a Cooperative Agreement with the State of Iowa concerning the development, operation, and maintenance of this project.

We look forward to our continued cooperative efforts in developing habitat rehabilitation and enhancement projects under the Environmental Management Program. If we can be of further assistance, please let us know.

Sincerely,

Marvin E. Moriarty
Acting Regional Director

Enclosure

FINDING OF NO SIGNIFICANT IMPACT

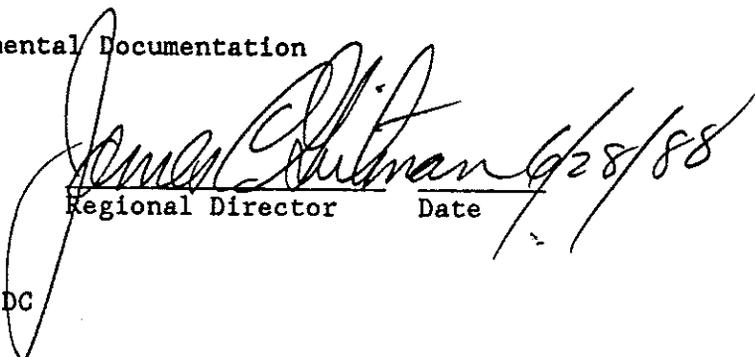
For the reasons presented below and based on an evaluation of the information contained in the supporting references, I have determined that the Environmental Management Program project of renovating abandoned Guttenberg National Fish Hatchery ponds immediately below Lock and Dam 10 on the Upper Mississippi River National Wildlife and Fish Refuge for purposes of enhancing waterfowl habitat is not a major Federal action which would significantly affect the quality of the human environment within the meaning of Section 102(2)(c) of the National Environmental Policy Act of 1969. An Environmental Impacts Statement will, accordingly, not be prepared.

Reasons

The U. S. Fish and Wildlife Service has adopted the environmental assessment prepared by the U. S. Army Corp of Engineers. Renovation of the existing 35 acres of ponds for operation as a moist soil impoundment would create an area managed primarily for the production of food resources for the benefit of migratory waterfowl, and would also provide attractive habitat for a variety of wildlife. There would be no or minimal impact on water quality. Construction would set back vegetative succession which would create a greater mix of diverse habitats. The proposed project would not affect threatened or endangered species. There would be no effect on significant cultural resources.

Supporting References

1. Definite Project Report/Environmental Documentation


Regional Director Date

Distribution: AE (Master File)
EHC/BFA--Washington, DC
RF--Washington, DC
WSS-FM
UMR through RF1



State Historical Society of Iowa

The Historical Division of the Department of Cultural Affairs

June 6, 1988

Joseph Briggs
Colonel, Corps of Engineers
District Engineer
St. Paul District, COE
1421 U.S. Post Office and Customs House
St. Paul, Minnesota 55101-1479

RE: COE - CLAYTON COUNTY - GUTTENBERG - HABITAT REHABILITATION
AND ENHANCEMENT PROJECT, POOL 11, LOCK AND DAM 10 - A
PROPERTY ELIGIBLE FOR THE NATIONAL REGISTER OF HISTORIC
PLACES - NO EFFECT

Dear Mr. Briggs:

We have reviewed this project based on the information submitted with your mailing of May 18. Subsequently, we have determined that the work as described will have no effect on the above referenced historic property, which has been determined eligible for the National Register. Therefore, in accordance with 36 CFR Part 800.5(b), this project may proceed.

Questions or comments may be directed to me at 515/281-8697.

Sincerely,

Ralph J. Christian, Consulting Architectural Historian
Review and Compliance Program
Bureau of Historic Preservation

cc: Karen Merrick, Mayor of Guttenberg
RF

402 Iowa Avenue
Iowa City, Iowa 52240
(319) 335-3916

Capitol Complex
Des Moines, Iowa 50319
(515) 281-5111

Montauk
Box 372
Clermont, Iowa 52135
(319) 423-7173



US Army Corps
of Engineers
St. Paul District

Public Notice

Project: Guttenberg Waterfowl Ponds -
Habitat Rehabilitation and Enhancement
Project, Pool 11, Upper Mississippi River

Date:

In Reply Refer to:

May 18, 1988

Plan Formulation Branch
Planning Division

1. Project Location. The project is located in Clayton County, Iowa, directly east of the city of Guttenberg and immediately downstream from Lock and Dam 10. It lies within the Upper Mississippi River Wildlife and Fish Refuge.

2. Project Authority. Section 1103 of the Water Resources Development Act of 1986 (Public Law 99-662) provides authorization and appropriations for an environmental management program for the Upper Mississippi River system that includes fish and wildlife habitat rehabilitation and enhancement. The proposed project would be funded and constructed under this authorization.

3. Project Purpose. The purpose of the project is to renovate abandoned fish hatchery ponds in order to create an enhanced waterfowl habitat management unit. The project would be operated as a seasonally flooded impoundment under the principles of moist-soil management and would provide beneficial wetland and wildlife management capabilities not presently available in the general project vicinity.

4. Proposed Project. The proposed project would provide for the control of water levels in three existing ponds by construction of water supply and outlet control structures. Water would be supplied via a pipe from the existing spillway to one of the ponds. A corrugated metal pipe drop control structure would be constructed to allow water to be held in the ponds and released when desired to the adjacent backwater ponds and sloughs. Clearing of portions of the pond dikes would be necessary for construction access. Minor ditching within the ponds to facilitate drainage would be included.

5. Permits/Coordination.

a. General. The proposed project has been coordinated with the U.S. Fish and Wildlife Service and the Iowa and Wisconsin Departments of Natural Resources.

b. State. The filling required for the project is subject to regulation by the Iowa Department of Natural Resources in accordance with Section 401 and 404(t) of the Clean Water Act. A letter requesting water quality certification will be sent to the State of Iowa.

c. Federal. An environmental assessment and Finding of No Significant Impact have been prepared in accordance with the requirements of the National Environmental Policy Act. The U.S. Fish and Wildlife Service was a cooperating agency throughout the process required by the Act. A Section 404(b) evaluation has been prepared in compliance with the Clean Water Act of 1977.

6. Summary of Environmental Impacts.

a. General. Renovation of the existing ponds for operation as a moist-soil impoundment would convert 35 acres of ponds into an area managed primarily for the production of food resources for the benefit of migratory waterfowl. The ponds would also provide attractive habitat to a variety of wildlife throughout the year.

b. Water Quality. Since the integrity of the existing wetland complex would be maintained, the project should have minimal impact on existing water quality. No detectable increases in suspended solids/turbidity values should occur from water released from the ponds during subsequent drawdowns. Sediment released during and after burial of the water inlet pipe could increase suspended solids/turbidity values temporarily but should not adversely affect the aquatic biota. No increase in contaminants in the aquatic environment is expected from the proposed fill material placement. Rock riprap placed for the inflow pipe and outlet structure stilling basins (125 Cubic Yards total) would change the bottom substrate in these locations from clay and silt to rock, but would be necessary to prevent erosion during project operation.

c. Vegetation and Wildlife Habitat. Any vegetation affected along the dikes is small compared to the edge habitat within a 1/2-mile radius of the project area, and no significant negative impacts should result. Construction and operation of the project would tend to set back succession which would create a greater mix of diverse habitats in the area.

d. Wildlife. Some burrowing mammals would be displaced by the required breaching and renovation of existing earthwork dikes. Overall, the impacts should be insignificant because the affected dikes are narrow and part of a much larger mesic deciduous/bottomland forest community. Waterfowl and aquatic shorebird use of the ponds would be temporarily disrupted during construction, but should ultimately benefit from project implementation. The proposed project would not affect threatened or endangered species.

e. Fish. Rough fish and minnows within the ponds would be adversely affected since periodic drawdown of impounded waters would curtail their use of the area. Although fish spawning and nursery values would be reduced, these are not currently important functions of the ponds. Big Pond would remain subject to the same flooding regime as now occurs; thus, sport fish populations and recreational fishing opportunities should not be affected.

f. Archeological-Historical. No known archeological sites would be affected by the proposed work. Some physical alteration to the Lock and Dam 10 spillway would be required to provide the water supply to the ponds. The proposed alteration would not have an adverse effect on this National Register of Historic Places property.

g. Noise Pollution, Air Quality. Any noise or air quality impacts would occur during project construction but would be temporary and no adverse impacts to the general public would occur.

7. Applicable Federal Laws and Regulations.

Archeological and Historic Preservation Act
Clean Air Act of 1977, as amended
Clean Water Act of 1977, as amended
Federal Water Project Recreation Act, as amended
National Environmental Policy Act of 1969, as amended
Fish and Wildlife Coordination Act of 1958, as amended
Endangered Species Act of 1973, as amended
Rivers and Harbors Act
National Historic Preservation Act of 1966, as amended
Land and Water Conservation Fund Act of 1965, as amended
Executive Order 11988, Floodplain Management, May 24, 1977
Executive Order 11990, Protection of Wetlands, May 24, 1977
Executive Order 11514, Protection and Enhancement of Environmental
Quality, as amended by E.O. 11991
Executive Order 11593, Protection and Enhancement of the Cultural
Environment

8. Report. A Definite Project Report/Environmental Documentation is available to the public that describes the project and environmental impacts in detail. The report includes project drawings, a Finding of No Significant Impact, a Section 404(b)(1) evaluation, and letters of coordination with the U.S. Fish and Wildlife Service and the Iowa Department of Natural Resources. A copy of this report or additional information can be obtained by writing to the address below or contacting Mr. Don Powell at (612) 220-0402.

9. Request for a Public Hearing. Any person may request a public hearing on the project. The request must be submitted in writing to the District Engineer within 30 days of the date of this notice. The request must clearly set forth the interest that may be affected and how the interest may be affected by this activity.

10. Public Comment Period. Interested parties are invited to submit to this office written facts, arguments, or objections to this project within 30 days of the date of this notice. These statements should bear upon the suitability of the location and the adequacy of the plans and should, if appropriate, suggest any changes deemed desirable. All statements, oral or written, will become part of the official project file and will be available for public examination. All replies should be addressed to the District Engineer, St. Paul District, Corps of Engineers, 1421 U.S. Post Office and Custom House, St. Paul, Minnesota 55101-1479, ATTN: NCSPD-PF.

Steven Kumpula, Acting for
Joseph Briggs
Colonel, Corps of Engineers
District Engineer



United States Department of the Interior



FISH AND WILDLIFE SERVICE

ST. PAUL FIELD OFFICE (ES)
50 Park Square Court
400 Sibley Street
St. Paul, Minnesota 55101

IN REPLY REFER TO:

May 5, 1988

Colonel Joseph Briggs
District Engineer
U.S. Army Corps of Engineers
1135 U.S. Post Office and Custom House
St. Paul, Minnesota 55101-1479

Dear Colonel Briggs:

The U.S. Fish and Wildlife Service has reviewed the preliminary draft Definite Project Report/Environmental Documentation for the Guttenberg Fish Ponds Renovation Project in Pool 11 of the Upper Mississippi River near Guttenberg, Iowa. The project is proposed for implementation under the Environmental Management Program.

We have been involved in this project for several years and have participated in several interagency meetings. We concur with the St. Paul District that the proposed project does not require an Environmental Impact Statement. We also agree that a Finding of No Significant Impact is appropriate.

Endangered Species Act

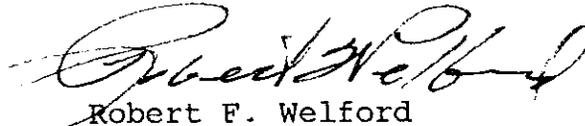
Based on information contained in the preliminary draft report, and the nature of the proposed project, its location, and the habitat requirements of the federally threatened bald eagle (Haliaeetus leucocephalus), endangered peregrine falcon (Falco peregrinus), and endangered Higgins' eye pearly mussel (Lampsilis higginsii), we support your determination that the proposed project will not affect federally listed endangered or threatened species. This precludes the need for further action on this project as required under Section 7 of the Endangered Species Act of 1973, as amended. Should this project be modified or new information indicates listed species may be affected, consultation with this office should be reinitiated.

These comments have been prepared under the authority of and in accordance with the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; U.S.C. 661 et seq.), the Endangered Species Act of 1973, as amended; and the Fish and

Wildlife Service Mitigation Policy and are consistent with the intent of the National Environmental Policy Act of 1969.

We appreciate the opportunity to offer our comments on this project.

Sincerely,



Robert F. Welford
Field Supervisor

cc: WI Dept. of Natural Resources, Eau Claire
WI Dept. of Natural Resources, La Crosse
IA Dept. of Natural Resources, Des Moines
IA Dept. of Natural Resources, Guttenberg

Upper Mississippi River National
Wildlife and Fish Refuge
Established 1924
Compatibility Study
Guttenberg Ponds Renovation

Establishment Authority:

Public Law No. 268, 68th Congress, The Upper Mississippi River Wildlife and Fish Refuge Act.

Purpose for Which Established:

"The refuge shall be established and maintained (a) as a refuge and breeding place for migratory birds included in the terms of the convention between the United States and Great Britain for the protection of migratory birds, concluded August 16, 1916, and (b) to such extent as the Secretary of Agriculture may by regulations prescribe, as a refuge and breeding place for other wild birds, game animals, fur-bearing animals, and for the conservation of wild flowers and aquatic plants, and (c) to such extent as the Secretary of Commerce may by regulations prescribe a refuge and breeding place for fish and other aquatic animal life."

Description of Proposed Use:

The proposal is a Habitat Rehabilitation and Enhancement Project authorized by the Water Resources Development Act of 1986 (Pub. L. 99-662). The purpose of the project is to recover water level control in abandoned fish hatchery ponds in order to create an enhanced waterfowl habitat management unit. The project would be operated as a seasonally flooded impoundment (moist soil unit) and would provide beneficial wetland and wildlife management capabilities not presently available in the general project vicinity. The project is located in Clayton County, Iowa, directly east of the City of Guttenberg immediately downstream from Lock and Dam No. 10 at river mile 615. Complete details of the project, including maps, are contained in the draft report entitled, "Upper Mississippi River System Environmental Management Program Definite Project Report/Environmental Documentation (SP-2) Guttenberg Ponds Renovation Habitat Rehabilitation and Enhancement Project Pool 11, Upper Mississippi River, prepared by the St. Paul District, Corps of Engineers, March 1988.

Anticipated Impacts on Refuge Purposes:

As a result of the project the migratory bird, aquatic plant and other wildlife populations should increase which will be a direct benefit toward maintaining and accomplishing refuge purposes. The above mentioned report contains detailed information on the project's impacts on wildlife and plant species.

Justification:

The proposed project is compatible as it works toward the accomplishment of the stated objectives and purposes of the refuge.

Determination:

The proposed project is compatible with purposes for which the refuge was established.

Determined by: James R. Lennartson 4/20/88
James R. Lennartson Date

Reviewed by: John W. Elki 5/3/88

Concurred by: Ma E May 5/4/88
Active Regional Director

Attachment 5
Distribution List

This Definite Project Report/Environmental Assessment will be sent to the following agencies:

Federal

Department of Transportation
Environmental Protection Agency
U.S. Coast Guard
U.S. Fish and Wildlife Service (Twin Cities, La Crosse, Winona, McGregor, St. Paul)
U.S. Geological Survey (St. Paul)
National Park Service
Soil Conservation Service
Advisory Council on Historic Preservation

State of Iowa

Department of Administration
Department of Health and Social Services
Department of Natural Resources (Des Moines, Guttenberg, Manchester, Decorah, West Union)
Department of Transportation
State Historic Preservation Officer

State of Wisconsin

Department of Administration
Department of Health and Social Services
Department of Natural Resources (Madison, La Crosse)
State Historic Preservation Officer

State of Minnesota

Department of Natural Resources (Lake City)

Local

City of Guttenberg
Clayton County Commissioners
Clayton County Engineer
Guttenberg Press
Guttenberg Public Library
Guttenberg Post Office

Other

Minnesota/Wisconsin Boundary Area Commission
Upper Mississippi River Basin Association