

A COMPREHENSIVE PLAN TO RESOLVE RESOURCE PROBLEMS

AT

Trempealeau National Wildlife Refuge

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Department of the Interior

U.S. Fish and Wildlife Service

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## Introduction

In October of 1981, the U.S. Fish and Wildlife Service (Service) sent out a questionnaire to all field stations. The stations were requested to identify all field station threats and conflicts.

All Service field stations reported threats and conflicts of various levels of occurrence and magnitude. These reports were summarized in a July 1983 Report of Resource Problems on the national wildlife refuges, national fish hatcheries and research centers.

Twenty-seven resource problems were identified at Trempealeau National Wildlife Refuge. This comprehensive plan addresses current and planned actions to correct these problems by the staff of the Trempealeau Refuge.

Funding from the Accelerated Refuge Maintenance Management (ARRM) Program and Service Construction funds have made some progress possible in dealing with the resource problems identified. Other funding proposals are being considered at this time as described later in this report.

The 5,617-acre Trempealeau NWR is located in southwestern Trempealeau and southeastern Buffalo counties in Wisconsin. Strategically located within the Mississippi River valley, the refuge is an important resting place for migrant waterfowl passing through in spring and fall.

A major portion of the Trempealeau NWR was recently added in 1979 with acquisition of the 4,900-acre former Delta Fish and Fur Farm. Knowing that this property would probably be sold to the government, the former owners performed only a minimum level of maintenance to roads, dikes, and water control facilities. Many of the problems identified in this report were thus inherited with acquisition.

## Trempealeau Resource Problems

### Fertilizer Run-off (04)

#### PROBLEM

This is largely an external problem caused by agricultural pollution of the Trempealeau River from fertilizer run-off. Impacts on refuge wetlands are minimal since very little water is taken in from the Trempealeau River through the newly-constructed water control structure which functions mainly as a discharge facility. The effects of eutrophication caused by increased water fertility are long-term and difficult to demonstrate. Excessive growth of algae seen on other backwater areas nearby have not occurred in the refuge; hence this problem is believed not to be of major significance at this time.

#### CORRECTIVE ACTION TAKEN

Fertilizer run-off is a product of agricultural land use practices in the watershed. The FWS has no jurisdiction or authority to regulate or mitigate this situation. Political action and/or a change in attitudes regarding farming practices is necessary to effect changes.

### Soil Erosion/Sediments (10)

#### PROBLEM

This problem manifests itself in two ways. Strong winds create wave action on the refuge pool which churns up the bottom sediments keeping them suspended often for several days after the wind subsides. This churning action prevents many sensitive aquatic plants from becoming established in open areas of the refuge pool. This may be the result of mechanical action or from reduced light penetration caused by the increased turbidity. The second problem from erosion comes from waves pounding against the shore of wooded islands and the lower barrier dike. During severe windstorms in recent years, several feet of the bank along the south sides of Black Oak and Kiep's Islands have been eroded away. This has caused damage to trees and threatens an archaeological site located on the south side of Kiep's Island.

#### CORRECTIVE ACTION TAKEN

Since acquisition of the former Delta Fish and Fur Farm in 1979, over \$20,000.00 has been spent on rip-rap to reinforce the lower barrier dike and to repair storm damage. Most of these funds were applied piecemeal from Refuge O & M accounts. These efforts have been stop-gap only and major funding is needed.

#### ADDITIONAL CORRECTIVE ACTION NECESSARY

Four major projects have been proposed for funding which would alleviate most of the problems described above (See attached project descriptions; Attachments 1, 2, 3, and 4).

#### Disease Organisms (13)

##### PROBLEM

According to the former owner of the Delta Fish and Fur Farm, refuge wetlands have had a history of periodic die-offs in muskrats and beaver. Carcasses of muskrats found in the marsh have been examined and Errington's disease was suspected but could not be confirmed. No major die-offs in aquatic furbearers have been noted since the FWS acquired the former fur farm in 1979.

##### CORRECTIVE ACTION TAKEN

A managed furbearer trapping program was initiated in the fall of 1981 and has been conducted annually. We feel that a controlled harvest of furbearers, particularly muskrat and beaver, will help prevent over populations and mitigate the spread of disease outbreaks should they occur.

#### ADDITIONAL CORRECTIVE ACTION NECESSARY

We will continue to monitor wildlife populations and attempt to identify disease outbreaks early on. The National Wildlife Health Lab in Madison, WI., has facilities and expertise to analyze and identify disease organisms from specimens submitted.

#### Flow Increase or Floods (16)

##### PROBLEM

The Trempealeau River which borders the refuge floods several times each year. This occurs during the spring thaw and at other times during the year following heavy rains. When the Trempealeau River spills over its banks, the township road which provides the major public access to the refuge becomes flooded. During recent years the refuge is closed to the public for an average of 30 to 50 days annually.

##### CORRECTIVE ACTION TAKEN

One of the major projects described in the 5/83 Trempealeau NWR Master Plan includes acquisition of the 0.2-mile township access road along with raising of the road and installation of several large culverts to alleviate flooding. This project is described in the accompanying Initial Project Worksheet included as Attachment 5.

#### ADDITIONAL CORRECTIVE ACTION NECESSARY

No action is being taken at this time pending outcome of the above project proposal. In the meantime, Trempealeau Township retains maintenance responsibility for the access road.

#### Inadequate Flow (18)

##### PROBLEM

This problem has been eliminated with removal of the two old water control gates and replacement with a new water control structure in April, 1984 (FWS Contract No. 14-16-0003-83-074).

#### Timbering/Tree Removal (20)

##### PROBLEM

A major portion of the elm trees on the refuge have been affected by Dutch Elm Disease. Trees located away from roads, dikes and public use areas provide habitat for many forms of wildlife and have been left standing. However, those located along travelways and public use areas are a potential safety hazard. Oak wilt disease killed a large number of refuge oak trees during the 1960's. Several acres of dead trees were removed and burned or sold for firewood. Pockets of oak wilt threaten remaining stands which provide food and shelter for many kinds of wildlife including deer, squirrels, raccoons and woodducks.

##### CORRECTIVE ACTION TAKEN

During the last several years, dead elm trees constituting a safety hazard to the public have been marked, cut-down and sold to the public for firewood. Live elm trees on the grounds at headquarters have been treated with the chemical Arbotec to prolong their survival.

#### ADDITIONAL CORRECTIVE ACTION NECESSARY

The above actions for removal of targeted elm trees will continue. In view of the small acreage involved, major efforts to deal with the oak wilt problem are probably not warranted at this time. The refuge will continue to remove dead trees for firewood and monitor the spread of the disease.

Hunting, Fishing, Trapping or Collecting Specimens (including archaeological) (23)

PROBLEM

During an archaeological reconnaissance of building sites in 1982, significant cultural remains were found on Kiep's Island, east of refuge headquarters. It was subsequently determined that this site would be eligible for inclusion in the National Register of Historic Places. Water erosion on the south bank of Kiep's Island causes continual sloughing off of the bank and exposure of artifacts. Under the former private ownership, some collecting of materials by the public occurred. Some pilfering at this site has been reported recently.

CORRECTIVE ACTION TAKEN

In December, 1983, the refuge manager submitted a draft sketch of a sign worded so as to alert the public of the presence of significant archaeological material on Kiep's Island and to provide warning against removal of artifacts. It was the opinion of the Regional Office that such a sign might call further attention to the site and aggravate the problem of indiscriminate collecting. It was recommended that a statement be included in the general refuge leaflet to alert the public. An information Kiosk currently under construction at the refuge entrance will incorporate wordage in a regulations panel to affirm the prohibition against artifact collecting.

ADDITIONAL CORRECTIVE ACTION NECESSARY

Refuge personnel will continue to monitor and patrol Kiep's Island to prevent the further removal of artifacts.

Poaching or Illegal Collecting (24)

PROBLEM

This is primarily a law enforcement problem typical of other refuges and land areas of this type. Poaching in various forms occurs and must be dealt with, however, in our judgement no resources or wildlife species are severely threatened as a result of it. Regardless of the law enforcement effort expended, this problem will never be totally eliminated.

CORRECTIVE ACTION TAKEN

Refuge personnel and other local law enforcement agencies provide periodic day and night surveillance on the property. Citations, where necessary are issued for vehicle trespass and various fish and game violations. This has a rippling effect in the community and provides some deterrent.

#### ADDITIONAL CORRECTIVE ACTION NECESSARY

In the past, having refuge employees living on the property provided a greater measure of stewardship and protection for refuge wildlife and resources. In its zest to save money, we believe the Service has sacrificed a significant degree of stewardship for this and other properties that we manage by eliminating government housing. We think this policy should be re-evaluated.

#### Wildfires (28)

##### PROBLEM

This refuge has never had a serious history of wildfires although the potential for damage exists. The several hundred acres being managed as prairie grassland provide a dangerous fuel source for fire spread during dry periods. Fortunately, the central part of the refuge which includes headquarters is virtually surrounded by water. It is unlikely that fire would spread from adjacent private lands onto the refuge except under the most extreme conditions. The refuge is bounded on all sides by water or physical barriers such as State Highway 35, railroad dikes and the upper farm road.

#### ADDITIONAL CORRECTIVE ACTION NECESSARY

We will continue to work with local fire departments to keep them informed when prescribed burns are initiated and to keep us abreast of burning bans and other special fire situations.

#### Roads (29)

##### PROBLEM

The widening of Highway 35 which borders the northwest boundary of the refuge caused some filling of wetlands during construction. This was a one-time loss and no future problems are expected.

#### CORRECTIVE ACTION TAKEN

None.

#### ADDITIONAL CORRECTIVE ACTION NECESSARY

Highway 35 along the stretch bordering the refuge is presently two-lane. Due to the proximity of the bluffs to the north, further expansion of this highway would have to occur into the refuge. If there is a proposal to expand this highway into four lanes, the FWS should vigorously oppose this, as serious wetland losses would occur.



## Right-of-way Corridors (30)

### PROBLEM

The Trempealeau NWR pool is bordered on the south by a six mile stretch of the Burlington Northern Railroad dike. In addition, a three mile stretch of the Green Bay and Western Railroad right-of-way crosses the refuge from Marshland on the north to East Winona on the south. These right-of-ways are privately owned by the railroad companies. Generally, the railroads do an excellent job of maintaining their dikes. However, a train derailment involving tanker cars loaded with oil or chemicals could result in a spill causing serious potential negative impacts on wildlife.

### CORRECTIVE ACTION TAKEN

The refuge Master Plan identified both railroad right-of-ways as potential lands for future protection, although at this time neither company has any intention of abandoning either line. A refuge project was proposed in the Master Plan to rebuild the Green Bay culvert located in the Green Bay and Western Railroad right-of-way to permit improved water management in the refuge (see attachment 6).

### ADDITIONAL CORRECTIVE ACTIONS NECESSARY

A meeting was held with Green Bay and Western Railroad representatives in February, 1982, to discuss the future of their right-of-way and the possibility of re-building and incorporating water control capability in the Green Bay culvert. Further discussions are needed. A cooperative agreement between the Service and both railroads to permit our management of wildlife (sport trapping and waterfowl hunting) within these right-of-ways would be desirable.

## Farming Practices (31)

### PROBLEM

The problem of sedimentation in the adjacent Trempealeau River from farm run-off and soil erosion is certainly not unique. It parallels the problem of fertilizer run-off discussed earlier in this plan. Since Trempealeau River waters seldom enter the refuge pool due to the protection afforded by the railroad and barrier dikes, this problem does not offer a direct threat.

### CORRECTIVE ACTION TAKEN

No direct action has been taken. Continued management of the new water control structure as a water discharge facility and maintenance of the barrier dikes will mitigate this influence on the refuge pool.

#### ADDITIONAL CORRECTION ACTION NECESSARY

Although the Service has no authority or jurisdiction in regulating private land use practices off federal property, it would be desirable if some leadership or advice could be provided to the S.C.S. or other agencies involved in the problem.

#### Agricultural Chemicals (42)

##### PROBLEM

Spraying of township right-of-ways for brush control impacts on wildlife habitat but has no direct effect of the refuge. In our judgment this is a questionable practice but again we have no authority to restrict the spraying.

##### CORRECTIVE ACTION TAKEN

None.

#### ADDITIONAL CORRECTIVE ACTION NECESSARY

If this practice is terminated, the initiative will have to come from the public.

#### Plants (Black Locust) (45)

##### PROBLEM

Black locust (*Robinia Pseudoacacia*) was widely planted on the refuge in the 1940's and 1950's to be cover and food for wildlife. Since that time the plant has become firmly established and has spread into many grassland areas. If unchecked, it would virtually take over all upland areas within a five or six year period. Black locust does very well on sandy, droughty soils in this area, out-competing all other native plant forms.

##### CORRECTIVE ACTION TAKEN

Locust abatement has consumed a major portion of refuge staff time over the last several years. A variety of methods have been used, however, it now appears that the most effective control consists of mechanical cutting followed by treatment of freshly cut stumps with an approved brush control chemical such as Tordon RTU. Mechanical cutting alone has failed to set locust back, even when repeated several times annually. Continued resprouting occurs unless chemical treatment follows.

#### ADDITIONAL CORRECTIVE ACTION NECESSARY

Continued locust control efforts will be required on an annual basis if prairie areas and over-all refuge diversity are to be maintained. Total eradication of locust is neither possible nor desirable. The plant does have some wildlife food and cover value if held in check.

#### Other Exotic and Feral Species - Starlings (46)

##### PROBLEM

The Eastern bluebird, once a common nesting species in many parts of the U.S. including southwestern Wisconsin, has suffered a drastic set-back in numbers in recent years. Probable causes for this decline include loss of nesting habitat (replacement of native wooden fence posts which contained cavities with the metal and treated wood varieties), possible contamination of its food supply from agricultural insecticides, and competition for nesting sites with the introduced starling.

##### CORRECTIVE ACTION TAKEN

None.

#### ADDITIONAL CORRECTIVE ACTION NECESSARY

We feel that since the bluebird is a migratory bird, the FWS should be providing some national leadership in efforts to increase number of the species. The Minnesota Highway Department has constructed cavities in boundary posts along some of their major highways with encouraging success. Many private bird clubs have succeeded in bolstering local populations through erection of bluebird houses. We feel that some effort of this type on NWR's across the country (in bluebird range) could be of major benefit to the species.

#### Off-road Vehicles (48)

##### PROBLEM

This problem is caused by public vehicles driving off of established roads and damaging native grass plots and other seeded areas.

##### CORRECTIVE ACTION TAKEN

Regulatory signing has been used to inform the visitor of areas where vehicles are not to be operated. For those who ignore the signs, citations are issued and fines levied.

#### ADDITIONAL CORRECTIVE ACTION NECESSARY

As the number of refuge visitors increase with future development, this problem is likely to worsen. Continued patrolling and law enforcement efforts will be required. As with most other violations, this problem is caused by one or two percent of the people who visit the refuge.

#### Wildlife Disturbance (50)

##### PROBLEM

This problem comes during peak use periods on the self-guided auto tour route. It is not unusual to have up to 25 vehicles on the 4.5-mile route at one time during the evening "deer-watching" period in summer and fall. The disturbance resulting from this level of human activity is difficult to document.

##### CORRECTIVE ACTION TAKEN

The auto tour route has a posted speed limit on 10 m.p.h. There are no present controls on the number of vehicles which can be on the route at any given time.

#### ADDITIONAL CORRECTIVE ACTION NECESSARY

If the present use continues to increase, it may be necessary to initiate a registration system with gate keys or some other method to limit the maximum number of vehicles which may use the route at any one time.

#### Vandalism (51)

##### PROBLEM

Destruction of refuge gates, signs, and other facilities has occurred relatively infrequently in the past. However, this refuge has not been fully developed and there are only a limited number of facilities which can be targeted by vandals. As new facilities are added, the potential for this problem will increase.

##### CORRECTIVE ACTION TAKEN

A burglar alarm system was installed in the refuge headquarters in 1979 following a break-in and theft of property. Continued night surveillance by refuge and local law enforcement agencies has been a deterrent to vandalism.

ADDITIONAL CORRECTIVE ACTION NECESSARY

Continued surveillance and night patrolling will be necessary, coupled with aggressive prosecution of violators.

Restricted Area Use (52)

PROBLEM

See Resource Problem #16.

Littering (53)

PROBLEM

Littering occurs on a regular basis at parking areas and along the auto tour route. The problem has increased this year with opening of the lower dike to bank fishing.

CORRECTIVE ACTION TAKEN

Frequent trips around the auto tour route and visits to parking and bank fishing areas are made by refuge staff. Littering is a frustrating problem because it is difficult to catch someone in the act. Aggressive prosecution of violators is the only way we know of to combat the problem.

ADDITIONAL CORRECTIVE ACTION NECESSARY

Continued surveillance of heavy public use areas and warnings of potential prosecution for litterers in refuge leaflets are planned.

Theft (54)

PROBLEM

During the last five year period, two instances of break-ins at the refuge headquarters have occurred along with three instances of gasoline theft.

CORRECTIVE ACTION TAKEN

A burglar alarm system has been installed and local law enforcement agencies have cooperated with frequent night patrols on the refuge.

ADDITIONAL CORRECTIVE ACTION NECESSARY

None.

Vistas (56)

PROBLEM

Eye pollution from excessive signing at the township road entrance to the refuge has detracted from the appearance of the area. In the past, there was a total of nine signs within a 100 foot area at the refuge entrance. All but two of these are non-refuge signs.

CORRECTIVE ACTION TAKEN

Four no trespassing signs belonging to the State Department of Transportation were recently removed when the abandoned C & NW Railroad right-of-way was transferred to the Wisconsin DNR. This alleviated much of the problem.

ADDITIONAL CORRECTIVE ACTION NECESSARY

The refuge entrance sign at the problem road junction is scheduled for replacement in FY 85. In addition, we plan to very diplomatically suggest to the township board that their signing in this area could be improved.

Overcrowding (58)

PROBLEM

Same as Resource Problem #17.

Forest Disease/Pest Infestations (59)

PROBLEM

Same as Resource Problem #6.

Powerlines (60)

PROBLEM

A major high-voltage electric line crosses the refuge adjacent to the Green Bay and Western Railroad right-of-way. This line offers a potential hazard to birds flying low over the refuge. At least one Bald eagle is known to have suffered a broken wing from striking this line. The bird was picked up in 1982 and had to be euthanized.

Ironically, this powerline has provided some positive wildlife benefits. Two active osprey nests were located on the wooden powerline supports in the spring of 1984. NSP officials have agreed to cooperate with the Service in erecting some type of reinforced nesting platform to help prevent the nests from blowing down.

#### CORRECTIVE ACTION TAKEN

None.

#### ADDITIONAL CORRECTIVE ACTION NECESSARY

Monitoring of bird strikes on this powerline should be conducted through periodic searches along the railroad right-of-way.

#### Facilities/Equipment Maintenance and Rehabilitation (61)

##### PROBLEM

The iron bridge which spans the Trempealeau River at the refuge entrance was acquired from Trempealeau Township in 1981 via Quitclaim deed. Although the decking was replaced and all structural iron sand-blasted and re-painted in July, 1982, the bridge has been rated for a maximum load of 10 tons. This restricts commercial touring buses, loaded dump trucks and other heavy vehicles. A project was submitted in the Master Plan to replace this bridge in conjunction with raising and widening of the township access road (see Attachment 5).

#### CORRECTIVE ACTION TAKEN

Rehabilitation of the iron bridge was undertaken in July, 1982, however, load rating remained at 10 tons.

#### ADDITIONAL CORRECTIVE ACTION NECESSARY

See project proposal in Attachment 5.

#### Special Interest Group Pressures (62)

##### PROBLEM

This problem relates to the pheasant propagation facilities located on the refuge near headquarters. Approximately 4 acres are occupied by wire runs and shelter houses for raising birds. These facilities are owned and operated by the Associated Sportsmen's Clubs of Trempealeau County. The program has been allowed on the refuge under special use permit since the early 1950's. This is essentially a put-and-take stocking program by the Clubs. Day-old pheasant chicks are received free from the State hatchery at Poynette, WI. along with a four-week supply of feed.

Usually about 5,000 birds are raised and released on private and state lands off the refuge within Trempealeau County. Essentially, as a put-and-take program, the pheasant raising operation is in conflict with FWS policy for National Wildlife Refuges.

#### CORRECTIVE ACTION TAKEN

In April, 1981, the Associated Sportsmen's Clubs were issued a Special Use Permit to continue to operate the pheasant rearing facilities through April 30, 1988. The permit specifies that on or before that date, all pens, buildings and structures must be removed from the refuge.

#### ADDITIONAL CORRECTIVE ACTION NECESSARY

As of the fall of 1984, the club's officer's have indicated that they are wishing to have the April 30, 1988, deadline extended. There is no indication that the group has made any plans to re-locate the facilities. It is likely that the clubs will use whatever political influence they have to attempt to pressure the FWS into allowing them to continue the pheasant rearing operation past the established deadline.

#### Jurisdictional Authority

##### PROBLEM

This relates to the lack of a clear title to the barrier dikes which protect the refuge from flooding by the Trempealeau River. These dikes were part of the Trempealeau Drainage District formed in the early 1900's when the Trempealeau River diversion channel was constructed. The Drainage District was disbanded later but the diversion channel right-of-way was never officially reverted back to the adjacent land-owners. The former Delta Fish and Fur Farm owner took over the dikes by adverse possession but had no title to them. When Dairyland Power Cooperative sold the property to the FWS in 1979, they researched the property deeds and refused to issue warranty deeds for the dikes. At the present time, these dikes have been posted and are being managed as part of the Trempealeau National Wildlife Refuge although we do not have a clear title.

#### CORRECTIVE ACTION TAKEN

The Realty Division in the Twin Cities office has hired an abstracting company to research the deeds, abstracts, etc. on all the properties involved. The final report is still being prepared.

#### ADDITIONAL CORRECTIVE ACTION NECESSARY

None, pending completion of the above report.



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## STATION THREATS

| ORGCODE | THREAT | STATUS | LOCATION | PLANNED | SOURCE OF THREATS                         | RESOURCE1 | RESOURCE2 | RESOURCE3 | RESOURCE4 | ACTION |
|---------|--------|--------|----------|---------|-------------------------------------------|-----------|-----------|-----------|-----------|--------|
| 32578   | 4      | 2      | 1        | 2       | INCREASED FERTILITY OF WATER              | 101       | 105       | 106       | 111       | # 34   |
| 32578   | 10     | 1      | 3        | 1       | INCREASED TURBIDITY OF WATER              | 101       | 105       | 106       | 111       | # 19   |
| 32578   | 13     | 2      | 2        | 2       | CONTAGIOUS DISEASE, ESP. IN MUSKRATS      | 105       | 111       | 0         | 0         | # 21   |
| 32578   | 16     | 1      | 1        | 1       | PERIODIC FLOODING OF RIVER                | 142       | 144       | 0         | 0         | # 19   |
| 32578   | 18     | 1      | 1        | 1       | W.C.S. LACKING DISCHARGE CAPACITY         | 111       | 106       | 101       | 0         | # 17   |
| 32578   | 20     | 2      | 1        | 2       | REMOVAL OF DISEASED ELMS AND OAKS         | 102       | 112       | 0         | 0         | # 00   |
| 32578   | 23     | 1      | 2        | 1       | UNAUTHORIZED COLLECTING OF ARTIFACTS      | 137       | 0         | 0         | 0         | # 21   |
| 32578   | 24     | 1      | 3        | 2       | DEER SHINING, EARLY FUR TRAPPING, TURTLES | 104       | 105       | 108       | 0         | # 21   |
| 32578   | 28     | 1      | 3        | 1       | UNCONTROLLED WILDFIRES                    | 140       | 141       | 112       | 0         | # 21   |
| 32578   | 29     | 1      | 1        | 1       | WIDENING OF HIGHWAY 35                    | 111       | 106       | 0         | 0         | # 01   |
| 32578   | 30     | 1      | 2        | 1       | GREEN BAY AND WESTERN RAILROAD            | 132       | 130       | 111       | 0         | # 01   |
| 32578   | 31     | 2      | 1        | 2       | INCREASED SEDIMENTATION FROM FARM         | 120       | 106       | 111       | 101       | # 34   |
| 32578   | 42     | 2      | 1        | 2       | R.O.W. SPRAYING BY TOWNSHIP               | 106       | 102       | 0         | 0         | # 34   |
| 32578   | 45     | 1      | 2        | 1       | ENCROACHMENT ON GRASSLAND BY LOCUST ETC   | 113       | 130       | 0         | 0         | # 21   |
| 32578   | 48     | 1      | 2        | 1       | VEHICLE TRESPASS OFF AUTO TOUR ROUTE      | 113       | 130       | 0         | 0         | # 21   |
| 32578   | 50     | 2      | 2        | 2       | DURING PEAK USE PERIODS ON AUTO TOUR      | 104       | 102       | 0         | 0         | # 21   |
| 32578   | 51     | 1      | 2        | 1       | SIGNS AND OTHER PUBLIC USE FACILITIES     | 143       | 141       | 0         | 0         | # 21   |
| 32578   | 52     | 1      | 2        | 1       | BY VEHICLES OFF DESIGNATED TRAVEL ROUTES  | 132       | 113       | 106       | 0         | # 21   |
| 32578   | 53     | 1      | 2        | 1       | AUTO ROUTE AND AT FISHING ACCESSES        | 130       | 132       | 0         | 0         | # 21   |
| 32578   | 54     | 1      | 2        | 2       | REFUGE HEADQUARTERS                       | 141       | 147       | 0         | 0         | # 00   |
| 32578   | 56     | 1      | 3        | 1       | REFUGE AND TOWNSHIP SIGNS                 | 130       | 0         | 0         | 0         | # 31   |
| 32578   | 58     | 1      | 2        | 2       | AUTO TOUR ROUTE DURING PEAK PERIODS       | 130       | 133       | 0         | 0         | # 21   |
| 32578   | 59     | 1      | 3        | 1       | OAK WILT AND DUTCH ELM DISEASE            | 112       | 102       | 140       | 0         | # 21   |
| 32578   | 60     | 1      | 1        | 1       | NSP LINE ALONG GREEN BAY RR               | 132       | 130       | 101       | 102       | # 01   |
| 32578   | 61     | 1      | 2        | 1       | DETERIORATION OF IRON BRIDGE              | 140       | 143       | 142       | 141       | # 14   |

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STATION THREATS

| ORGCODE | THREAT | STATUS | LOCATION | PLANNED | SOURCE OF THREATS                        | RESOURCE1 | RESOURCE2 | RESOURCE3 | RESOURCE4 | ACTION |
|---------|--------|--------|----------|---------|------------------------------------------|-----------|-----------|-----------|-----------|--------|
| 32578   | 62     | 1      | 1        | 1       | RETENTION OF PHEASANT PENS               | 113       | 130       | 0         | 0         | 121    |
| 32578   | 64     | 1      | 3        | 1       | NO CONTROL ON BARRIER AND RAILROAD DIKES | 144       | 111       | 0         | 0         | 201    |

Codes for Action on Threats and Conflicts

00 - No Action Taken

01 - No Action Possible

11 - Funding Provided - problem being reduced - Jobs Bill

12 - Funding Provided - problem being reduced - ARMMS

13 - Funding Provided - problem being reduced - Construction

14 - Funding Provided - problem being reduced - O&M

15 - Funding Provided - problem solved - Jobs Bill

16 - Funding Provided - problem solved - ARMMS

17 - Funding Provided - problem solved - Construction

18 - Funding Provided - problem solved - O&M

19 - Funding needed to solve problem

21 - Management Action - problem being reduced

22 - Management Action - problem solved

31 - Off Refuge Problem - local contacts made

32 - Off Refuge Problem - regional contacts made

33 - Off Refuge Problem - Washington Office contacts made

34 - Off Refuge Problem - political solution needed

41 - Legal Action - being taken to solve problem

42 - Legal Action - needed to solve problem

43 - Political or Legislative action needed

WILDLIFE RESOURCES  
Project Package Transmittal

## Memorandum

TO: Facility Manager, Twin Cities, MN (PSW-TS)

THROUGH: Division Supervisor, RF-1DateFROM: Project Leader, Trempealeau NWR8/29/84DateSUBJECT: Project Package Transmittal for IPW # T P L / 0 0 0 2

Lower Barrier Dike Rehabilitation  
 (Project Title)

Attached or referenced are the documents that make up the subject project.

|                                 | <u>Date Previously<br/>Provided</u> | <u>Document<br/>Attached</u> | <u>Document<br/>Not Needed</u> |
|---------------------------------|-------------------------------------|------------------------------|--------------------------------|
| Initial Project Worksheet       | <u>10-12-83</u>                     | <u></u>                      | <u>X</u>                       |
| Final Project Worksheet         |                                     | <u>X</u>                     |                                |
| Operational Criteria            |                                     | <u>X</u>                     |                                |
| Map with project boundaries     |                                     | <u>X</u>                     |                                |
| Requisition                     |                                     | <u></u>                      |                                |
| EA or Categorical Exclusion     |                                     | <u></u>                      |                                |
| Endangered Species Consultation |                                     | <u></u>                      | <u></u>                        |
| Cultural Resources Compliance*  | <u></u>                             | <u></u>                      |                                |

See memorandum, "Inventory of Refuge Projects", dated June 4, 1984.

Instructions: Use this memorandum form to transmit the Final Project Worksheet Package and to indicate with an "X" the submission of necessary documents. Project Leader completes this form, preparing one for each Final Project Worksheet Package, and submits the package to the Division Supervisor. Division Supervisor reviews the package, and signs approval on both this memorandum and the Final Project Worksheet or returns the package to the Project Leader. Approved package is forwarded to Facility Manager in accordance with the construction guidelines.

\*Refer to the Bulletin "Guidelines for Cultural Resources Management" dated August 28, 1981.

# FINAL PROJECT WORKSHEET

W #: T P L / 0 0 0 2 Station: Trempealeau NWR

Date: 0 8 / 2 9 / 8 4

IPW Project Title: Lower Barrier Dike Rehabilitation

Org. Code: 3 2 5 7

County: Trempealeau Funding Source and Subactivity #: Construction

Force Account: Yes     ; No X Job Order Needed: Yes X; No     

New Construction      Rehabilitation X Maintenance      Research/Study     

Equipment/Vehicle: New      Rehabilitation/Replace     

Technical Assistance Consult Date Engineering Cost Estimate

Facility Manager Direct

Regional Engineer July 1984 Indirect

Safety Manager Total

Outdoor Rec. Planner N/A Date of Est.

Contract and Procure. Est. for construction year

Incorporate results of technical assistance contacts in Operational Criteria on following pages, the preplanning portion of each project. Est. valid thru

| Regulatory Status     | Reqd. | Accomp. | Initials | Regulatory Status   | Reqd.                         | Accomp. | Initial |
|-----------------------|-------|---------|----------|---------------------|-------------------------------|---------|---------|
| NEPA                  | X     |         |          | Corps Section 10    | N/A                           |         |         |
| Wetlands/Floodplains  | X     |         |          | Corps Section 404   | X                             |         |         |
| Section 7             | X     |         |          | State/Local Permits | X                             |         |         |
| Wilderness/Nat. Areas | N/A   |         |          | Public Involvement  | In Master Plan completed 5/83 |         |         |
| Cultural Resources    | "     |         |          | Clearinghouse       |                               |         |         |
| Coastal Zone Mgt.     | "     |         |          | Other (Specify)     |                               |         |         |

Incorporate results of regulatory review and compliance in Operational Criteria.

Land Ownership: Yes

Submitted (Project Leader) Date: 8/29/84

Reviewed (Division Supervisor): Date:     

Reviewed (Facility Manager): Date:     

Reviewed (Regional Engineer): Date:     

Entered (Computer Operator): Date:     

Approved (ARD): Date:

# FINAL PROJECT WORKSHEET

IPW #: T P L / 0 0 0 2 Station: Trempealeau NWR Date: 0 8 / 2 9 / 8 4

| COST ESTIMATE                 |           |           |                                                    |         |            |             |            |
|-------------------------------|-----------|-----------|----------------------------------------------------|---------|------------|-------------|------------|
| NO.                           | FAC. CODE | PROP. NO. | DIRECT COSTS                                       | UNIT    | UNIT COST  | TOTAL UNITS | TOTAL COST |
| 1                             |           |           | Clearing - tree and stump removal                  | Acres   | \$1,000.00 | 14          | \$ 14,000  |
| 2                             |           |           | Filter fabric                                      | Sq. yd. | \$3.00     | 30,700      | \$ 92,100  |
| 3                             |           |           | Fill (hauled from refuge borrow sites in vicinity) | cy. yd. | \$5.00     | 25,000      | \$125,000  |
| 4                             |           |           | Rip-rap (includes placement and shaping)           | tons    | \$30.00    | 18,000      | \$540,000  |
| 5                             |           |           | Crushed gravel                                     | tons    | \$7.00     | 1,540       | \$ 10,780  |
| SUBTOTAL (DIRECT COSTS)       |           |           |                                                    |         |            |             | \$781,880. |
| INDIRECT COSTS                |           |           |                                                    |         |            |             |            |
| CONTINGENCIES ( 10 %)         |           |           |                                                    |         |            |             | 78,188.    |
| ENGINEERING ( 5 %)            |           |           |                                                    |         |            |             | 39,094.    |
| ASSESSMENTS ( %)              |           |           |                                                    |         |            |             |            |
| CLEARANCES/STUDIES (SPECIFY): |           |           |                                                    |         |            |             |            |
| OTHER (SPECIFY):              |           |           |                                                    |         |            |             |            |
| SUBTOTAL (INDIRECT COSTS)     |           |           |                                                    |         |            |             | 117,282.   |
| TOTAL COST                    |           |           |                                                    |         |            |             | \$899,162. |

rounded to \$900,000.00

For instructions to complete this form, refer to the Assistant Regional Director's memorandum "Inventory of Refuge Projects" dated June 4, 1984.

Operational Criteria

The lower barrier dike excludes floodwaters of the Trempealeau River from entering the refuge pool. The effects of this protection from river silt, pollution, etc., can be seen in a variety and abundance of marsh plants in the refuge pool, wild rice in particular. This dike has been damaged in several places with slopes approaching 1:1 for part of its entire length. Repair and restoration of this dike to its original shape is essential to maintain existing wildlife outputs and to obtain full benefits from the water control structure project completed in 1984.

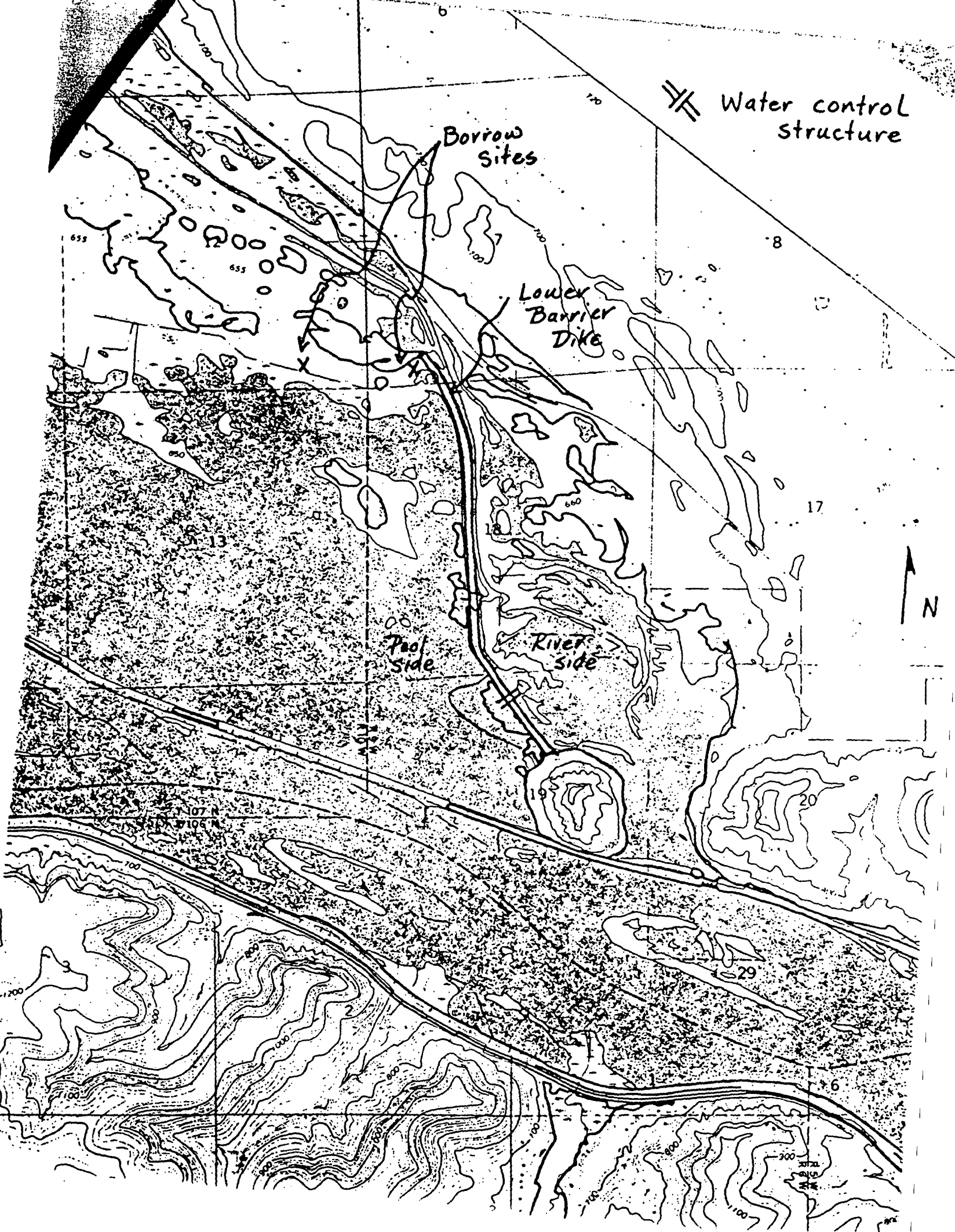
This project includes clearing, re-shaping, widening and rip-rapping about 1.5 miles (7,200 feet) of the lower barrier dike from the north end where it abuts high ground south to Trempealeau Mountain. Top elevation of the dike will be restored for the entire length to withstand a 100-year flood. The existing dike will be cleared of trees, the top widened to accommodate a service road and the sides sloped to 3:1 or as per engineering recommendations. An apron of rip-rap will be added to lower dike slopes to reduce water erosion.

Dike profiles and cross-sections are available from data provided by a Regional Office survey in July, 1984. The top elevation of the dike is close to the desired grade in most sections and the dike slope on the river side approaches  $2\frac{1}{2}$ :1 and will be left as is after clearing.

The dike slope on the river side will be cleared, covered with a layer of filter fabric and topped with 12 inches of rip-rap from a point 3 to 4 feet into the water to the edge of the dike top. The pool side slope will be cleared and filled over the existing service road to restore a  $2\frac{1}{2}$ :1 slope. Filter fabric will be applied from the pool bottom to a point about half-way to the top edge of the dike and covered with 18 inches of rip-rap. Rough drawings of the dike cross-sections showing fill areas and rip-rap with calculations for material needs are shown on the attached sheets.

In October, 1984, an electric cable is scheduled to be buried in the top of the dike for its entire length to provide electric power for a fish weir at the water control structure. Although this cable will be buried 36 inches deep where no excavation is planned, care must be taken by the contractor to avoid damage to the cable during clearing and stump removal operations.

Fill to restore the pool side of the dike will be taken from two borrow sites located at the north end of the project (see attached map). These sites were previously laid out by the Regional Engineer and cleared following an archaeological survey with negative findings.



Water control structure

Borrow sites

Lower Barrier Dike

Pool side

River side

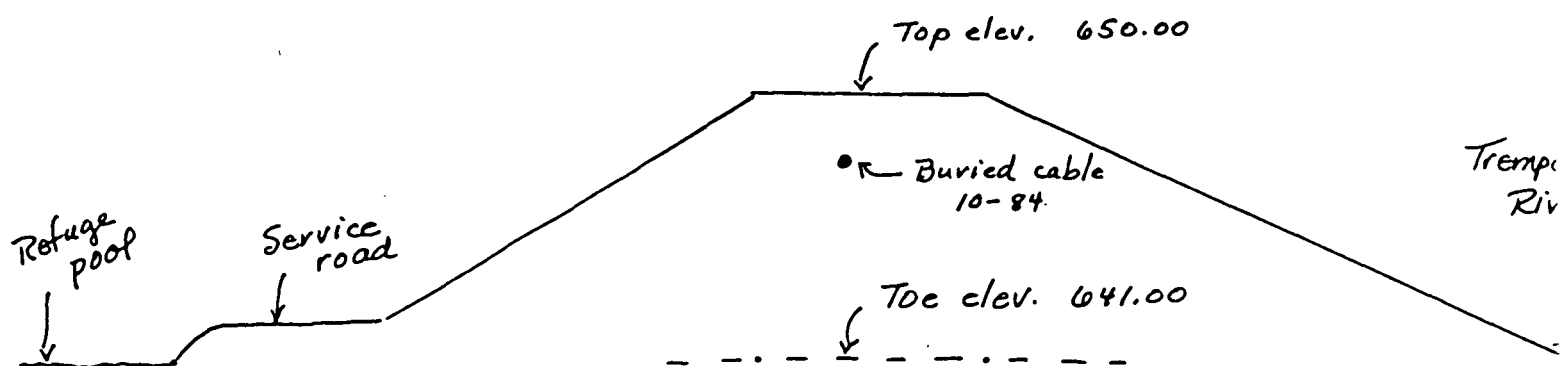
N



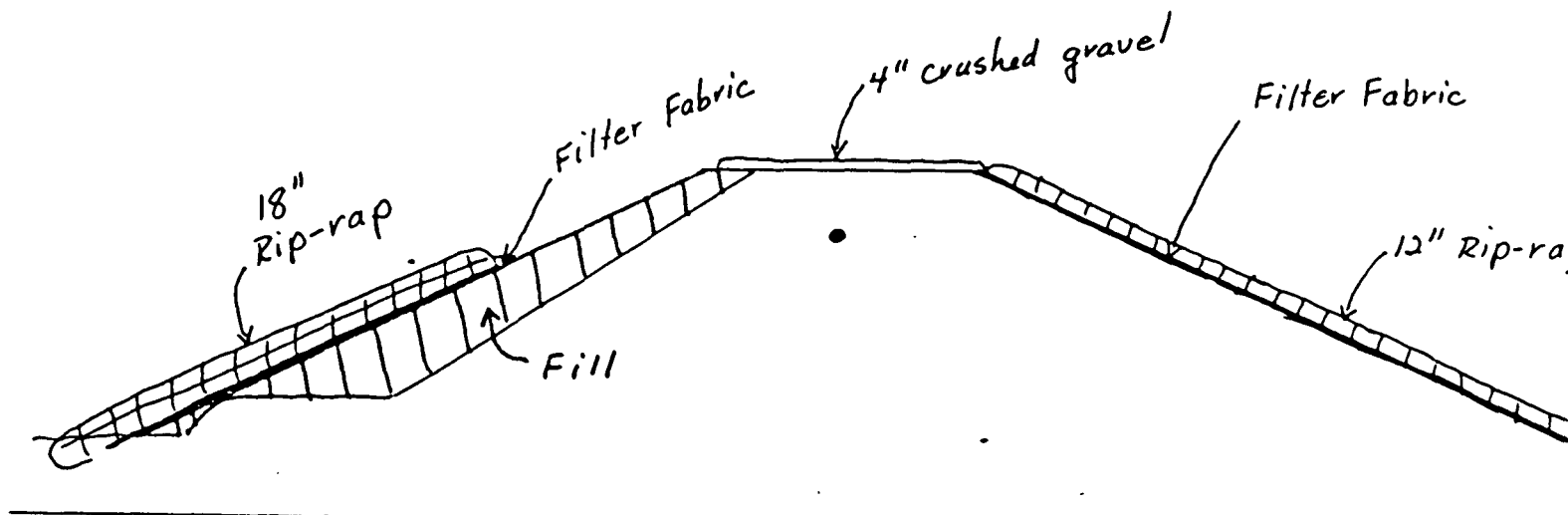
## Drawings and Specifications

\* See "Trempealeau NWR main dike profiles and cross sections" dated 7-10-84 in regional office files (contact person, James Kelley).

### Typical Existing Cross-Section



### Finished Dike Cross-Section



\*Refer to the Bulletin "Guidelines for Cultural Resources Management" dated August 28, 1981.

## FINAL PROJECT WORKSHEET

IPW #: T\_P\_L/0025 Station: Trempealeau NWRDate: 08/29/84IPW Project Title: Kiep's Island Bank StabilizationOrg. Code: 3257County: Trempealeau Funding Source and Subactivity #: 1260-733Force Account: Yes x; No      Job Order Needed: Yes x; No     New Construction      Rehabilitation x Maintenance      Research/Study     Equipment/Vehicle: New      Rehabilitation/Replace     Technical Assistance Consult DateEngineering Cost EstimateFacility Manager     Direct     Regional Engineer     Indirect     Safety Manager     Total     Outdoor Rec. Planner     Date of Est.     Contract and Procure.     Est. for construction  
year     Incorporate results of technical assistance  
contacts in Operational Criteria on following  
pages, the preplanning portion of each project.Est. valid  
thru     Regulatory Status Reqd. Accomp. InitialsRegulatory Status Reqd. Accomp. InitialsNEPA x          Corps Section 10 N/A          Wetlands/Floodplains x          Corps Section 404 x          Section 7 N/A          State/Local Permits x          Wilderness/Nat. Areas N/A          Public Involvement N/A          Cultural Resources x          Clearinghouse x          Coastal Zone Mgt. N/A          Other (Specify) N/A          

Incorporate results of regulatory review and compliance in Operational Criteria.

Land Ownership: YesSubmitted (Project Leader)      Date: 8-29-84Reviewed (Division Supervisor):      Date:     Reviewed (Facility Manager):      Date:     Reviewed (Regional Engineer):      Date:     Entered (Computer Operator):      Date:     Approved (ARD):      Date:

## FINAL PROJECT WORKSHEET

IPW #: T P L / O \_ 0 \_ 2 5 Station: Trempealeau NWR Date: 0 8 / 2 9 / 8 4

| COST ESTIMATE                 |           |           |                                                                                                                                                    |                                       |                               |                           |                                               |
|-------------------------------|-----------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|-------------------------------|---------------------------|-----------------------------------------------|
| NO.                           | FAC. CODE | PROP. NO. | DIRECT COSTS                                                                                                                                       | UNIT                                  | UNIT COST                     | TOTAL UNITS               | TOTAL COST                                    |
| 1                             |           |           | <u>MATERIALS</u> <u>ONLY</u><br>Sand/clay fill from<br>refuge borrow site (refuge<br>staff will haul and place)<br><br>Pit-run rock<br><br>Rip-rap | cu. yd.<br><br>cu. yd.<br><br>cu. yd. | -<br><br>\$7.00<br><br>\$8.50 | 400<br><br>600<br><br>800 | No charge<br><br>\$4,200.00<br><br>\$6,800.00 |
| SUBTOTAL (DIRECT COSTS)       |           |           |                                                                                                                                                    |                                       |                               |                           | \$11,000.00                                   |
| INDIRECT COSTS                |           |           |                                                                                                                                                    |                                       |                               |                           |                                               |
| CONTINGENCIES (    %)         |           |           |                                                                                                                                                    |                                       |                               |                           |                                               |
| ENGINEERING (    %)           |           |           |                                                                                                                                                    |                                       |                               |                           |                                               |
| ASSESSMENTS (    %)           |           |           |                                                                                                                                                    |                                       |                               |                           |                                               |
| CLEARANCES/STUDIES (SPECIFY): |           |           |                                                                                                                                                    |                                       |                               |                           |                                               |
| OTHER (SPECIFY):              |           |           |                                                                                                                                                    |                                       |                               |                           |                                               |
| SUBTOTAL (INDIRECT COSTS)     |           |           |                                                                                                                                                    |                                       |                               |                           |                                               |
| TOTAL COST                    |           |           |                                                                                                                                                    |                                       |                               |                           | \$11,000.00                                   |

For instructions to complete this form, refer to the Assistant Regional Director's memorandum "Inventory of Refuge Projects" dated June 4, 1984.

TPL-0025

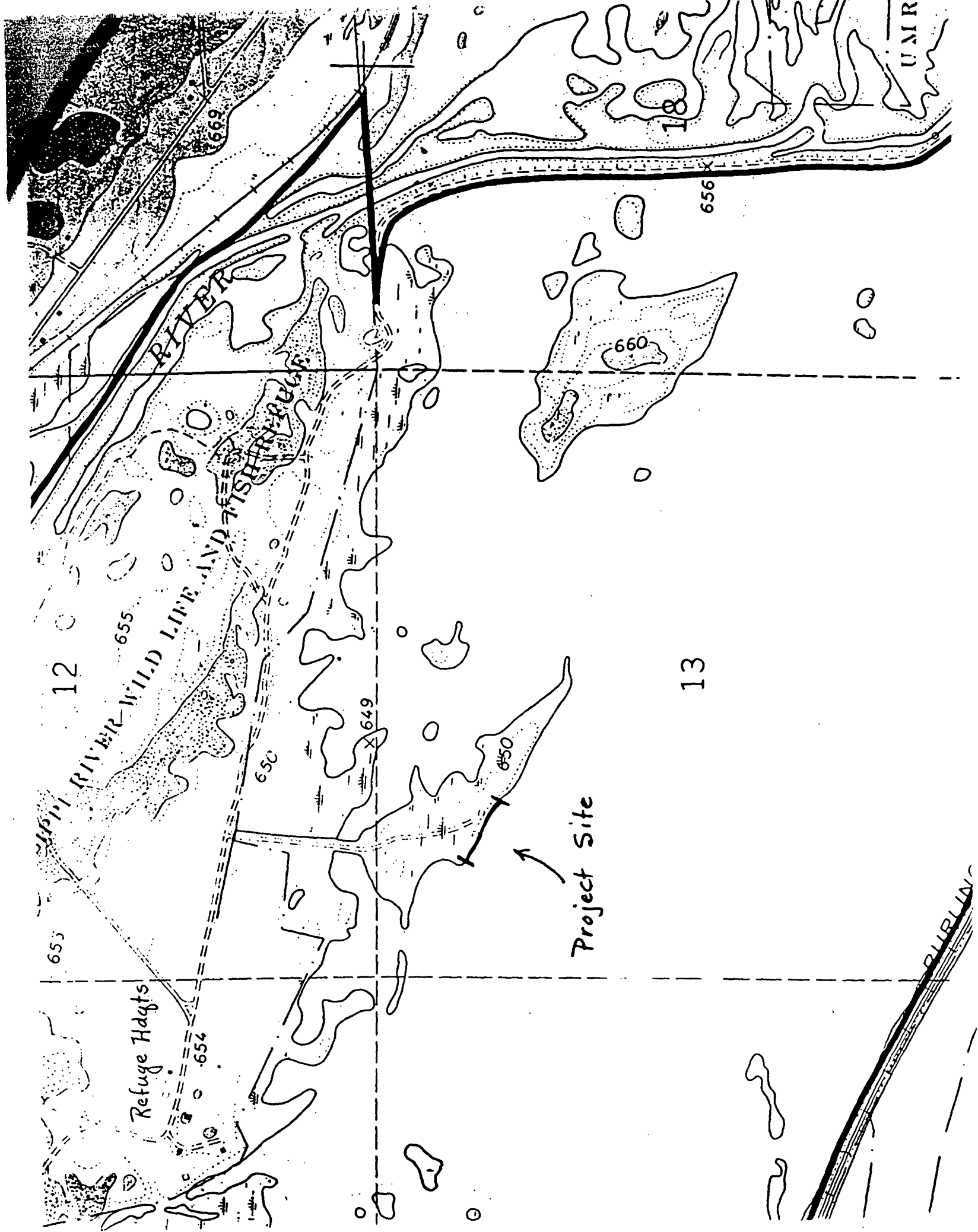
Operational Criteria

Significant cultural remains, including human skeletons dating back to Late Woodland (1,000 B.C. to 500 A.D.) have been discovered at Kiep's Island. Continuing erosion on the south bank of the island can be expected to expose additional material with sloughing off of bones, artifacts, etc. into the refuge pool.

This project would provide long-term protection of the archaeological site by stabilization of the south bank of the island at, and adjacent to the indian burial sites which have been identified. The project will not provide protection for the entire pool side of the island.

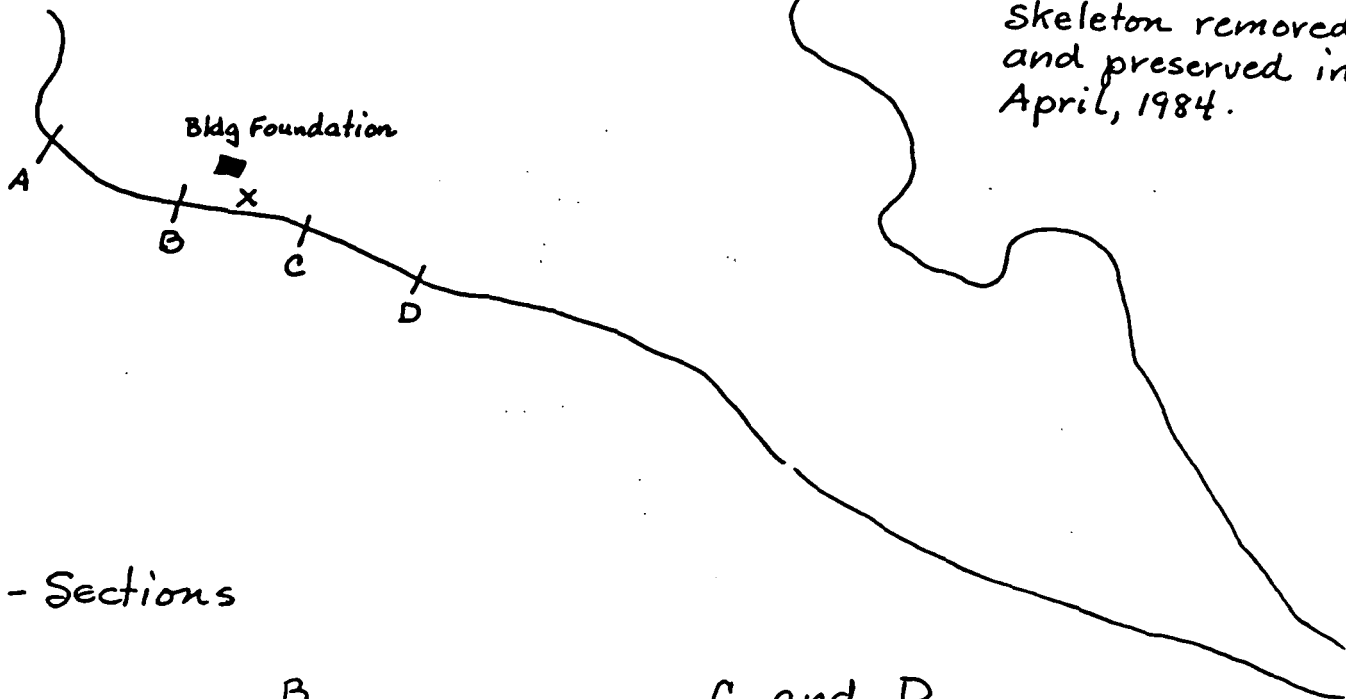
Projects includes material for restoring the south bank of Kiep's Island (500') to a 2.5 to 1 slope with fill overlain with pit-run rock topped with rip-rap. Material quantities were estimated based on cross-sections of the eroded bank taken at 150' intervals (see attached drawings).

Fill will be hauled from borrow site with the Refuge dump truck. Pit run rock and rip-rap will be purchased, delivered and dumped over the bank and placed and the bank sloped with the refuge backhoe.

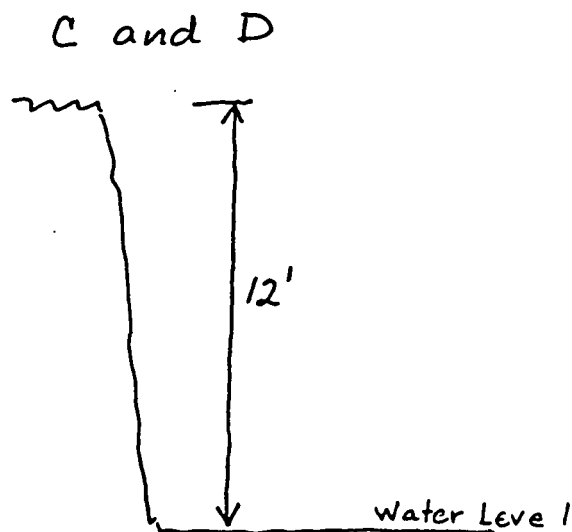
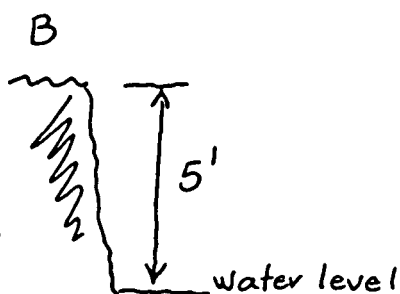
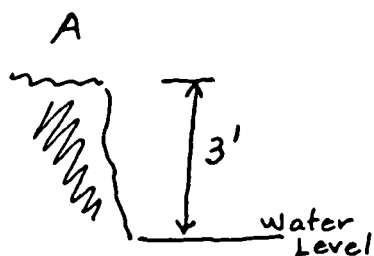


# Kieps Island

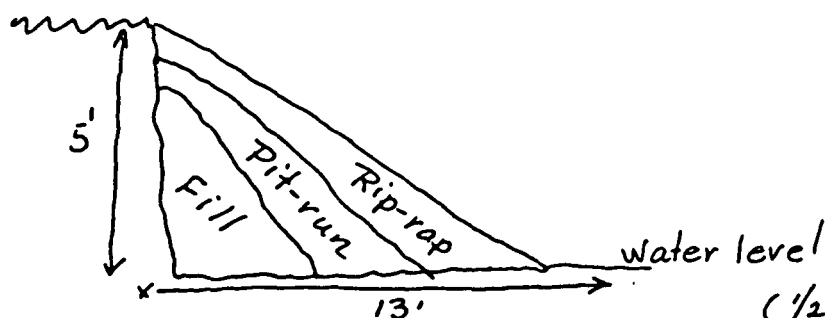
X Site of human Skeleton removed and preserved in April, 1984.



## Cross-Sections



## Proposed Finished Cross-Section (example)



\* Total Material  
1800 cu yds  
400 fill  
600 pit  
800 rip-rap

| Materials | Bank Height | Base for 25 to 1 | ( $\frac{1}{2}bh$ )<br>Cutt/linear ft<br>less 20% since<br>bank is not vertical | Linear Ft | Cubic Ft | $\div 2$<br>Cu yd |
|-----------|-------------|------------------|---------------------------------------------------------------------------------|-----------|----------|-------------------|
| A         | 3'          | 8'               | 10                                                                              | X 150 =   | 1500     | 50                |
| B         | 5'          | 13'              | 26                                                                              | X 150 =   | 3900     | 149               |
| C         | 12'         | 30'              | 144                                                                             | X 150 =   | 21,600   | 800               |
| -         | -           | -                | 144                                                                             | X 50 =    | 21,600   | 800               |

## INITIAL PROJECT WORKSHEET

RECORD #: TPL/ 5 STATION: TREMPPEALEAU  
PROJECT TITLE: UPPER BARRIER DIKE REHABILITATION

DATE: 10/19/83  
COST: \$ 150000

0013

REFUGE MANAGERS PRIORITY: 1. REFUGE MANAGERS SEQUENCE: 0016  
DIVISION SUPERVISOR'S PRIORITY: 1. DIVISION SUPERVISOR'S SEQUENCE: 008  
RECOMMENDED FOR FUNDING IN FY: 85 (RO ONLY)

PROJECT DESCRIPTION (WHAT):

REHABILITATION OF THE UPPER BARRIER DIKE WOULD INCLUDE WIDENING THE EXISTING 5,000 FOOT DIKE, RESTORING SIDES TO A 3:1 SLOPE, AND BUILDING UP THE TOP TO AN ELEVATION SUITABLE TO WITHSTAND A 100-YEAR FLOOD. DIKE SLOPE WILL BE RIP-RAPPED FOR ITS ENTIRE LENGTH ON THE NORTHEAST (TREMPEALEAU RIVER) SIDE. THIS DIKE TIES IN WITH THE ABANDONED CHICAGO AND NORTHWESTERN RAILROAD GRADE ON THE NORTH AND HIGH GROUND NEAR THE AUTO TOUR ROUTE ON THE SOUTH. MOST OF THE DIKE IS WOODED, WHICH WOULD REQUIRE CLEARING OF LARGE TREES PRIOR TO CONSTRUCTION.

PROJECT JUSTIFICATION (WHY):

THIS DIKE, IN CONJUNCTION WITH THE LOWER BARRIER DIKE, EXCLUDES FLOODWATERS FROM ENTERING THE REFUGE. THE DIKE HAS A VERY NARROW TOP AND HAS BEEN DAMAGED BY SEEPAGE AT SEVERAL LOCATIONS. ITS REPAIR AND MAINTENANCE IS ESSENTIAL TO PROTECT REFUGE WETLANDS FROM SILTATION AND EROSION FROM FLOODWATERS. THE FUTURE OF THE PROPOSED POOL C IMPOUNDMENT AND HARDWOOD BOTTOMS NATURAL AREA ARE DEPENDENT ON THIS DIKE.



INITIAL PROJECT WORKSHEET

RECORD #: TPL/ 13    STATION: TREMPLEAU  
PROJECT TITLE: BARRIER ISLAND CONSTRUCTION

DATE: 10/19/83  
COST: \$ 250000

REFUGE MANAGERS PRIORITY: 2    REFUGE MANAGERS SEQUENCE: ~~001~~ 0021  
DIVISION SUPERVISOR'S PRIORITY: 2    DIVISION SUPERVISOR'S SEQUENCE: 007  
RECOMMENDED FOR FUNDING IN FY: 86 (RO ONLY)

PROJECT DESCRIPTION (WHAT):

APPROXIMATELY 4,000 LINEAR FEET OF WAVE BARRIERS OR BARRIER ISLANDS WOULD BE CONSTRUCTED IN THE EAST END OF THE MAIN POOL. MATERIALS WOULD BE DEPOSITED IN IRREGULARLY SHAPED WINDROWS ABOUT 40 FT. WIDE AND EXTENDING ABOUT 3 FT. ABOVE NORMAL WATER LEVELS. STABILIZATION OF THE WINDWARD (SOUTHWEST) SIDE OF THE BARRIER WOULD BE REQUIRED USING ROCK, TREE TRUNKS, ETC. APPROXIMATELY 40,000 CU. YARDS OF MATERIAL WOULD BE REQUIRED.

PROJECT JUSTIFICATION (WHY):

THESE WAVE BARRIERS WOULD BREAK UP WAVE TRAVEL IN THE OPEN PORTION OF THE MAIN POOL AND REDUCE WAVE DAMAGE TO THE LOWER BARRIER DIKE AND TO THE SOUTH BANKS OF BLACK OAK AND KIEP'S ISLAND. THE SLOPES OF THESE ISLANDS WOULD BECOME VEGETATED AND APPEAR NATURAL IF CONSTRUCTED IN AN IRREGULAR PATTERN. THEY WOULD ALSO PROVIDE WILDLIFE HABITAT AS ROOSTING/FEEDING AREAS FOR MARSH BIRDS AND WATERFOWL.

INITIAL PROJECT WORKSHEET

*Attachment 5*

RECORD #: TPL/ 4 STATION: TREMPLEALEAU  
PROJECT TITLE: ACCESS ROAD IMPROVEMENT

DATE: 10/19/83  
COST: \$ 250000

REFUGE MANAGERS PRIORITY: 1 REFUGE MANAGERS SEQUENCE: 0004  
DIVISION SUPERVISOR'S PRIORITY: 1 DIVISION SUPERVISOR'S SEQUENCE: 009  
RECOMMENDED FOR FUNDING IN FY: 85 (RO ONLY)

PROJECT DESCRIPTION (WHAT):

THIS PROJECT INCLUDES REPLACEMENT OF THE IRON BRIDGE SPANNING THE TREMPLEALEAU RIVER, RAISING 0.2 MILES OF ACCESS ROAD TO THE BRIDGE AND INSTALLING SEVERAL LARGE CULVERTS, AND REHABILITATION AND INCLUSION OF THE PARKING AND BOAT LANDING AREA NORTH OF THE BRIDGE WITHIN THE REFUGE. THE EXISTING IRON BRIDGE AT THE REFUGE ENTRANCE WILL BE REPLACED WITH A NEW STRUCTURE WITH INCREASED SPAN. THE PRESENT 73-FT. SPAN WOULD BE INCREASED TO TWO, 50 FOOT SPANS WITH CENTER PILING. THIS WOULD INCREASE THE OPENING TO ALLOW DEBRIS, ICE AND WATER TO MORE EASILY PASS UNDER THE BRIDGE, CAUSING LESS DAMAGE TO THE ABUTMENTS AND BANKS. 2 TYPES OF CONSTRUCTION ARE PREFERRED: WOODEN DECK WITH STEEL STRINGERS OR WOODEN DECK WITH WOOD LAMINATED SUPPORTS. EITHER WOULD HAVE AN INCREASED LOAD RATING OF 20 TONS. THIS PROJECT WOULD INCLUDE RAISING AND INSTALLING ABOUT 8 CULVERTS 72" WIDE IN THE .2 MI ACCESS ROAD NORTH OF THE IRON BRIDGE. THIS ROAD IS PRESENTLY OWNED AND UNDER EASEMENT TO TOWN OF TREMPLEALEAU.

*privately*

PROJECT JUSTIFICATION (WHY):

THE WOODEN DECKING ON THIS BRIDGE WAS REPLACED AND THE STRUCTURAL IRON SANDBLASTED AND REPAINTED IN AUGUST 1982. HOWEVER THE CONCRETE ABUTMENTS HAVE CRACKS AND THE ONE ON THE SOUTH BANK IS LEANING 5 DEGREES RIVERWARD. IN ADDITION, DUE TO THE SIZE OF THE STRUCTURAL SUPPORTS, THE BRIDGE HAS A MAXIMUM LOAD RATING OF 10 TONS. REPLACEMENT OF THIS BRIDGE WITH A STRUCTURE HAVING LONGER SPAN AND INCREASED CLEARANCE WOULD ALLOW MORE WATER TO PASS, REDUCING EROSION. THE INCREASED LOAD RATING WOULD PERMIT PASSAGE OF COMMERCIAL BUSES AND LOADED TRUCKS, SIMPLIFYING MANY REFUGE OPERATIONS. A WOODEN STRUCTURE WITH LOWER GUARD RAILS WOULD BE MUCH MORE ESTHETICALLY PLEASING TO THE PUBLIC.

THE ACCESS ROAD TO THE IRON BRIDGE WHICH PROVIDES THE ONLY PUBLIC ACCESS TO THE AUTO TOUR ROUTE USUALLY FLOODS SEVERAL TIMES ANNUALLY. DURING 1982 THIS ROAD WAS CLOSED TO THE PUBLIC FOR A TOTAL OF EIGHT WEEKS. THIS PROJECT WOULD ELIMINATE ACCESS PROBLEMS DURING MINOR FLOODING, ENHANCE VISITOR SAFETY, AND PREVENT A LOSS IN PUBLIC USE OUTPUTS.

THIS ROAD WILL NOT BE REBUILT TO WITHSTAND A 100-YEAR FLOOD.

THE BOAT ACCESS AND PARKING AREA JUST NORTH OF THE BRIDGE IS OWNED BY TREMPLEALEAU COUNTY. OWNERSHIP AND CONTROL BY THE REFUGE WOULD ALLEVIATE LITTER PROBLEMS AND RESULT IN MORE EFFECTIVE AND TIMELY MAINTENANCE OF THE FACILITY.

THIS PROJECT IS DEPENDENT UPON THE SERVICE'S ACQUIRING AN EASEMENT ON THE 0.2 MILE ACCESS ROAD FROM ~~TREMPLEALEAU TOWNSHIP~~ AND THE PARKING AND BOAT LANDING FROM TREMPLEALEAU COUNTY IN FEE TITLE. ACQUISITION OF THE ROAD EASEMENT SHOULD NOT BE MADE UNTIL FUNDS ARE APPROVED FOR THE REMAINDER OF THIS CPW.

*the private owners*

Attachment 4  
INITIAL PROJECT WORKSHEET

RECORD #: TPL/ 16 STATION: TREMPLEAU  
PROJECT TITLE: GREEN BAY CULVERT WATER CONTROL

DATE: 10/17/83  
COST: \$ 75000

REFUGE MANAGERS PRIORITY: 2 REFUGE MANAGERS SEQUENCE: 0016  
DIVISION SUPERVISOR'S PRIORITY: 2 DIVISION SUPERVISOR'S SEQUENCE: 005  
RECOMMENDED FOR FUNDING IN FY: 86 (RO ONLY)

PROJECT DESCRIPTION (WHAT):

THIS PROJECT INCLUDES REPLACEMENT OF THE CONCRETE CULVERT IN THE GREEN BAY AND WESTERN RAILROAD GRADE WITH A NEW STRUCTURE WITH STOP-LOG CONTROLS. THIS STRUCTURE WILL BE REMOTE FROM HEADQUARTERS AND DIFFICULT TO VISIT REGULARLY. STOP LOGS CAN BE SET AT A PREDETERMINED LEVEL AND REQUIRE LESS MANIPULATION. THE STRUCTURE WILL BE A SQUARE CONCRETE CULVERT, 8 FEET WIDE BY 6 FEET HIGH, WITH CONTROLS ON THE UPSTREAM (WEST) SIDE. THIS PROJECT WILL IMPOUND ABOUT 1,500 ACRES OF WATER IN THE WESTERN THIRD OF THE REFUGE.

PROJECT JUSTIFICATION (WHY):

WATER CONTROL ON THE GREEN BAY CULVERT WOULD PERMIT MORE EFFECTIVE MANAGEMENT OF WATER LEVELS BY COMPARTMENTING THE MAIN REFUGE POOL INTO TWO MORE MANAGEABLE UNITS. WITH THIS STRUCTURE CLOSED, WATER REDUCTION IN THE POOLS TO THE EAST WOULD BE SIMPLIFIED BY ELIMINATING THIS ADDITIONAL 1,500 ACRE-FEET OF WATER FROM PASSING THROUGH THE STRUCTURE.

THE GREEN BAY CULVERT IS OWNED BY THE GREEN BAY AND WESTERN RAILROAD COMPANY OF GREEN BAY, WISCONSIN. AT A MEETING IN WINONA, MINNESOTA, ON 2-25-82, A REPRESENTATIVE VOICED SUPPORT FOR THIS PROJECT, PROVIDING THE SERVICE WOULD COOPERATE WITH THE RAILROAD IN A PROPOSAL TO WIDEN AND STRENGTHEN THEIR DIKE AGAINST FLOODS. THERE WAS SOME DISCUSSION ABOUT ADDING A VEHICLE SERVICE CORRIDOR ALONG THE TRACKS WHICH WOULD GREATLY FACILITATE REFUGE STAFF ACCESS TO THE STRUCTURE.