

APP/DDZ

12/11

Recommended R.O. Position.

- Assuming State wants to manage we will bow to their wishes - request cooperative planning effort for development & management so it ~~can~~ and Panther Swamp will complement each other.
- Assure that if state decides they don't want it, now or in the future, FWS will take it but it must go through planning process (PPP, etc).
- ~~Call Barclay~~
- Return file to Drake.

12/15/89

I briefed Tim on this decision.

Phil / let's discuss today

This is the memo
scripted - need to
discuss with Brent & Drake
*Brensek - Brief Pulliam
and Call Barclay before Tuesday
Approve the FWS stuff
all 3 conditions are met
state doesn't pose a problem to
RD - Bures



REFUGES AND WILDLIFE

☐ Information
☐ Initial

Remarks:

From:

Date: **DEC 14 1989**

☐ Signature

☐ Please Handle

☐ Prepare Reply

Need to discuss

1 BENSON
Davis

2 MORGAN
ADAMS
BUTTS

MCDANIEL
OBERHEU

DRAKE
Kendrick

GRABILL
Flournoy

VITS
Lehr

Stockie
Reid
Jennings

Bender
Maloo

F. PODRIZNIK
Mattison
Rohling
Younglood
Winkler
Rumanes

4 BONSACK
Dunnava
T.A.

BENEKE
Dinkel
Anderson
Rea
Lord
Salasap

ase
Powell
Yount
Bruce
Freeman
Gibson
Underwood
Terrell
Melidones

WILLHITE
Flint
Stanley

Geldbaugh
Cella
Eller

Jones

ROUTING AND TRANSMITTAL SLIP

Date

12-12-89

TO: (Name, office symbol, room number,
building, Agency/Post)

1. **ARW**

Initials

Date

2.

3.

4.

5.

Action	File	Note and Return
Approval	For Clearance	Per Conversation
As Requested	For Correction	Prepare Reply
Circulate	For Your Information	See Me
Comment	Investigate	Signature
Coordination	Justify	

REMARKS

*Panhandle Brake Mitigation
Lands*

DO NOT use this form as a RECORD of approvals, clearances, and similar actions, concurrences, disposals,

FROM: (Name, org. symbol, Agency/Post)

Mike Dawson
ARW/RE JACKSON

Room No.—Bldg.

Phone No.

5041-102

☆ U.S. GPO: 1987-181-246/40023

OPTIONAL FORM 41 (Rev. 7-76)
Prescribed by GSA
FPMR (41 CFR) 101-11.206

memorandum

DATE: December 12, 1989

REPLY TO: Land Acquisition Biologist, FWS, Jackson, MS
ATTN OF:

SUBJECT: FWS Meeting on Panhandle Brake Mitigation Lands

TO: Regional Director, FWS, Atlanta, GA (ARW)

On 12/10/89, the following FWS personnel met at the Vicksburg FWE office to discuss the Yazoo Backwater area, Yazoo Basin, Mitigation Plan (attached).

Ray Aycock (WHM)
Tim Wilkins (Yazoo NWR)
Mike Dawson (RE)
Lee Barclay (FWE)
Robert Barkley (FWE)
Charles McCabe (FWE)
Russ Watson (FWE)

The Corps (CE) proposes to implement mitigation through compensation for terrestrial wildlife losses (CE claims to have already mitigated for fishery and waterfowl losses) that result from the construction and operation of the Yazoo Area and Satartia Area Levee Projects in the Yazoo Backwater Area of Mississippi. Vicksburg FWE has to respond to the mitigation plan by 12/29/89. The purpose of the meeting was to answer several questions (copy attached) regarding the mitigation plan.

As background, several months ago Steve Reed, the CE biologist who wrote the mitigation plan, called me and asked if I could identify some possible mitigation sites within the Yazoo Basin between Yazoo NWR and Vicksburg. Within this area, I provided him information on Panhandle Brake and Collins Creek which are both Category 23A Concept Plan sites and NAWMP priority sites. I also gave him information on a possible expansion of Panther Swamp NWR to the north.

The CE proposes to acquire the Travelers Insurance Company property (8,400 ac.) at Panhandle Brake. These lands would be reforested and managed for terrestrial wildlife. CE would fund the reforestation and provide annual O&M for 50 years.

The consensus at our meeting was that Panhandle Brake is the #1 priority area within the selection area. We feel strongly that these lands should be transferred in fee to the FWS and managed as part of Panther Swamp NWR. However, we do not want to be obligated to reforest all these lands. Panhandle Brake is a prime waterfowl area and should be managed as a complex of wetland habitats.

Refuges and Wildlife should recommend the following to Enhancement:

- 1) Panhandle Brake is the #1 priority for acquisition in the Backwater Levee Project area,
- 2) This area should be transferred in fee to the FWS and managed as a part of Panther Swamp NWR, and
- 3) The FWS does not agree that this entire area should be reforested, but should be managed as a complex of wetland habitats for migratory waterfowl.

Mike Dawson

Concur: _____
ARW

Date

cc: Chuck Danner
Tim Wilkins

"Safety Has No Quitting Time"

File 98 / Ref program
Panther Swamp New folder

UNITED STATES MEMORANDUM

MEMORANDUM

Date: December 5, 1989

From: Refuge Manager, Yazoo NWR Complex, Hollandale, MS

Subject: Corp of Engineers (COE) Land Acquisition Near Panther Swamp NWR

To: Charles Baxter, Lower Mississippi Valley Joint Venture Coordinator, Vicksburg, MS

On November 29, 1989, the COE held a meeting in Vicksburg to discuss the possible acquisition of an 8,382 acre block of land referred to by the COE as "Lake George". This land is also named "Delhi Basin" and "Panhandle Brake".

Several items were discussed, but the primary discussion revolved around who wanted to manage the land. The tract has excellent waterfowl habitat and would enhance waterfowl management on Panther Swamp NWR and NAWMP efforts. The area has historic Canada, white-fronted, and snow goose use as well as heavy use by other waterfowl and water birds. The COE will use this acquisition to mitigate terrestrial losses created on levees constructed in the Lower Yazoo Basin. The COE plans to reforest the entire tract. I feel that all good waterfowl habitat should remain so with the remainder being reforested. Any loss of terrestrial benefits could be replaced by reforestation of ag land on Panther Swamp NWR. Attached are maps showing the proximity of the tract to Panther Swamp NWR.

??
there goes
the goose
value!

Jack Herring, Miss. Dept. of Wildlife Fisheries and Parks, was at the meeting, he stated that there would be no arguments over which agency would receive the land. Hopefully, this means the Service can manage this land for its inherent waterfowl benefits.

One other aspect of concern to the county will be taxes lost due to government ownership. Should the Service receive ownership, payments would continue in the form of revenue sharing checks.

We currently have acorns and the ability to reforest the 900 acres mentioned by the COE as their goal for FY-90. Farm contracts were also discussed. I feel our experience in the area of farm contracts would allow a smooth transition from farming to wetland restoration and reforestation.

Most of
this
is a good
idea
Need to
see
this
first

If possible, a meeting with the state should be conducted as soon as possible to address ownership, etc. appropriate Regional Office Staff should also be made aware of this opportunity to enhance the goals of the NAWMP.

Thank you,



Tim Wilkins

cc: Harold Benson
Lee Barclay

PANTHER SWAMP NATIONAL WILDLIFE REFUGE

UNITED STATES
DEPARTMENT OF THE INTERIOR
R 5 W

YAZOO COUNTY, MISSISSIPPI

UNITED STATES
FISH AND WILDLIFE SERVICE
R 3 W 90°30'

R 4 W

90°35'

90°30'

T 12 N

T 12 N

T 11 N

T 11 N

32°45'

T 10 N

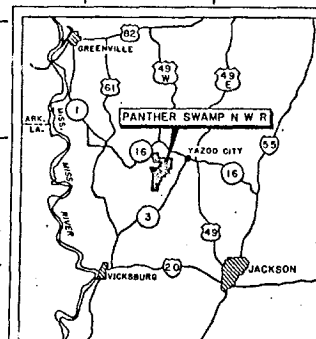
Delhi
BASIN
'Lake George

Proposed Refuge
Boundary
expansion

LEGEND



ACQUISITION
BOUNDARY



VICINITY MAP

0 12 24 48
SCALE IN MILES

R 5 W
COMPILED IN THE DIVISION OF REALTY
FROM SURVEYS BY U.S.G.S.

R 4 W
CHOCTAW MERIDIAN

0 2000 4000 8000 12000 16000 FEET
0 1/2 1 2 MILES

3°50' R 3 W 90°30'
TRUE NORTH
MAGNETIC N.
MEAN
DECLINATION
1977

ATLANTA, GEORGIA
REVISED: 10/87

JUNE 1977

4R MISS 926 404



DEPARTMENT OF THE ARMY
VICKSBURG DISTRICT, CORPS OF ENGINEERS

P. O. BOX 60

VICKSBURG, MISSISSIPPI 39180-0060

REPLY TO
ATTENTION OF:

December 5, 1989

Planning Division
Environmental Analysis

Mr. Lee Barclay
U.S. Fish and Wildlife Service
Ecological Services
900 Clay Street
Room 235, Thomas Building
Vicksburg, Mississippi 39180

Dear Mr. Barclay:

As discussed with members of your staff at a meeting in the District office on November 29, 1989, the enclosed report is provided that recommends fee title acquisition and reforestation of frequently flooded agricultural lands to compensate for terrestrial wildlife losses resulting from the completed Yazoo and Satartia Area, Yazoo Backwater Levee Projects (enclosure 1).

Please review the report and provide your comments by December 29, 1989, regarding the recommended plan and your interest in accepting and managing the mitigation lands.

We look forward to working with your agency on mitigation efforts to benefit wildlife in Mississippi. If you need further information, please contact Mr. Steve Reed, Environmental Analysis Branch, telephone (601) 631-5439.

Sincerely,

Francis R. Skidmore
Colonel, Corps of Engineers
District Engineer

Enclosure

**YAZOO BACKWATER AREA, MISSISSIPPI
YAZOO BASIN, MISSISSIPPI
MITIGATION PLAN**

OCTOBER 1989

YAZOO BACKWATER AREA, MISSISSIPPI
YAZOO BASIN, MISSISSIPPI
MITIGATION PLAN

INTRODUCTION

1. This report is a proposal to implement mitigation through compensation for terrestrial wildlife losses that result from the construction and operation of the Yazoo Area and Satartia Area Levee Projects in the Yazoo Backwater Area of Mississippi. The levee system was completed in 1978.

2. The Yazoo Area Pump Project and Yazoo Area and Satartia Area Backwater Levee Projects, Fish and Wildlife Mitigation Report, July 1982, identifies and documents habitat losses and dollar losses to migratory waterfowl, sport and commercial fish, and terrestrial wildlife. Habitat losses attributable to the levee system have been extracted from this report and identified as specific habitat unit losses for the completed Yazoo Area and Satartia Area levee project. Fishery losses that result from the levee system are compensated through the construction and operation of the Muddy Bayou water control structure at Eagle Lake. Migratory waterfowl are not adversely impacted by the backwater levees. Only terrestrial wildlife losses that result from project-induced land clearing that has occurred, reduction in flooding that is occurring, and right-of-way clearing that has occurred for the completed backwater levees are required to be addressed.

3. The projected adverse fish and wildlife impacts of the proposed Yazoo Area pump project are not considered in this report. By letter, 3 November 1988, the Board of Mississippi Levee Commissioners stated they cannot participate in cost sharing for the pump project as required by the Water Resources Development Act of 1986. No further work is presently scheduled for this project; therefore, it is not appropriate to consider mitigation measures for the pump project at this time.

4. Alternatives considered to compensate for levee-induced terrestrial wildlife losses include:

- a. Development of existing public lands.
- b. Fee title acquisition and management of wooded lands.
- c. Perpetual land use easement acquisition of wooded lands.
- d. Fee title acquisition of cleared lands with reforestation/regeneration.

5. This report addresses the Administration's policy to minimize purchase of private lands and maximize use of project lands, and intense management of other Federal and non-Federal public land.

AUTHORITY

6. The Water Resources Development Act of 1986, Public Law 99-662, dated 17 November 1986, authorized mitigation for the Yazoo Backwater Area of Mississippi:

"YAZOO BACKWATER AREA, MISSISSIPPI

The project for mitigation of fish and wildlife losses at the Yazoo Backwater Project, Mississippi: Report of the Chief of Engineers, dated July 12, 1984, at a total cost of \$17,700,000 with a first Federal cost of \$17,700,000. The project shall include acquisition of 40,000 acres for mitigation of project-induced fish and wildlife losses as recommended in the report of the District Engineer, Vicksburg District, dated July 1982. The Secretary may acquire a portion of such 40,000 acres from willing sellers in the State of Arkansas, after consultation with the United States Fish and Wildlife Service and the Governors of the States of Mississippi and Arkansas."

AREA DESCRIPTION

7. The project area comprises approximately 757,000 acres of land and water and includes portions of Humphreys, Issaquena, Sharkey, Warren, Washington, and Yazoo Counties, Mississippi, and part of Madison Parish, Louisiana (Plate 1). The area is a highly developed agricultural system with an economy heavily dependent upon the agricultural industry. The existing bottom-land hardwood forest supports excellent wildlife populations. Flooded agricultural fields and flooded bottom-land hardwoods provide excellent habitat for resident and migratory waterfowl. The Yazoo backwater is an extremely rich cultural resource area of the State of Mississippi. While there have been comprehensive surveys for sites only in the last 14 years, those surveys have been relatively few in number and severely restricted in the area covered. The data resulting from these surveys do support a relatively well known culture history which has been compiled over decades of scattered site inventory and investigation conducted by various archeological research institutions. For all of the research which has occurred, many areas, both physiographic and political, are still relatively unknown. Very little is known about any smaller sites which may have been associated with or ancillary to the large, better known sites. Upon the acquisition of any land, a comprehensive cultural resource survey must be conducted. A detailed description of the environmental setting of the study area is available in the following documents.

a. Howard, Needles, Tammen, and Bergendoff, June 1980, Environmental Inventory and Assessment, Yazoo River Basin, Volumes 1 and 2.

b. Yazoo Area Pump Project and Yazoo Area and Satartia Area Backwater Levee Projects, Fish and Wildlife Mitigation Report, July 1982.

c. The Yazoo Area Pump Project, Yazoo Backwater Area, Mississippi, Environmental Impact Statement, July 1982.

NEED FOR MITIGATION

8. Construction and operation of the Yazoo Backwater Levee system has induced and continues to induce significant impacts to fish and wildlife resources associated with bottom-land hardwoods. Compensation for this loss is a proper and positive consideration and requirement of multiobjective planning for water and related land resource development projects as defined in Section 906 of Public Law 99-662. Mitigation through compensation is a balanced response to the problems and needs of the area and will contribute to an acceptable solution to the flood control and environmental needs of the Yazoo Basin. Authority to initiate this project expires 5 years following the 17 November 1986 date of Public Law 99-662 with automatic deauthorization.

SIGNIFICANT RESOURCES

9. FWS classifies bottom-land hardwood habitat as Resource Category 2 defined as follows: "Habitat to be impacted is of high value for evaluation species and is relatively scarce or becoming scarce on a national basis or in the ecoregion section. The mitigation goal for habitat placed in this category is that there should be no net loss of in-kind habitat value."

10. Section 906(d) of Public Law 99-662, "Fish and Wildlife Mitigation," recognizes the national significance of bottom-land hardwoods by mandating that "Specific mitigation plans shall ensure that impacts to bottom-land hardwood forests are mitigated in-kind, to the extent possible."

11. Also, significant nonmonetary values have been institutionally ascribed by society at the national and international levels to preservation of wetlands such as the bottom-land hardwood forests in the Yazoo Backwater Area.

MITIGATION PLANNING OBJECTIVES

12. Guidance on mitigation planning is provided in Engineer Regulation 1105-2-50, Chapter 2, and is stated as follows:

"Fish and wildlife mitigation measures shall be evaluated according to their ability to either avoid, minimize, or compensate for adverse effects on significant fish and wildlife resources when compared to 'future without-plan' conditions. The extent of, and justification for, mitigation of the adverse effects of an alternative plan shall be based upon the significance of the resulting losses, compared to the combined monetary and nonmonetary costs required to carry out the mitigation measures. Justification shall not be based solely on the measure's ability to produce monetary benefits equal to its costs."

13. Adverse impacts of the projects include the estimated project-induced clearing of 1,200 acres of bottom-land hardwoods as a result of improved flood protection, and the right-of-way clearing of 5,900 acres of hardwoods for levee construction. Adverse impacts are also included for reduction in quality of existing hardwoods as a result of the reduction of the seasonal flooding on these lands. These physical losses to habitat and terrestrial wildlife are translated by the Habitat Evaluation Procedure (HEP) of the U.S. Fish and Wildlife Service (FWS) to 526,950 annualized habitat units, as presented in the referenced 1982 mitigation report.

14. The mitigation planning objective for the Yazoo Backwater Levee System is 100 percent in-kind replacement of 526,950 annualized habitat units that are lost as a result of project-induced impacts on bottom-land hardwoods and associated terrestrial wildlife.

ALTERNATIVE MITIGATION PLANS

15. An array of four mitigation alternatives are identified and evaluated for their potential to compensate for the identified terrestrial habitat losses. A discussion and evaluation of each alternative are presented in the following paragraphs.

DEVELOPMENT OF EXISTING PUBLIC LANDS

16. This alternative addresses the possible further development and management of existing publicly owned lands in the project area. The rationale for public land use is with an incremental increase in habitat quality through development, annualized habitat unit losses attributed to the project can be offset and thereby mitigate for bottom-land hardwood losses. The economic attractiveness of this alternative is the sunk cost of the existing land base, with management of the land the only cost. The biological disadvantage of this alternative is the unlikely ability to produce additional habitat units on existing lands that are already managed by state and Federal agencies. Both state and Federal agencies who own lands in the Yazoo Basin have

expressed no interest in this mitigation alternative. According to the Mississippi Department of Wildlife, Fisheries, and Parks, the Department is managing their lands as intensively as is practical and any productivity increase should come from other sources (Attachment 1). FWS indicates no potential for mitigation of terrestrial wildlife losses on their lands. FWS queried the U.S. Forest Service and the Mississippi Department of Wildlife Conservation with a view toward more intensive management of their lands to reduce total damages from projects in the Yazoo Basin. None of the agencies identified opportunities for more intensive management of their holdings or as alternatives to the purchase of additional lands to mitigate damages. FWS indicates no opportunity for more intensive management of their lands to offset adverse impacts with respect to nonmigratory fish and wildlife resources (Attachment 2). Based on the views of the state and Federal agencies, this alternative is not considered a viable option and has been eliminated from further study.

FEE TITLE WOODLAND ACQUISITION AND MANAGEMENT

17. The alternative to purchase bottom-land hardwoods in fee title and manage these lands is considered for possible mitigation of the terrestrial wildlife losses induced by the levee system. The feasibility and effectiveness of this alternative are based on providing additional habitat quality (management potential) on existing woodlands. Management potential is a wildlife management and mitigation concept that assumes that net habitat losses can be offset through management of another parcel of land to incrementally increase the habitat value of that land and therefore compensate for project-induced losses. To obtain a gain in habitat quality, an acre of existing hardwoods must be manipulated to increase its existing value as wildlife habitat. Only the increment of increase can be used to offset annual habitat unit losses. The management potential concept sounds reasonable, but it is questionable that the compensation calculations on paper are accurately translated to increases in habitat quality on the ground. Also, management measures which attempt to increase the habitat value of a particular wildlife species can contribute to the detriment of another species. With this mitigation philosophy, the following can occur:

a. Manipulated habitats do not increase carrying capacities of target species on an average annual basis.

b. Managed habitats for target species indirectly and adversely impact nontarget species.

c. Compensation for project losses as calculated is not complete.

d. More people compete for diminishing hardwood acres seeking outdoor recreation opportunities.

18. Based on the above discussion and rationale, and since large blocks of privately owned hardwoods suitable for acquisition and management within the project area are already intensively managed for timber and wildlife by timber companies and/or hunting clubs, acquisition and management of existing privately owned bottom-land hardwoods to offset project-induced losses have been eliminated from further consideration.

PERPETUAL LAND USE EASEMENT ACQUISITION

19. The aforementioned 1982 mitigation report discussed and recommended perpetual land use easements to offset terrestrial wildlife losses. The basic requirement of the perpetual easement would prevent any change in existing land use in perpetuity from a hardwood forest. The feasibility of this alternative is based on the projected future large-scale conversion of bottom-land hardwood forests to agricultural row crops. However, since passage of the 1985 Food Security Act and the ineligibility for persons to receive certain U.S. Department of Agriculture program benefits who convert hardwoods/wetlands to agricultural producing lands, the with- and without-project clearing of bottom-land hardwoods is unlikely to occur. Therefore, this alternative concept to preserve hardwoods that are unlikely to be cleared is no longer feasible to pursue for compensation for project-induced terrestrial losses and has also been eliminated from further consideration.

FEE TITLE ACQUISITION OF CLEARED LANDS WITH REFORESTATION/REGENERATION

20. In the Yazoo Delta, an estimated 69 percent of the land area has been determined to be wetlands using the criteria set forth in the new Joint Federal Manual for Identifying and Delineating Wetlands. The wetland determination includes all bottom-land hardwoods as wetlands in the Yazoo Delta. Frequently flooded agricultural lands in the Delta are also classified as wetlands.

21. Significant acres of bottom-land hardwoods were cleared in the Delta and planted in row crops in response to favorable commodity prices, particularly soybeans. Today, with frequent flooding of some of these farmlands and other factors, portions of these lands are marginally profitable for agricultural row crop production. However, these lands are suitable and appropriate to use for compensation of project-induced bottom-land hardwood (wetland) losses. Also, reclamation of frequently flooded farmland that have wetland functional values is consistent with the national goal of no net wetland loss. The reclamation (reforestation) of frequently flooded farmland to bottom-land hardwoods (wetlands) as mitigation to compensate for terrestrial wildlife

losses is also compatible with the general provisions of the Food Security Act of 1985. The purpose of the provisions of 7 CFR Part 12, Highly Erodible Land and Wetland Conservation, is to "remove certain incentives for persons to produce agricultural commodities on highly erodible land or converted wetlands and to thereby:

- a. Reduce soil loss due to wind and water erosion.
- b. Protect the nation's long-term capability to produce food and fiber.
- c. Reduce sedimentation and improve water quality.
- d. Assist in preserving the nation's wetlands.
- e. Curb production of surplus commodities."

22. The goals of the reforestation alternatives are to reestablish a functional bottom-land hardwood wetland forest community on low-lying, frequently flooded agricultural lands. This will be accomplished by encouraging the early growth of various species in a later successional forest that are valuable to wildlife.

- a. A list of suitable species for reforestation is shown below.

Lower Elevations

Overcup Oak (Quercus lyrata)
Willow Oak (Quercus phellos)
Nuttall Oak (Quercus nuttalli)

Well Drained Soils on the Flood Plain

Water Oak (Quercus nigra)
Cherrybark Oak (Quercus falcata pagodifolia)
Sweet Pecan (Carya illinoensis)

b. Planting oak species is the primary objective of the reforestation effort. Diversification will come from those volunteer species expected for the given growing conditions. Naturally regenerating species such as bitter pecan, green ash, persimmon, elm, willow, hackberry, and native understory plants will provide welcome diversity to recreate a forest environment ideal for supporting a wide range of wildlife communities.

23. Reforestation can be accomplished through natural regeneration or by accelerating natural succession through the introduction of seeds/acorns or seedlings. Various methods of reforestation are discussed. More than one method could be required to address all growing situations found. These methods of reforestation are discussed below.

Reforestation with Direct Seeding

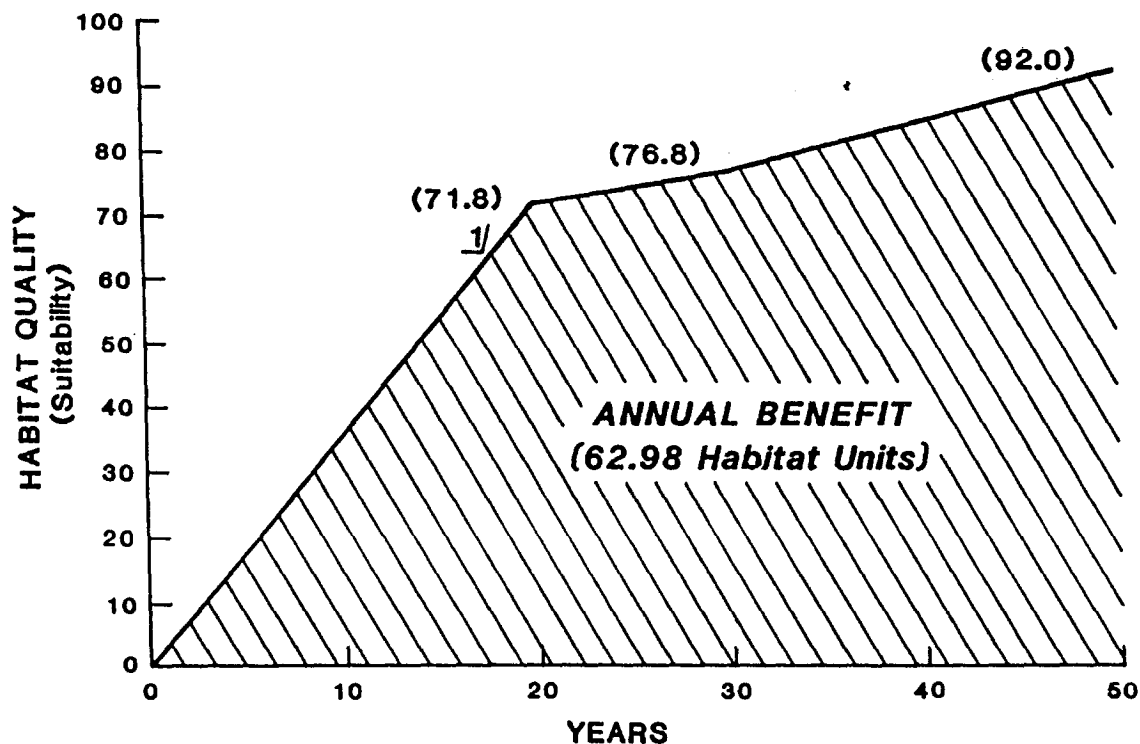
24. Frequently flooded soils in the Yazoo Backwater Area have a high clay content and are often called buckshot soils. The high clay content of these soils produces expansion and contraction depending upon moisture content. In the direct seeding of acorns, the soil closes around the acorns and stays closed. Reforestation experience with soils having a high shrink-swell factor indicates that the direct seeding of acorns method of reforestation is more successful than planting seedlings.

25. The direct seeding of acorns requires less time, effort, and expense than producing and planting seedlings. Also, direct seeding is recommended on suitable sites where all commercial trees have been harvested. The cost per acre of direct seeding is shown in Table 1.

TABLE 1
REFORESTATION COSTS WITH DIRECT SEEDING

Work Item	Cost Per Acre (\$)
Site Preparation	10
Acorns and Pecans	9
Planting	<u>77</u>
TOTAL COST	96

26. Reforested lands can be managed or unmanaged. Managed lands reforested with seeds would have a per-acre annual cost of \$31.52 and provide 63 annualized habitat units of benefit per acre (\$0.50 per habitat unit). The benefit calculation is shown on Figure 1. Unmanaged lands reforested with seeds would have a per-acre annual cost of \$26.42 and provide 35.9 annualized habitat units of benefit per acre (\$0.74 per habitat unit).



1/ Curve configuration based on coordination with FWS and Vicksburg District and presented in the 1982 Mitigation Report on the Yazoo Backwater Area.

Figure 1

Annual habitat units per acre gained with cleared land acquired in fee title and reforested with native hardwoods and managed.

Reforestation with Seedlings

27. The selection of mast-producing bottom-land hardwood species for reforestation with seedlings is recommended to produce a high quality forest that offers the desired species diversity.

28. A mechanical tree planter would reduce cost and increase efficiency over hand labor as indicated in Table 2. The tree species should be mixed depending on soil suitability before loaded on the mechanical planter. The trees should be placed on a 12-foot spacing to accommodate equipment. The plantings should be bush hogged (undergrowth cut to the ground) one time a year for 3 years. The cost per acre is shown in Table 2.

TABLE 2
REFORESTATION COSTS WITH SEEDLINGS

Work Item	Cost Per Acre (\$)
Site Preparation	10
Seedlings	100
Machine Planting (Hand Planting)	<u>60</u> (75)
TOTAL COST:	160 to 175

29. The per-acre cost for planting seedlings is 83 percent greater than planting seeds. As discussed above, soil types in the backwater area indicate a poor survival rate utilizing the seedling method. Seedlings planted with a planter in soils with a high clay content have a low survival rate because the soil around the seedlings dries and cracks along the planting row exposing the roots. Based on costs and survival rate, this alternative is eliminated from further consideration.

Reforestation with Natural Regeneration

30. This method of reforestation should only be considered where available acorn sources exist. Lands to be acquired would be cultivated in agricultural crops with no available acorn sources. Natural regeneration of these types of areas would consist of undesirable light seeded, wind-distributed species with a paucity of hard mast-producing trees such as oaks and pecans. Although this

alternative is inexpensive, it does not meet the objective of guaranteed quality reforestation and desired mitigation results. This option is eliminated from further consideration.

SELECTED PLAN

31. Four alternative means of mitigating the terrestrial losses in the Yazoo Backwater area were evaluated. Of these various methods, fee-title acquisition of frequently flooded cleared lands with reforestation is the best method of mitigating the wildlife losses. The planting of acorns and/or pecans with management is the selected method of reforestation. This is the least costly and most dependable plan that meets the mitigation planning objective.

32. To satisfy the planning objective of offsetting the 526,950 annualized habitat units that are lost would require acquisition, reforestation, and management of 8,365 acres of cleared agricultural lands. This is based on each acre providing 63 annualized habitat units. Estimated first cost is \$6,000,000. Table 3 provides detailed cost information. The annual cost is \$264,000 based on interest rate of 2.5 percent and a project economic life of 50 years.

TABLE 3
SUMMARY OF COST DATA FOR
FEE ACQUISITION OF CLEARED LANDS WITH
REFORESTATION AND MANAGEMENT

Item	:	Unit	:	Unit Cost :	Total Cost
				(\$)	(\$)
<u>First Cost</u>					
Lands and Damages					
Cleared Lands		8,365 acres		400	3,346,000
Severence Damage					-
Contingencies (10%)					334,600
Acquisition					15,000
Public Law 91-646					-
Total Lands and Damages					3,695,600

TABLE 3 (Cont)

Item	Unit	Unit Cost	Total Cost
		(\$)	(\$)
<u>Development</u>			
Survey and Establish Boundary	25 miles	1,000	25,000
Soil Survey and Mapping	8,365 acres	3	25,095
Gravel Road Construction	10 miles	2,000	20,000
Seedbed Preparation	8,365 acres	10	83,650
Reforestation with Acorns	8,365 acres	96	803,040
Bush hogging (annually for first 3 years)	8,365 acres	32	803,040
Office/Maintenance Building			25,000
Total Development			1,784,825
Engineering and Design(+15%)			267,724
Supervision and Administration (+10%)			205,255
			472,979
TOTAL FIRST COST			5,953,404
		USE	6,000,000
<u>Annual Cost</u>			
Interest (.025)			148,835
Sinking Fund (.01026)			61,082
Boundary Maintenance	25 miles	50	1,250
Road Maintenance	10 miles	500	5,000
Building Maintenance			1,500
Timber Stand Improvement	500 acres	25	12,500
Timber Management	8,365 acres	3	25,095
Manage Hunts	25 days	100	2,500
Administration	25 days	135	3,375
Custodial Functions	25 days	100	2,500
Total Annual Cost			263,637
		USE	264,000
<u>526,950 Annualized Habitat Units Loss - 8,364 acres USE 8,365</u>			
<u>63 Annualized Habitat Units Gain</u>			
\$31.52 annual cost per acre (\$263,637 ÷ 8,365 acres).			

POTENTIAL MITIGATION LANDS


33. There are several tracts of frequently flooded agricultural lands in or near the Yazoo Backwater Area that are available from willing sellers. These lands are shown on Attachment 3.

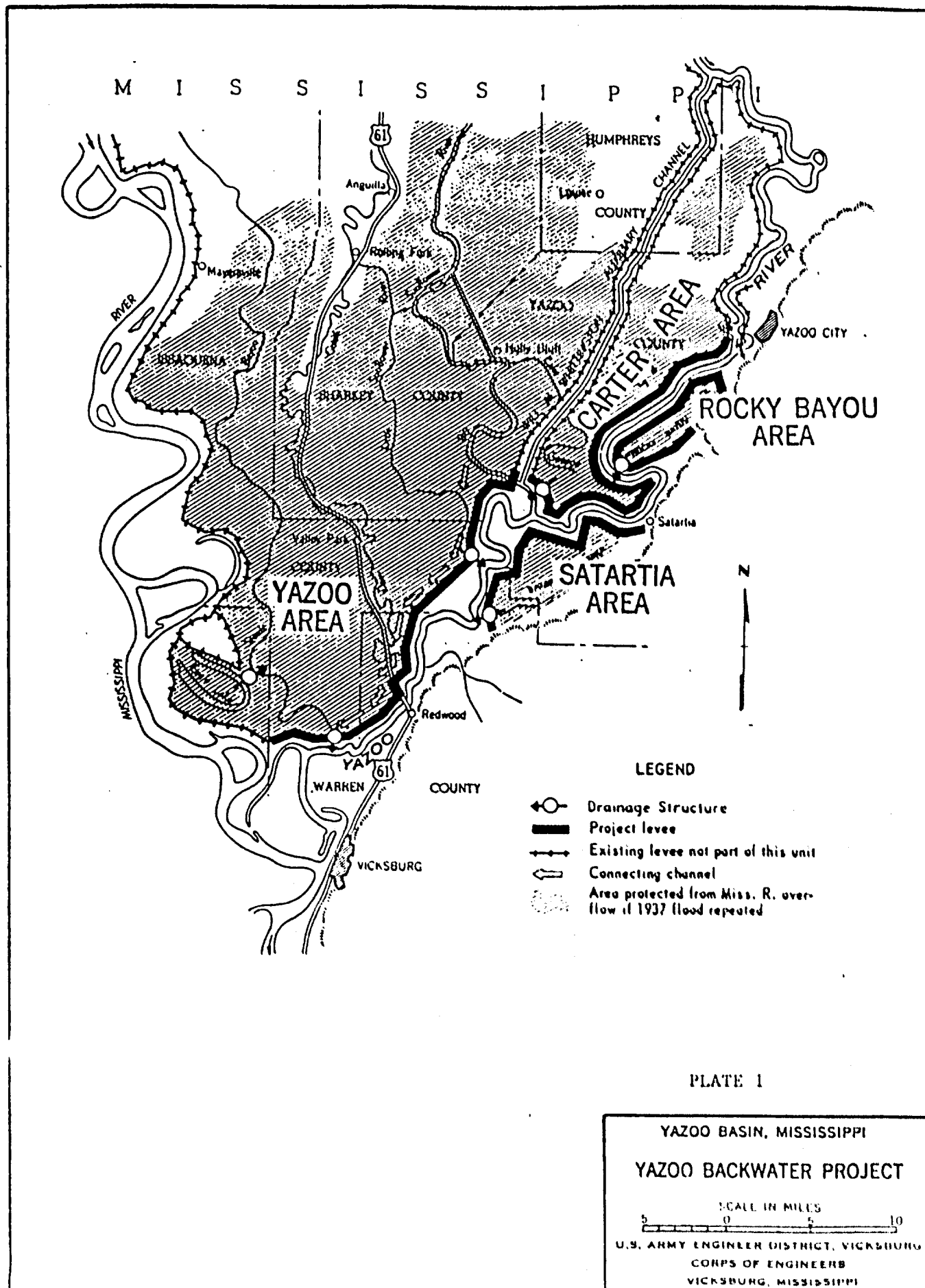
34. The largest tract of land is an 8,807-acre tract known as the Lake George Property and currently owned by the Traveler's Insurance Company. Fee title acquisition and reforestation of the Lake George property would connect two large blocks of publicly owned wooded lands. The Lake George property is located west of and adjacent to the 22,000-acre Panther Swamp National Wildlife Refuge (FWS) and east of and adjacent to the 59,000-acre Delta National Forest (U.S. Forest Service). Adjoining the southern border of the Delta National Forest is the 21,000-acre privately owned and managed Delta Wildlife and Forestry, Inc., tract. These combined wooded lands would represent a contiguous and managed 110,700-acre block of bottom-land hardwood/wetlands. Although these areas have independent values, together they would have an enhanced value. A contiguous wooded area of this magnitude would provide suitable vegetative habitat to attract and support not only target evaluation species, but also former far ranging resident species such as the black bear and Florida panther.

35. Other identified frequently flooded agricultural lands include the Collins Creek property, the Little Sunflower River property, and the Twist property. The Collins Creek property, also owned by Traveler's Insurance Company, consists of 3,100 acres and is located just south of Satartia, Mississippi. The Little Sunflower River property is owned by a Mississippi bank and consists of 4,300 acres located adjacent to and west of Delta National Forest. Located north of Panther Swamp National Wildlife Refuge are 6,633 acres of agricultural land presently owned by an Arkansas bank and known as the Twist property. Therefore, there are ample frequently flooded agricultural lands available in the Yazoo Backwater Area or immediate vicinity to meet the mitigation requirements.

RECOMMENDATION

36. It is recommended that approximately 8,400 acres of cleared frequently flooded agricultural lands be obtained in the Yazoo Backwater area of Mississippi to mitigate the wildlife losses resulting from construction of the Yazoo Area and Satartia Area levees projects. These lands would be reforested and managed for terrestrial wildlife. Estimated first cost is approximately \$6,000,000.


Francis R. Skidmore
Colonel, Corps of Engineers
District Engineer





Mississippi Department of Wildlife Conservation
Southport Center, Ellis at Hwy 80
P. O. Box 451
Jackson, MS 39205-0451
(601) 961-5300

RAY MABUS
Governor

VERNON BEVILL
Executive Director

Commissioners:

S. T. Rayburn
Chairman
Oxford

Joseph W. Gex
Bay St. Louis

David New, Jr.
Natchez

Champ Terney
Indianola

June 10, 1988

Col. Francis R. Skidmore, District Engineer
Department of the Army, Corps of Engineers
P.O. Box 60
Vicksburg, MS 39180-0060

RE: Planning Division, Environmental Analysis

Dear Sir:

We are in receipt of your June 1 letter from the planning division referencing the mitigation report you are preparing for the Upper Yazoo Basin. Please accept the following comments in answer to the request.

The Department of Wildlife Conservation manages two wildlife management areas within the Upper Yazoo Basin Project. The O'Keefe area, near Lambert, is approximately 6,000 acres and Malmaison, near Greenwood, is approximately 9,500 acres. Both of these areas are managed as intensively as possible and we feel there is no feasible way to increase productivity. It is our opinion that the best option for wildlife is to provide more wooded wetlands and bottomland hardwoods. Your files on the Upper Yazoo Basin Project should contain several letters written over the past several years expressing a concern for both fisheries and wildlife degradation in the project area. This is still a concern and we are of the opinion that the only long term solution to quality hunting and fishing on that area is the assurance that we do not lose valuable wetlands and bottomland hardwoods. Should one wish to increase the wildlife productivity in the basin, then one must consider increasing the habitat. We are managing our refuges as intensively as is practical and any productivity increase must come from other sources.

Thank you for the opportunity to comment and please accept our offer to work with you further in this matter.

Sincerely,

John Burris
John Burris

Wildlife/Fisheries Coordinator

Attachment 1



United States Department of the Interior

FISH AND WILDLIFE SERVICE

75 SPRING STREET, S.W.
ATLANTA, GEORGIA 30303

July 19, 1988

Colonel Francis R. Skidmore
District Engineer
U.S. Army Corps of Engineers
Post Office Box 60
Vicksburg, Mississippi 39180-0060

Dear Colonel Skidmore:

This is in response to your letter of June 1, 1988, wherein you requested the Fish and Wildlife Service (Service) to review our land holdings in the Yazoo River Basin to determine if they could be more intensively managed for wildlife purposes. The Service is directly involved in mitigation planning for the Corps' projects in the Upper Yazoo River Basin. In that regard, we provided you with a Draft Mitigation Report in March 1987 under the authority of the Fish and Wildlife Coordination Act. During the preparation of our 1987 draft report, we reviewed Service land holdings, and queried the United States Forest Service and the Mississippi Department of Wildlife Conservation with a view towards more intensive management to reduce total damages from the Upper Yazoo Basin Project. At that time, none of the agencies mentioned identified opportunities for more intensive management of their holdings as an alternative to the purchase of additional lands to mitigate damages from the Upper Yazoo Basin Project.

However, recent implementation of the North American Waterfowl Management Plan and new land acquisition for units of the Yazoo National Wildlife Refuge have prompted the Service to again review the opportunities for more intensive management of our holdings. Thus, although the purpose for this review was not as the result of mitigation planning for Corps projects, there does appear to be compatibility between the positive results of more intensive management on Service lands and overall mitigation strategies for the Project. The management opportunities we have identified to date have already been informally coordinated with your Planning Division. We expect to have more specific details relative to acreages benefited by land-use categories and levels of increase in productivity in the near future. Initial development, operation, management, and replacement associated with such works at project expense would be a requirement of all development opportunities on Service lands,

While an agreement that more intensive management on Service lands is compatible with overall mitigation strategies for the Upper Yazoo Basin Project, that compatibility is specifically predicated upon our responsibilities to implement the North American Waterfowl Management Plan. The Service sees little or no opportunity for more intensive management of Service lands to offset adverse impacts with respect to nonmigratory fish

and wildlife resources. This being the case, we do not envision the requirements for purchase of additional lands for mitigation for nonmigratory fish and wildlife resources to change appreciably from that specified in our 1987 draft report.

As part of the Service's Upper Yazoo mitigation planning effort; we also analyzed management opportunities on Corps of Engineers' lands in the Yazoo River Basin. Additionally, we looked at operation of the structural features of the Upper Yazoo Basin Project as planned, as well as intensive management opportunities on lands required for project rights-of-way. In that regard, our 1987 draft report recommended extensive development, operation, management, and replacement for wildlife management activities on the Corps' Askew Area. Costs and benefits in terms of habitat values and man-days were provided. Similar projections were provided for the benefit of utilizing 35 major/minor Upper Yazoo Basin Project drainage structures to impound water during the winter period to benefit wintering waterfowl. In both instances, the benefits identified were subtracted from the habitat value losses due to construction to reduce total mitigation requirements. We identified no significant management opportunities or habitat value gains for project rights-of-way.

Since our 1987 draft report, the Service has entered into a Memorandum of Understanding with the United States Department of Agriculture's Farmers Home Administration wherein the Farmers Home Administration consults with the Service in implementing their affirmative responsibilities to protect and enhance wetland resources under the requirements of E.O. 11990 and 7 CFR, Part 1940, subpara. G. More recently Section 616 of the Agricultural Credit Act of 1987 has expanded Service involvement in the Farmers Home Administration land inventory disposal process.

At this point it appears likely that through conservation easements or fee title transfer, the Service will develop and/or manage substantial wetland acreages of Farmers Home Administration inventory lands primarily for the benefit of migratory waterfowl. The Service currently has ample funding to protect, restore, or enhance wetland values on Farmers Home Administration lands in the Yazoo River Basin, with additional funding expected to keep pace with any new lands that might come into the Farmers Home Administration inventory. We thus see little opportunity for Corps involvement in wetland development of Farmers Home Administration inventory properties. Should there be a change in this area, the Service would not hesitate to involve the Corps.

It is our opinion that completion of the Upper Yazoo Basin as planned will have major adverse impacts to fish and wildlife resources. Resident wildlife and migratory waterfowl losses will be such that public fish and wildlife utilization, as we know it today, will not be available unless authorization and funding of a mitigation plan, the scope of which greatly exceeds those typical of the past, is formulated. As you know, the position of the Service is that of the latter expressed alternative.

Whether or not the project is reformulated, however, the final mitigation plan of both our agencies will be subject to extensive public review. It is fair to say that past actions taken to seek authorizations to mitigate completed projects, or to implement mitigative features once authorization has been achieved, will also be subject to the same extensive review. Our responsibilities under the North American Waterfowl Management Plan and the Fish and Wildlife Coordination Act require constant consideration of the success of past mitigation efforts against those currently being proposed. There are two outstanding mitigation authorities in the Vicksburg District where positive actions have yet to be completed or implemented,

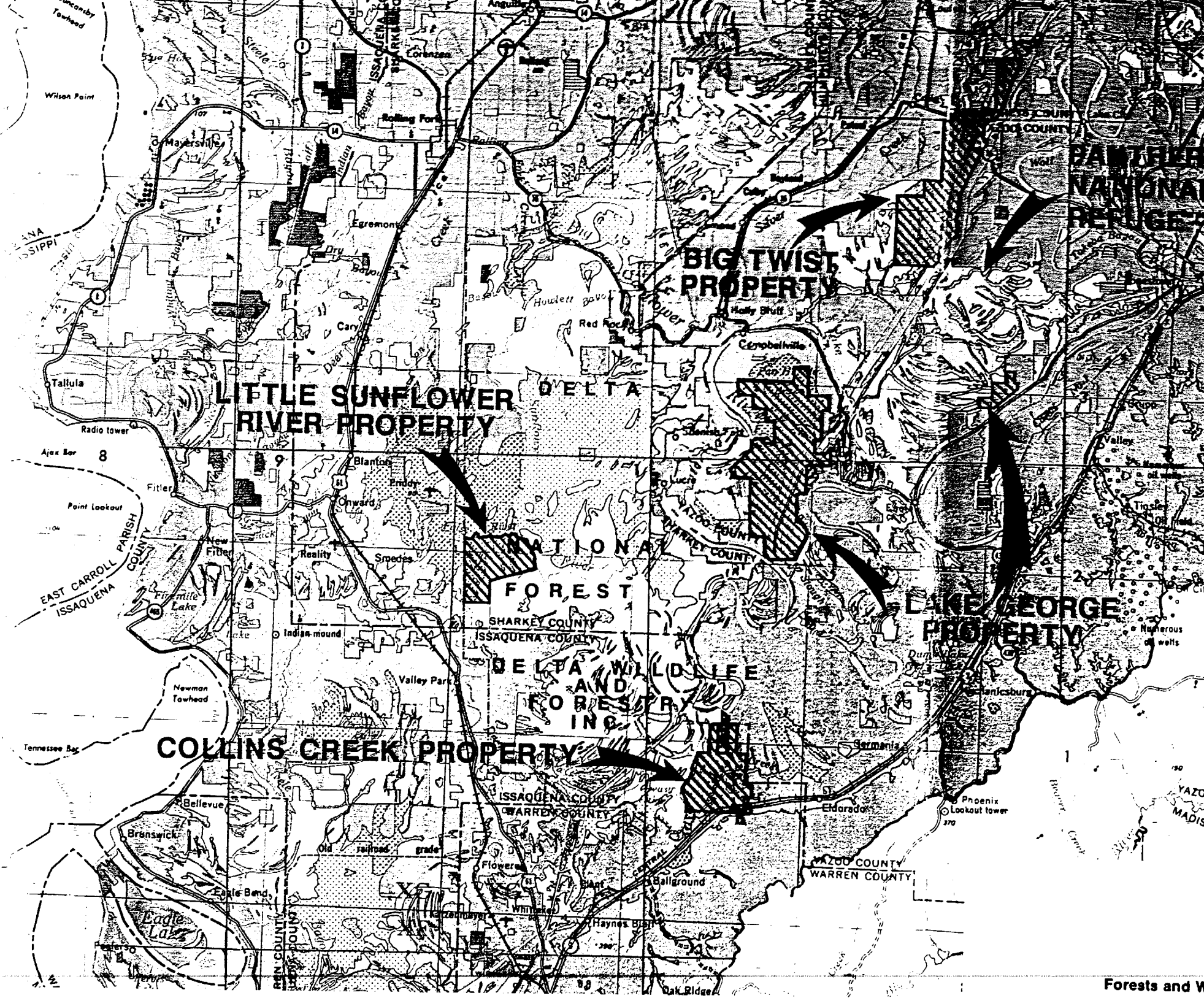
First, it appears that until the greentree reservoirs/slough control structures authorized as part of the Big Sunflower segment of the Yazoo River Basin are completed, the creditability associated with any future mitigatory effort is lessened. Further, a conflict exists for new thrusts aimed at more intensive management of existing public lands when existing authorities to develop those same public lands have yet to be carried out. Though not associated with mitigation for the Upper Yazoo Basin Project, construction of the remaining greentree reservoirs/slough control structures on the Service's Yazoo National Wildlife Refuge Complex are compatible with the goals of the North American Waterfowl Management Plan.

Second, the Upper Yazoo Basin Project is nearing 20 percent completion with new construction funding requested and received annually; yet the concurrent mitigation funding specified in current water resource development policy has been noticeably absent. In view of current Federal policies and attitudes toward wetland protection and evolving national agricultural policy, the continuation of this approach does not engender widespread public confidence,

The opportunity to assist the Corps in mitigation planning efforts in the Upper Yazoo River Basin is appreciated. Please do not hesitate to call if we can be of further assistance in this regard,

Sincerely yours,

Francis J. Pratt
Francis J. Pratt
Acting Regional Director



32K
40K

8,000 clem [?] reforestation [?] 4 sites

so we agree

so we want the land

Agree with sites

Terrestrial bottomland land losses

Invalid Assumptions

- HEP ANALYSIS $\text{from } 2,000 \text{ to } 8,000$
(is 8K OK or not)

any Repop $\$1.8M$

of m₀ = \$40-50K

Sam

15pg

Colonel Francis R. Skidmore
District Commander
U. S. Army, Corps of Engineers
P. O. Box 60
Vicksburg, Mississippi 39180

Dear Colonel Skidmore:

The purpose of this letter is twofold. First to provide the Corps with the management objectives and operating requirements of the mitigation features authorized within Yazoo National Wildlife Refuge as part of the Upper Steele Bayou Project. Secondly, to provide questions or statements regarding the operation/management of each of the four individual lakes and the water control structures necessary to flood and dewater the lakes.

This letter has been coordinated with the Service's Yazoo National Wildlife Refuge Manager and is the product of numerous meetings with personnel from the District's Project Management Branch, Mississippi Section.

MANAGEMENT OBJECTIVES

Lake 1 - Operate as a Greentree Reservoir (GTR)

Lake 2 - Initially operate as a GTR. Due to elevations and forest cover types, the possibility of intentionally holding water to kill the willow stand in the center of the GTR and convert this area over time to moist soil management will be part of the long-term management objective.

Lake 3 - A twofold management objective. First to develop or utilize the old lake bed for moist soil management. Secondly, but on an annual basis

in concert with Lakes 1 and 2, water levels will be gradually increased throughout the winter to take advantage of the higher ground in the lake as a GTR.

Lake 4 - Differing from the other lakes, Lake 4 will be operated to maximize wood duck ⁿesting and brood rearing.

OPERATING REQUIREMENTS

Lakes 1, 2, and 3

1. Controlled flooding annually between September 15 and November 15.
2. Controlled dewatering annually between March 1 and March 31.

Lake 4

The capability to manipulate water levels (flooding and dewatering) during the spring and early summer to maximize brood rearing habitat, to insure permanent water at the lowest elevations, and for vegetative control.

QUESTIONS/STATEMENTS RELATING TO EACH LAKE

Based on the January 27, 1989 meeting attended by Robert Barkley and Tim Wilkins of the Service and Greg Ruff, Phil Combs, and Johnnie Sanders of the Corps, the following agreements were reached.

1. The invert elevations of Weirs A, B, C, and D will be lowered to 91.0.
2. The Corps will install a Staff Gage at Bear Garden Bridge and the Service will read the Gage on normal Federal workdays.
3. The invert at Weir E will be lowered from 96.0 to 92.0 or 93.0.
4. The District will determine the extent of lateral seepage onto or into the Refuge with Steele Bayou held at elevation 91.5 due to the fixed crest elevation (of 91.5) of Weir 56.
5. Sites B, C, and D sluice gates will be designed for 2, 4-foot stop logs instead of 1, 8-foot stop log.
6. The fixed crest elevation of 91.5 feet for Weir 56 presents no problem to the Service provided:
 - a. Lateral seepage will not damage timber resources within the Refuge; and,
 - b. Lake 1 and Lakes 2, 3, and 4 (which dewater through Lake 2) can be successfully dewatered 3 years in 4 during the period March 1 to March 31.

Should elevation 91.5 preclude the above two stipulations, Weir 56 will be designed to lower water levels in Steele Bayou below 91.5 to prevent lateral seepage damage and allow Lakes 1-4 to be dewatered 3 years in 4 during the period March 1 to March 31.

7. The Corps will analyze a sufficient number of profiles to determine the lowest elevations in Lakes 1, 2, and 3 to insure dewatering of the lakes to accomplish the Service's Management Objectives.

The following questions/statements relate to management of the individual lakes or weirs/water control structures and to the agreements reached at the January meeting referenced above. A draft copy of the questions/statements were provided to the Project Management Branch, Mississippi Section in early January.

Lake 1 - Site A Weir

1. Question: Assuming Lake 1 is filled, how long (in days) will it take to dewater the lake with Steele Bayou at 91.5 feet and a Site A weir invert of 91.0 feet?
2. Question: Between March 1 and March 31 annually, how many days will Steele Bayou be at 91.5 feet at the Site A Weir with the mile 56 weir crest elevation fixed at 91.5 feet?
3. Question: Can the Site A weir (actually the Site A water control

structure since there is no weir at this location) be utilized to let high flows on Steele Bayou "back" over the stop log(s) into Lake 1?

4. Question: What is the NGVD elevation of the top of the risers, or, said differently, how deep will the water get inside Lake 1 or in Steele Bayou before going over the top of the stop logs (or vice versa -- Question 3) if all the stop logs are installed?

Lake 2 - Site B Weir

1. Statement: Differing from Site A weir, Site B weir is actually:
 - a. a fixed crest concrete weir with 98.0 fixed crest elevation
 - b. a cantilever sluice gate with 91.0 invert elevation.
2. Question: Does the above statement imply 7 feet of water can be impounded in Lake 2 (98.0 - 91.0)?
3. Question: With 7 feet of water impounded in Lake 2, how long (in days) will it take to dewater Lake 2 with Steele Bayou at 91.5 and the Site B invert at 91.0 between March 1 and March 31?

4. Question: Between March 1 and March 31 annually, how many days will Steele Bayou be at 91.5 feet at the Site B Weir with the mile 56 weir crest elevation fixed at 91.5 feet?
5. Question: Can the Site B sluice gate stop logs be utilized to let flows on Steele Bayou above 91.0 but below 98.0 "back" over the stop logs into Lake 2?
6. Statement: The Site B sluice gate and weir need to be designed to drive across the top for access.
7. Statement: The Site B fixed weir crest elevation as well as the height of the top of the sluice gate need to be fixed at the height of the 5-year frequency event at a minimum. The 10-year frequency event elevation is preferred.

In essence, if the elevation of the Site B weir, 98.0, is overtopped annually, 1 additional foot overtops the Site C weir overflow crest elevation of 99.0, and 2 additional feet overtops the Site D weir overflow crest elevation of 100.0.

Thus, in order to avoid completely filling Lakes 2, 3, and 4 and disrupting our management objectives, the Site B fixed weir crest elevation as well as the height of the top

of the sluice gate needs to be elevation 100 feet or the height of the 5-year frequency event whichever is the higher. Again, elevation 100 feet or the height of the 10-year frequency event whichever is the higher is preferred.

8. Question (relates to Question 3 above): With 7 feet of water impounded in Lake 2, and 8 feet of water impounded in Lake 3, how long (in days) will it take to dewater Lakes 2 and 3 with Steele Bayou at 91.5 and the Site B invert at 91.0 during the period March 1 to March 31 annually?
9. Question (relates to Questions 3 and 8 above): With 7 feet of water impounded in Lake 2, 8 feet of water impounded in lake 3, 9 feet of water impounded in Lake 4, how long (in days) will it take to dewater Lakes 2, 3, and 4 with Steele Bayou at 91.5 and Site B invert at 91.0 during the period March 1 to March 31 annually?

Lake 3 - Site C Weir and Site E Weir

1. Statement: For water to enter Lake 3 through Site E water control structure, water in Silver Lake Bayou must be above the Pipe Arch Structure invert elevation of 92.0 or 93.0 feet, or, high flows on Silver Lake Bayou would have to be higher than the levee crest of 106.0.

2. Question: Between Sep 15 and Nov 15 annually, how many days will Silver Lake Bayou be above 92.0 or 93.0 with the Site E weir fixed at 98.0?
3. Statement: Since there is a high ridge between the southern end of the old lake bed in Lake 3 and the Site C weir, a channel will have to be constructed to effectively dewater Lake 3 to the 91.0 invert elevation.
4. Statement: There also appears to be a high ridge between the Site D weir and the Site C weir which will hinder dewatering Lake 4 and the southwest part of Lake 3.
5. Question: Assuming the level in Silver Lake Bayou is above the 92.0 or 93.0 invert elevation of the water control structure at Site E weir, how long (in days) does it take to fill Lakes 4, 3, and 2 to their maximum depths?

Lake 4 - Site D Weir and Site E Weir

1. Statement: Same as Statement 1 for Lake 3.
2. Question: Same as Question 2 for Lake 3.
3. Question: With the invert elevation of Site D weir at 91.0, will

Lake 4 be dewatered as thoroughly with Site D weir in place as under natural (today's) conditions?

4. Question: How long in days will it take to fill Lake 4, 9 feet deep (91.0 to 100.0) assuming the water in Silver Lake Bayou is above the invert elevation of 92.0 or 93.0 for the water control structure at Site E weir?

Site E Weir

1. Statement: The assumption is that with the fixed crest Weir E elevation at 98.0, enough water will be in Silver Lake Bayou to allow inflow into Lakes 3 and 4 through the pipe arch structures at invert elevation of 92.0 or 93.0.
2. Question: Project a worst case and normal future with Steele Bayou Project in place, stage frequency curve for Silver Lake Bayou at Site E weir with Site E weir fixed crest elevation at 98.0.
3. Question: With Site E weir fixed crest at 98.0, is there any questions as to flooding impacts off the Yazoo NWR, particularly in and around the area known as Whiskey Chute?

General Comments

1. Statement: Since the Steele Bayou Project is 100% Federal, the Service expects all OM&R to be 100% Project Expense.
2. Statement: Prior to construction of Weirs A-E, the safety operational manual of each structure needs to be developed and explained to the Service.

Sincerely yours,

Lee A. Barclay, Jr.

Field Supervisor



DEPARTMENT OF THE ARMY
VICKSBURG DISTRICT, CORPS OF ENGINEERS

P. O. BOX 60

VICKSBURG, MISSISSIPPI 39180-0060

REPLY TO
ATTENTION OF:

January 23, 1989

FEB 14 1989

Mr. Lee Barclay
Field Supervisor
Fish and Wildlife Service
Room 235
900 Clay Street
Vicksburg, Mississippi 39180

Dear Mr. Barclay:

Congratulations on your assignment to the Vicksburg office.

This is in response to a request made by Mr. Curtis James, Acting Field Supervisor, at our December 13, 1988, coordination meeting in the Vicksburg District office for updated information on scheduled contract awards for remaining features of the Upper Steele Bayou Project.

Enclosure 1 provides a table of comparative construction contract award dates based on the original dates as scheduled on March 15, 1988, and our current dates as of January 15, 1989. Slippages in several of the award dates have occurred due to various constraints.

Weir E and the weir at mile 56 (Steele Bayou) were included in the Vicksburg District's fiscal year 1988 program of 8(a) contracts in compliance with the requirements of Section 8(a) of the Small Business Act. These contracts are generally quickly negotiated; however, we incurred difficulty in successfully concluding negotiations with the selected weir E contractor. The delay in awarding the weir contract for mile 56 is due to refinements which we recently incorporated into the site plan to reduce the physical impact of our construction features on the environment and on affected landowners. We will soon be providing you with revisions to design details on these two weir projects, including anticipated water levels to be impounded by the structures during their respective construction periods. These data should assist your determination of any impacts on existing or proposed FWS projects in the Yazoo National Wildlife Refuge.


The construction contract for Item 1A, Black Bayou involves a 2.1 mile reach between the mouth and a point just below the southern limit of Leroy Percy State Park. Excavated channel material from initial operations on this contract would be used to construct the foundation for cross-dikes within pools 3 and 4 of Swan Lake and an access road for future construction work on Item 66-B and water control structures in the refuge. Delay in award of this contract is the result of the difficulties we have experienced in obtaining rights-of-entry from landowners for topographic and soil boring surveys. Also, the requirement to develop an array of alternative designs and construction methods to produce a plan which results in minimal physical impact on private property in this reach of Black Bayou has contributed to the delays. We will soon present our recommended plan to these landowners to determine their views, and we will then proceed with final preparation of plans and specifications for scheduled construction award of this contract in January 1990. The proposed contract for water control structures at Sites C and D has been delayed to incorporate changes in design to provide access across these structures.

These delays are unfortunate, but have been necessary considering the concern to achieve the most environmentally sensitive plan of improvement for flood control and fish and wildlife needs. Concern was expressed at the December 13, 1988, meeting about the public's perception of the delays experienced in proceeding toward construction of the waterfowl features (particularly the cross-dikes) in the refuge. As noted at the meeting, the levee being constructed under the Item 66-A contract represents the initial perimeter levee for impoundment of waters in the refuge for waterfowl. Construction of the cross-dikes and water control structures will separate the impoundment into four pools. We have suggested the possibility of using material from high ground within the refuge to proceed with construction of a test cross-dike in the northwest quadrant of the refuge. This would alleviate your agency's and the general public's concern about progress on these features. We would appreciate your recommendations on the use and location of lands for this purpose.

The Vicksburg District is committed to carrying out its responsibility in proceeding with orderly development of authorized fish and wildlife features within the Yazoo Basin. In achieving this goal, we believe the upcoming bi-monthly coordination meetings between our agencies can be used to establish objectives for achieving completion of plans within each tributary basin.

I hope this information will be helpful to you in explaining the progress of our program for the Steele Bayou project to your higher authority. Please contact me if I may be of further assistance.

Sincerely,


Francis R. Skidmore
Colonel, Corps of Engineers
District Engineer

Enclosure

STATUS OF WORK
JANUARY 15, 1989
STEELE BAYOU PROJECT

<u>Construction Features</u>	<u>Plans & Specifications Complete</u>	<u>Construction Scheduled 15 Mar 88</u>	<u>Contract Award 15 Jan 89</u>
Weir E	N/A	Mar 88	Apr 89
Weir at Mile 56.0	N/A	*	Apr 89
Black Bayou, Item 1A	Jul 89	Aug 89	Jan 90**
Black Bayou, Item 1B	Mar 91	*	Aug 91
Steele Bayou, Item 66B	Jan 90	Jun 90	Jun 90
Main Canal, Item 1	Sep 91	Oct 91	Mar 92
Silver Lake Drainage Structures & Closure	Dec 89	Apr 90	Apr 90
Site C & D Water Control Structures	Apr 89	Apr 89	Jul 89
Site B Water Control Structure & Dike 2	Sep 89	Jan 90	Jan 90
Site A Water Control Structure	Sep 89	Jan 90	Jan 90
Swan Lake Levee & Dike Caps	N/A		(Future work as soil conditions permit)

* Not scheduled in March 15, 1988 letter

** Includes Phase I work on cross dikes in Swan Lake



United States Department of the Interior
FISH AND WILDLIFE SERVICE

900 Clay Street, Room 235
Vicksburg, Mississippi 39180
February 22, 1989

5pg

Colonel Francis R. Skidmore
District Commander
U. S. Army, Corps of Engineers
P. O. Box 60
Vicksburg, Mississippi 39180

Dear Colonel Skidmore:

The purpose of this letter is twofold. First, to provide the Corps with the management objectives and operating requirements of the mitigation features authorized within Yazoo National Wildlife Refuge as part of the Upper Steele Bayou Project. Secondly, to provide questions or statements regarding the operation/management of each of the four individual lakes and the water control structures necessary to flood and dewater the lakes. This letter has been coordinated with the Service's Yazoo National Wildlife Refuge Manager and is the product of numerous meetings with personnel from the District's Project Management Branch, Mississippi Section.

MANAGEMENT OBJECTIVES

Lake 1 - Operate as a Greentree Reservoir (GTR)

Lake 2 - Initially operate as a GTR. Due to elevations and forest cover types, the possibility of intentionally holding water to kill the willow stand in the center of the GTR and convert this area over time to moist soil management will be part of the long-term management objective.

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Lake 4 - Differing from the other lakes, Lake 4 will be operated to maximize wood duck resting and brood rearing.

OPERATING REQUIREMENTS

Lakes 1, 2, and 3

1. Controlled flooding annually between September 15 and November 15.
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The capability to manipulate water levels (flooding and dewatering) during the spring and early summer to maximize brood rearing habitat, to insure permanent water at the lowest elevations, and for vegetative control.

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Based on the January 27, 1989 meeting attended by Robert Barkley and Tim Wilkins of the Service and Greg Ruff, Phil Combs, and Johnnie Sanders of the Corps, the following agreements were reached:

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2. The Corps will install a Staff Gage at Bear Garden Bridge and the Service will read the Gage on normal Federal workdays.
3. The invert at Weir E will be lowered from 96.0 to 92.0 or 93.0.
4. The District will determine the extent of lateral seepage onto or into the Refuge with Steele Bayou held at elevation 91.5 due to the fixed crest elevation (of 91.5) of Weir 56.
5. Sites B, C, and D sluice gates will be designed for two, 4-foot stop logs instead of one, 8-foot stop log.
6. The fixed crest elevation of 91.5 feet for Weir 56 presents no problem to the Service provided:
 - a. Lateral seepage will not damage timber resources within the Refuge; and,
 - b. Lake 1 and Lakes 2, 3, and 4 (which dewater through Lake 2) can be successfully dewatered 3 years in 4 during the period March 1 to March 31.

Should elevation 91.5 preclude the above two stipulations, Weir 56 will be designed to lower water levels in Steele Bayou below 91.5 to prevent lateral seepage damage and allow Lakes 1-4 to be dewatered 3 years in 4 during the period March 1 to March 31.

7. The Corps will analyze a sufficient number of profiles to determine the lowest elevations in Lakes 1, 2, and 3 to insure dewatering of the lakes to accomplish the Service's Management Objectives.

The following questions/statements relate to management of the individual lakes or weirs/water control structures and to the agreements reached at the January meeting referenced above. A draft copy of the questions/statements was provided to the Project Management Branch, Mississippi Section in early January.

Lake 1 - Site A Weir

1. Question: Assuming Lake 1 is filled, how long (in days) will it take to dewater the lake with Steele Bayou at 91.5 feet and a Site A weir invert of 91.0 feet?

2. Question: Between March 1 and March 31 annually, how many days will Steele Bayou be at 91.5 feet at the Site A Weir with the mile 56 weir crest elevation fixed at 91.5 feet?
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4. Question: What is the NGVD elevation of the top of the risers, or, said differently, how deep will the water get inside Lake 1 or in Steele Bayou before going over the top of the stop logs (or vice versa -- Question 3) if all the stop logs are installed?

Lake 2 - Site B Weir

1. Statement: Differing from Site A weir, Site B weir is actually:
 - a. a fixed crest concrete weir with 98.0 fixed crest elevation
 - b. a cantilever sluice gate with 91.0 invert elevation.
2. Question: Does the above statement imply 7 feet of water can be impounded in Lake 2 (98.0 - 91.0)?
3. Question: With 7 feet of water impounded in Lake 2, how long (in days) will it take to dewater Lake 2 with Steele Bayou at 91.5 and the Site B invert at 91.0 between March 1 and March 31?
4. Question: Between March 1 and March 31 annually, how many days will Steele Bayou be at 91.5 feet at the Site B Weir with the mile 56 weir crest elevation fixed at 91.5 feet?
5. Question: Can the Site B sluice gate stop logs be utilized to let flows on Steele Bayou above 91.0 but below 98.0 "back" over the stop logs into Lake 2?
6. Statement: The Site B sluice gate and weir need to be designed to drive across the top for access.
7. Statement: The Site B fixed weir crest elevation as well as the height of the top of the sluice gate need to be fixed at the height of the 5-year frequency event at a minimum. The 10-year frequency event elevation is preferred.

In essence, if the elevation of the Site B weir, 98.0, is overtopped annually, 1 additional foot overtops the Site C weir overflow crest elevation of 99.0, and 2 additional feet overtops the Site D weir overflow crest elevation of 100.0.

Thus, in order to avoid completely filling Lakes 2, 3, and 4 and disrupting our management objectives, the Site B fixed weir crest elevation as well as the height of the top of the sluice gate needs to be elevation 100 feet or the height of the 5-year frequency event whichever is the higher. Again, elevation 100 feet or the height of the 10-year frequency event, whichever is the higher, is preferred.

8. Question (relates to Question 3 above): With 7 feet of water impounded in Lake 2, and 8 feet of water impounded in Lake 3, how long (in days) will it take to dewater Lakes 2 and 3 with Steele Bayou at 91.5 and the Site B invert at 91.0 during the period March 1 to March 31 annually?
9. Question (relates to Questions 3 and 8 above): With 7 feet of water impounded in Lake 2, 8 feet of water impounded in lake 3, 9 feet of water impounded in Lake 4, how long (in days) will it take to dewater Lakes 2, 3, and 4 with Steele Bayou at 91.5 and Site B invert at 91.0 during the period March 1 to March 31 annually?

Lake 3 - Site C Weir and Site E Weir

1. Statement: For water to enter Lake 3 through Site E water control structure, water in Silver Lake Bayou must be above the Pipe Arch Structure invert elevation of 92.0 or 93.0 feet, or, high flows on Silver Lake Bayou would have to be higher than the levee crest of 106.0.
2. Question: Between Sep 15 and Nov 15 annually, how many days will Silver Lake Bayou be above 92.0 or 93.0 with the Site E weir fixed at 98.0?
3. Statement: Since there is a high ridge between the southern end of the old lake bed in Lake 3 and the Site C weir, a channel will have to be constructed to effectively dewater Lake 3 to the 91.0 invert elevation.
4. Statement: There also appears to be a high ridge between the Site D weir and the Site C weir which will hinder dewatering Lake 4 and the southwest part of Lake 3.
5. Question: Assuming the level in Silver Lake Bayou is above the 92.0 or 93.0 invert elevation of the water control structure at Site E weir, how long (in days) does it take to fill Lakes 4, 3, and 2 to their maximum depths?

Lake 4 - Site D Weir and Site E Weir

1. Statement: Same as Statement 1 for Lake 3.

2. Question: Same as Question 2 for Lake 3.
3. Question: With the invert elevation of Site D weir at 91.0, will Lake 4 be dewatered as thoroughly with Site D weir in place as under natural (today's) conditions?
4. Question: How long in days will it take to fill Lake 4 to a 9-foot depth (91.0 to 100.0) assuming the water in Silver Lake Bayou is above the invert elevation of 92.0 or 93.0 for the water control structure at Site E weir?

Site E Weir

1. Statement: The assumption is that with the fixed crest Weir E elevation at 98.0, enough water will be in Silver Lake Bayou to allow inflow into Lakes 3 and 4 through the pipe arch structures at invert elevation of 92.0 or 93.0.
2. Question: Under a normal water year and a worst case (low rainfall) water year, how many days will the water surface elevation in Silver Lake Bayou be higher than the invert elevation of 92.0 or 93.0 of the pipe arch structure at the Site E weir during the period September 15 to November 15 annually?
3. Question: With Site E weir fixed crest at 98.0, is there any questions as to flooding impacts off the Yazoo NWR, particularly in and around the area known as Whiskey Chute?

GENERAL COMMENTS

1. Statement: Since the Steele Bayou Project is 100% Federal, the Service expects all OM&R to be 100% Project Expense.
2. Statement: Prior to construction of Weirs A-E, the safety operational manual of each structure needs to be developed and explained to the Service.
3. Statement: As soon as practicable after completion of construction Item 66 B and the internal cross dikes, the Service needs to have all spoil areas suitable for reforestation delineated so that our reforestation program can begin as quickly as possible.

Sincerely yours,



Lee A. Barclay, Jr.
Field Supervisor



File -
Special Issues
Yazoo NWR

STATE OF MISSISSIPPI

RAY MABUS
GOVERNOR

May 10, 1989

Mr. Lee A. Barclay
U. S. Department of the Interior
Fish and Wildlife Service
900 Clay Street, Room 235
Vicksburg, MS 39180

Dear Lee:

Enclosed is a copy of the position statement on the Yazoo Basin Projects that Governor Mabus issued today. You will see that it recommends continuation of the Yazoo Basin Projects with a renewed emphasis on flood control and environmental sensitivity.

Please call me if you have any questions regarding this statement.

Sincerely,

A handwritten signature in black ink that reads "Michael Goff".

Michael Goff
Special Assistant for
Natural Resources

MG:rc



STATE OF MISSISSIPPI

RAY MABUS
GOVERNOR

OFFICE OF THE GOVERNOR

POSITION ON THE YAZOO BASIN PROJECTS

History

On August 25, 1988, by Executive Order No. 595, the Governor's Advisory Committee on the Yazoo Basin Projects (the "Committee") was created. The charge of the Committee was to conduct a full review and evaluation of various flood control projects currently being constructed in the Yazoo River Basin by the United States Army Corps of Engineers.

The projects within the scope of the Committee's charge include the proposed pumping Station in the Yazoo Backwater area, channelization and other work along Steele Bayou and Black Bayou in the Big Sunflower River Basin, and channelization, levee and other work along the Yazoo River. The Committee was directed to assess the flood control protection to be offered by the projects, their impact on the environment and wildlife habitat and to make recommendations concerning the projects.

The Committee was formed because numerous individuals and organizations expressed concern with the focus of the projects and their effect on the environment and wildlife habitats in the Yazoo Basin area. Many persons have suggested that the projects should place more emphasis on flood control and less emphasis on increasing agricultural land production. Others believe that the

benefits of the project do not outweigh the adverse environmental effects. On the other hand, supporters of the projects argue that the agricultural production and flood control benefits exceed any environmental damages and that plans developed by the Corps of Engineers will substantially mitigate any adverse environmental impact.

The genesis of the projects occurred in the 1930's, through congressional authorization. Work on the projects has been proceeding for several decades and will not be completed for another 25 years. The total cost of the projects is approximately \$1.3 billion, of which \$850,000,000 remains to be spent.

In February, Chairman W. Wayne Drinkwater, Jr., delivered the final report and recommendations of the Governor's Advisory Committee on the Yazoo Basin Projects. The Committee's work has been exhaustive. Written and oral presentations were solicited from hundreds of interested governmental entities, private organizations and interested individuals. Also the Committee conducted ten public hearings at which they carefully considered both oral and written presentations on all aspects of the Yazoo Basin Projects. Since February, the Governor's office has met with all parties involved in these projects and analyzed the implications of both the majority and minority recommendations of the Commission.

Findings

It is undisputed that significant need exists for flood control in areas throughout the Yazoo Delta. Many residents suffer hardships from direct flood damage to their homes, interruption of sewage disposal systems, the threat of disease, and the high cost of flood insurance. Unfortunately, while the projects do offer some degree of residential protection, they do not solve drainage problems that affect people in their homes and businesses.

As currently designed, the Yazoo Basin Projects are directed primarily toward increasing agricultural production, and are of principal benefit to agricultural interests. Only a small portion of the benefits of the projects are directed toward a reduction of flood damage in urban areas.

The projects' emphasis on agricultural benefits is particularly striking in view of the fact that populated areas in the Upper Yazoo Basin are expected to receive the heaviest damage from serious flooding. In 1975, the Corps of Engineers estimated that serious flooding would cause greater losses in populated areas than to agricultural interests; nevertheless, the Corps of Engineers concluded that the major flood control need of the Upper Yazoo Projects was to maximize agricultural development. Accordingly, in its design of and economic justification for the projects, the Corps of Engineers focused on benefits to agriculture. As a result, although annual flood damage to populated areas was estimated to exceed annual flood damage to agriculture, the Upper Yazoo Projects were designed to afford

economic benefits to agriculture almost four times greater than those granted populated areas.

The agricultural benefits of the projects are achieved in two primary ways: by reducing flooding of marginal farmland, thereby reducing damage to planted crops and increasing yields through intensification of farming operations; and by encouraging the conversion of existing wooded wetlands to croplands. However, it is not certain that winter and early spring flooding in the Yazoo Delta significantly reduces agricultural production. Data provided by the Mississippi Cooperative Extension Service demonstrates no clear relationship between flooding and reduced crop yields.

Further, national policy now discourages conversion of wooded wetlands to croplands. The Wetland Conservation Provision of the Food Security Act of 1985 disqualifies farmers for important benefits under United States Department of Agriculture programs in years in which those farmers produce agricultural commodities on land converted from wetland status after the effective date of the Act. This provision was intended to discourage the clearing of wetlands and their conversion to agricultural use. Thus, although conversion of wooded wetlands to cropland was regarded as a benefit that supported the Upper Yazoo Projects at the time of their original design, today Congress has acted to discourage this very practice.

The projects' emphasis on agricultural benefits, while still important to the economy of the area, creates too much of an imbalance. Clearly, the full potential of the projects to

alleviate flooding in populated areas cannot be realized by a design intended primarily to promote agricultural production.

The projects will have an adverse impact on the environment of the Yazoo Delta necessitating mitigation efforts. The projects have been estimated to induce the clearing of 270,500 acres of woodlands. In addition, the Corps of Engineers has estimated that as a result of levee and channel construction, streambank clearing, dredge spoil disposal and other construction, another 44,600 acres of woodlands will be lost. The losses involve wetlands of national significance. The projects will also reduce wintering migratory waterfowl habitat by 52,000 acres.

There is concern that simply continuing these projects without certain modifications and mitigation, will adversely affect wildlife habitats, recreational use of the area, fisheries resources, and water quality. Further, the projects as designed risk adding greatly to sediment deposition in rivers and streams, an effect that might actually exacerbate flooding by reducing channel carrying capacity. The Corps of Engineers has found that completion of some of the projects, as currently planned, will degrade the integrity of the natural ecosystem and may severely limit the ecosystem's viability for production of high quality natural resources.

Although mitigation of such damages can never be complete, a need exists for maximum possible mitigation of environmental losses. The current plan proposed by the Corps of Engineers for mitigation of environmental losses is inadequate. That plan does

not entail the acquisition of any property; nor does it include reforestation to compensate for the wooded wetlands to be cleared as a result of the projects. The plan consists of obtaining land use easements on 48,800 acres of existing woodlands not scheduled to be cleared in any event as a result of the projects. These easements will ensure that these woodlands will not be cleared in the future for reasons unrelated to the projects. There is no assurance that the 48,800 acres will be located in Mississippi. Under current federal law, some portion of this land could be located in Arkansas.

A mitigation plan proposed by the United States Fish and Wildlife Service would involve intensive reforestation of agricultural land and the acquisition of land. Of this, some would be bottomland hardwoods; the remaining would be agricultural lands that could be reforested. The mitigation plan recommended by the United States Fish and Wildlife Service is superior to that proposed by the Corps of Engineers.

Most importantly, the mitigation plan has not been funded and there are no assurances that Congress will ever fund it. No one can now predict whether or when Congress will fund any plan of mitigation, or when the measures that are the subject of any funded mitigation plan will be in place. In the past, mitigation features proposed in connection with these and other projects have sometimes been delayed, remain incomplete, or have not occurred.

Recommendations

The investigation into the various flood control projects in the Yazoo River Basin by the Committee was a lengthy and complicated process. The members of this Committee are to be commended for their work and the complete manner in which they covered all the aspects of this issue.

The following recommendations are being made to the U. S. Army Corps of Engineers for future action on the projects within the Yazoo River Basin.

1. The Projects should be Reviewed and Redesigned; After Modification, They Should be Completed. Both the opponents and proponents of the projects recognize that flood control for populated areas must occupy the highest priority. Further, the Department of the Army, in apparent recognition of changing circumstances, has mandated a two-year review of the projects. As a result, all Corps projects after fiscal year 1990 have been put on hold. (See Attachment 1)

The projects should not be abandoned. However, their present agricultural focus is over emphasized and should be modified, and greater emphasis should be placed on effective flood relief in populated areas. Finally, the present design does dramatic damage to the environment and wildlife habitats.

Review and redesign of the projects should focus benefits more specifically on flood control. Although no present purpose of the projects should be abandoned, and their scope should not be increased, the redesign should deemphasize enhancement of agricultural focus and should strive to avoid the draining of

wetlands or the clearing of bottomland hardwoods. Redesign should also seek to enhance and protect the environmental quality of the Yazoo Delta.

As federally funded flood control projects, some of the projects offer important benefits to the people of Mississippi. Although all the projects should be reviewed and modified in important respects, those which proceed should be completed as rapidly as possible after appropriate modification has occurred.

Review and Redesign of the Projects Should not Endanger Full Federal Funding. Through the course of the review of these projects there has been much concern expressed over the cost-sharing requirements contained within the Water Resources Development Act of 1986. According to the Attorney General of Mississippi and other legal authorities, modifications of the kind suggested here would not impose any additional cost-sharing burdens on state or local interests. The Assistant Secretary of the Army for Civil Works has advised this office by letter that so long as any modifications to the projects do not change authorized purposes or materially increase the scope of the projects, additional nonfederal cost-sharing would not be required. (See Attachment 2) Accordingly, no change in the purposes or increase in the scope of the projects is recommended.

The proposed redesign should not expose either the State of Mississippi or other local interests to the risk of sharing in the cost of future construction.

2. No Environmentally Sensitive Work Should Occur During Review and Redesign of the Projects. While redesign and review of the projects occur, no environmentally sensitive work should be done that might endanger or moot future ability to modify the projects. Construction that poses no environmental dangers or dangers to wildlife habitats, or that focuses primarily on flood control or mitigation of existing environmental damages should be continued during project review. The items which have been furnished by the Corps of Engineers which meet those criteria are attached. (See Attachment 3) In addition to those listed, all the planned mitigation work on the Yazoo National Wildlife Refuge and all demonstration erosion control projects should progress at an accelerated rate. All other project items, whether furnished to the Committee or not, should be halted immediately and no land acquisition related to these project features should be initiated during project review, whether by condemnation or otherwise. Attachment 4 addresses some items of work in detail. It is recommended that funds set aside for these environmentally sensitive projects be transferred to pay for other projects that are not environmentally sensitive.

3. Appropriate Mitigation of Environmental Damage Should Occur Concurrently With or in Advance of Project Construction, within Mississippi. Because mitigation of unavoidable environmental losses is important to the people of Mississippi, final Congressional funding for an appropriate mitigation plan should be obtained as a prerequisite to construction on any segment of the projects for which mitigation is necessary.

Further, Congressional funding should be obtained to fund mitigation of those portions of the projects already completed, and for which mitigation is needed but has not yet occurred. Insofar as the damage to the environmental and wildlife habitat areas occasioned by the projects is occurring in the Yazoo Basin area, all mitigation activities should occur wholly in the State of Mississippi. Insofar as practicable, all mitigation should occur geographically proximate to the damage for which mitigation is sought, and should involve acquisitions of fee title or easements from willing sellers.

Recognizing the fact that any new re-evaluation will necessitate a new mitigation plan, the formulation of such should be closely coordinated with and supported by the United States Fish and Wildlife Service and the Mississippi Department of Wildlife.

4. A Sedimentation Control Plan Should be Developed and Implemented Concurrently with Construction. The Corps, in conjunction with appropriate agencies, should develop a plan to reduce the anticipated increase in sediment loads from the projects. The plan would address bank stabilization, head-cutting in tributaries and other contributors to sediment loading. The plan should also evaluate alternatives for implementation of sediment runoff controls on adjacent farm land through direct project features, ASCS or similar cost-share programs or educational programs. Funding should be sought such that the sedimentation control plan can be implemented concurrently with the projects.

5. A Permanent State Committee Should be Created to Review the Progress of the Projects. Because project construction is now scheduled to continue for another quarter century, and may involve significant additional modifications to the projects, a permanent review committee will be created supported by staff with appropriate technical expertise, to review the progress of the projects, and to allow the people of Mississippi an adequate opportunity to have input into the design and construction process.

Review should occur in advance of finalization of any proposed modification and construction, and the committee will advise the Governor and present its views as to whether any such proposed modification or construction is in the best interest of the people of Mississippi. This review process should be timed to allow the Governor and all interested parties to give appropriate input to the Congress regarding the future design and construction of the projects.



DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT SECRETARY
WASHINGTON, DC 20310-0103



15 DEC 1989

MEMORANDUM FOR THE DIRECTOR OF CIVIL WORKS

SUBJECT: Yazoo River Basin Projects

I have reviewed the recommendations regarding the Upper Yazoo, Sunflower and Backwater projects provided pursuant to my memorandum of October 14, 1988, and approve the following course of action:

- > Continue with contracts awarded and scheduled for Fiscal Years 1989 and 1990.
- > Undertake a 2-year study using Construction, General, funds to reanalyze the remaining unconstructed features in accord with the Principles and Guidelines. The purpose of this study will be to recommend a plan for finishing the flood protection works for the basin based on projected economic conditions and the environmental consequences of remaining work. The study should take as given the work that is in place or scheduled to be completed with Fiscal Year 1990 funding.

Robert W. Page
Assistant Secretary of the Army
(Civil Works)



DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT SECRETARY
WASHINGTON, DC 20310-0103



9 JAN 1989

Mr. W. Wayne Drinkwater, Jr.
Chairman
Governor's Advisory Committee
on the Yazoo Basin Projects
Post Office Box 139
Jackson, Mississippi 39205

Dear Chairman Drinkwater:

I am responding to your letter of December 15, 1988, in which you asked three questions concerning the applicability of the increased non-Federal cost sharing provisions of the Water Resources Development Act of 1986 (P.L. 99-662).

First, under current law there are two portions of the Yazoo Basin Project, the Yazoo Backwater Pumping Plant and a portion of the Rocky Bayou Project, which are subject to the increased non-Federal cost sharing provisions of P.L. 99-662. These are both separable elements of the project but were not under physical construction on April 30, 1986, the date specified in P.L. 99-662 as the last date of applicability of the previous cost sharing rules. Other projects in the Yazoo Basin are not subject to those provisions.

Second, if construction of any portions of the Yazoo Basin Project is halted or suspended pending reevaluation, and subsequently construction is resumed, cost sharing would be in accordance with existing authorization and would not be subject to the increased non-Federal cost sharing provisions of P.L. 99-662.

Third, in the case of modifications to the project or portions thereof resulting from reevaluation, the applicability of P.L. 99-662 would depend upon the nature and the extent of the modifications. If the modifications did not change the authorized project purposes or materially increase the scope of the project, new cost sharing would not apply. If, however, the reevaluation results in a change in project purposes or in a material increase in the scope of the authorized flood control benefits, the associated features would be subject to the applicable non-Federal cost sharing provisions of P.L. 99-662.

I hope this information responds to your questions and is helpful to the Advisory Committee.

Sincerely,

Robert W. Page
Assistant Secretary of the Army
(Civil Works)

LISTING OF PROJECT ITEMS OF WORK
SCHEDULED FOR FISCAL YEAR 1989
MEETING CRITERIA FOR CONSTRUCTION

<u>PROGRAM</u>	<u>WATERSHED</u>	<u>CONTRACT CONTRACT TITLE</u>	<u>AWARD</u>
BIG SUNFLOWER	STEELE BAYOU	WEIR E (SWAN LAKE)	JUN 89
BIG SUNFLOWER	STEELE BAYOU	WEIR 56 (NORTH OF LAFAYETTE)	SEP 89
BIG SUNFLOWER	STEELE BAYOU	SITES C&D WEIRS	JAN 90
YAZOO HEADWATER	TRIBUTARIES	SARDIS LOWER LAKE WEIR	APR 89
YAZOO HEADWATER	TRIBUTARIES	ROUND LAKE WATER CONTROL STRUCTURE	APR 89
YAZOO HEADWATER	TRIBUTARIES	STATE HWY 430 BRIDGE, ITEM 2, PELUCIA CREEK	MAY 89
YAZOO HEADWATER	TRIBUTARIES	ITEM 2, PELUCIA CREEK LEVEE	SEP 89
YAZOO HEADWATER	TRIBUTARIES	PELUCIA CREEK, ITEM 2 TELEPHONE LINES (2)	SEP 89
		POWER LINES (3)	SEP 89
YAZOO HEADWATER	TRIBUTARIES	ITEM 3, PELUCIA CREEK LEVEE	DEC 89
YAZOO HEADWATER	TRIBUTARIES	PELUCIA CREEK, ITEM 3 POWER LINES (4)	DEC 89
		TELEPHONE LINE	DEC 89
YAZOO HEADWATER	TRIBUTARIES	COUNTY ROAD 49E BRIDGE, ITEM 4, PELUCIA CREEK	JAN 90
YAZOO HEADWATER	TRIBUTARIES	PELUCIA CREEK, ITEM 3, COUNTY BRIDGE	DEC 89
YAZOO HEADWATER	UYP	MOSQUITO LAKE STRUCTURE, LEFLORE CO. ROAD	APR 89 (A)
YAZOO HEADWATER	MAIN STEM	BEE LAKE LEVEE CLOSURE	SEP 89
DEMONSTRATION		ALL ITEMS	
EROSION CONTROL			

LISTING OF PROJECT ITEMS OF WORK
SCHEDULED FOR FISCAL YEAR 1990
MEETING CRITERIA FOR CONSTRUCTION

<u>PROGRAM</u>	<u>CONTRACT PROJECT</u>	<u>CONTRACT TITLE</u>	<u>AWARD</u>
BIG SUNFLOWER	STEELE BAYOU	STEELE BAYOU, ITEM 66-B	JUN 90
BIG SUNFLOWER	STEELE BAYOU	PIPE ARCH STRUCTURES (SWAN LAKE)	JUL 90
BIG SUNFLOWER	STEELE BAYOU	SITE A WATER CONTROL STRUCTURE (SWAN LAKE)	SEP 90
BIG SUNFLOWER	STEELE BAYOU	SITE B WATER CONTROL STRUCTURE (SWAN LAKE)	SEP 90
YAZOO HEADWATER	TRIBUTARIES	PELUCIA CREEK, ITEM 4,	
I.C.G.R. BRIDGE		JAN 90	
YAZOO HEADWATER	TRIBUTARIES	PELUCIA CREEK, ITEM 4,	
PUMPING PLANT		MAR 90	
DEMONSTRATION		ALL ITEMS	
EROSION CONTROL			

Specifics of Action Taken

There are three items of work planned for fiscal years 1989 and 1990, that warrant some explanation of reasoning for the positions taken.

Mosquito Lake Drainage Structure

This item of work was not included on the list recommended by the Committee for continuation. Since that time, the Corps of Engineers has redesigned this structure and incorporated into it major provisions for mitigation. For this reason, it is included on the continuation list for fiscal year 1989.

Black Bayou, Item 1-A (3 projects)

This item of work will have significant impacts on both the Yazoo National Wildlife Refuge and Leroy Percy State Park. Because of the environmental sensitivity and the importance of these two natural areas, this item is not included on the continuation list and should not continue until a proper re-evaluation is completed. A plan should also be developed that includes all proposed design features through the state park and beyond.

Upper Yazoo, Item 3A-2

This item of work has also been one of much concern and controversy. As initially designed, it has met with considerable resistance by the affected land owners and has come under serious question as to its intent and benefits. Because its impacts are still of concern and because the final design and its resulting benefits or impacts need to be clarified, it is not included on the list for continuation. Once these issues have been resolved, and the Corps is in the process of accomplishing this, then it will be reviewed and considered for continuation.

Tallahatchie River Maintenance Project

This project was included in the Corps of Engineers plan of work for fiscal year 1989. In light of the recent court ruling on the Yalobusha River Maintenance Project, the Corps has indefinitely postponed this activity pending further review. For this reason, it is not included on the list of items to be continued.

1. BENSON / FEB 2/22
2. ~~PULLER~~ 2/22
3. RETURN TO DRAKE

Date: February 17, 1989

From: Refuge Manager, Yazoo NWR, Hollandale, MS

Subject: Phone conversation with Charles Potter concerning ABC news TV coverage of the Yazoo Basin Drainage Project

To: Sam O. Drake, Associate Manager, Refuges & Wildlife, FWS, Atlanta, GA

On February 17, 1989, at 1:30 P.M. CST, I received a call from Mr. Charles Potter, North American Wildlife Foundation, concerning the above subject. During our conversation, I was told that ABC/Peter Jennings would do a documentary on "Our Changing Lives"--directed toward Corps of Engineer projects in the Mississippi Delta. The documentary will question how the Yazoo Basin Project complies with President Bush's no net wetland loss.

The ABC producer for the program is Ms. Susan Aassen. My understanding is that the film crew will be here sometime between February 21 and March 3, 1989 for approximately a week.

I was also told that Mr. Mike More, State Attorney General, would be by to look at the project. Governor Ray Mabus is in the process of deciding what direction the state will go concerning the Yazoo Basin Project.

The New York Times was also supposed to print an article on the Project. They have not called yet, but I am told they will.

Tim Wilkins

° Rumor is that Director Dunkle will handle Service interview!

memorandum

DATE: March 24, 1989

REPLY TO
ATTN OF: Field Supervisor, FWE, Vicksburg, MS

SUBJECT: Governatorial Contact

TO: Regional Director, FWS, Atlanta, GA (RD)
Attention: Carol MarbuttNMB
3/28Name of Service Employees: Lee A. Barclay and Robert C. Barkley,
Vicksburg FWE Field OfficeName of Governor: Governor Ray Mabus,
Governor, MississippiTopic:

Service position regarding stopping all Corps of Engineers Work in the Yazoo Basin, Mississippi.

Description of Discussion:

Governor Mabus requested that the Service provide him with its view on stopping all Corps of Engineers work in the Yazoo Basin pending completion of a 2-year restudy. We acknowledged that there were environmentally sensitive works currently under construction, but told the Governor that for practical rather than purely biological reasons, he probably should not request that the Corps stop all work. We advised cooperation and a trade-off approach during the restudy to guide and direct the Corps' efforts for the next 25 years of construction.

We further advised the Governor that while a work stoppage request for the Upper Yazoo Basin Projects is consistent with the Service's May 20, 1988 position on those Projects, the Service probably would not support a request for a work stoppage on the Steele Bayou Project since the Corps prepared a Final EIS, the Coordination Act process has been followed, and there is authorized mitigation on Yazoo NWR for the Steele Bayou work.

Our recommendations notwithstanding, we think the Governor will request that the Corps stop all work in the Yazoo Basin in the next week or two.



Lee A. Barclay

CC:
USFWS (ARD-FWE), Atlanta, GA
USFWS (ARD-AWR), Atlanta, GA



United States Department of the Interior
FISH AND WILDLIFE SERVICE

Yazoo National Wildlife Refuge
Route 1, Box 286
Hollandale, Mississippi 38748

May 17, 1989

Mr. Burke S. Torrey
Acting Chief, Real Estate Division
U.S. Army, Corps of Engineers
P.O. Box 60
Vicksburg, Mississippi 39180-0060

Dear Mr. Torrey:

I refer to your letter dated May 2, 1989, requesting an extension of permit no. 39460 to the Vicksburg District, Corps of Engineers, covering an easement to construct Weir "E" on Yazoo National Wildlife Refuge.

Your request ask that the permit be extended to September 30, 1989. I am certain that date is in error.

This letter will serve to extend the permit to September 30, 1990.

Sincerely,

Timothy M. Wilkins
Refuge Manager

Attachment

✓ cc: Associate Manager
Atlanta, GA



UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

Yazoo National Wildlife Refuge

SPECIAL USE PERMIT

Station No. to be Credited

43680

Permit Number

39460

Date

April 4, 1988

Period of Use (inclusive)

From April 1, 1988

To September 30, 1989

Permittee Name

Vicksburg District, Corps of Engineers
P.O. Box 60
Vicksburg, Mississippi 39180

Permittee Address

Yazoo National Wildlife Refuge
Rt. 1, Box 286
Hollandale, Mississippi 38748

Purpose (specify in detail privilege requested, or units of products involved)

To grant the ~~PERMIT~~ COE an easement to construct Weir "E" on Yazoo NWR. near the mouth of Silver Lake (Main Canal). See Exhibit A. Total acreage in the work area is 8.6 acres. This will also grant access to the site as designated on the attached map (Exhibit A.)

Description (specify unit numbers; metes and bounds, or other recognizable designations)

A tract of land lying and being situated in Section 23, Township 15 North, Range 8 West, Washington County, Mississippi, containing 8.6 acres, more or less, as shown in red on the attached Plat.

Amount of fee \$ _____ if not a fixed payment, specify rate and unit of charge: Installation of two 24" pipes and risers and maintenance of the access road will be required as part of the access permit.

☐ Payment Exempt - Justification: (See special conditions)

☐ Full Payment

☒ Partial Payment - Balance of payments to be made as follows: The fair market value of the 8.6 acres will be included in the final appraisal of the 66B portion of the project. This is in compliance with the CFR Title 50 right-of-way regulations.

Record of Payments

Special Conditions

1. This permit is issued as a prerequisite to taking the necessary steps to comply with CFR Title 50 right-of-way regulations in order to be issued a permanent ROW permit for 66A & 66B.
2. All survey monuments, etc. will be replaced if disturbed.
3. The access road and drainage will be maintained or improved to eliminate ruts. This will include the installation of two pipe in the road as designated by the refuge manager.
4. No firearms are permitted. All trash or other types of litter will be removed from the refuge.

This permit is issued by the U.S. Fish and Wildlife Service and accepted by the undersigned, subjected to the terms, covenants, obligations, and reservations, expressed or implied herein, and to the conditions and requirements appearing on the reverse side.

Permittee Signature

Burke S. Torrey

Issuing Officer Signature and Title

Timothy M. Wilkins

Timothy M. Wilkins, Refuge Manager

Form 3-1383 (Rev. 6/85)

5. Failure to comply with the terms of this permit can result in its cancellation.



DEPARTMENT OF THE ARMY
VICKSBURG DISTRICT, CORPS OF ENGINEERS

P. O. BOX 60

VICKSBURG, MISSISSIPPI 39180-0060

REPLY TO
ATTENTION OF:

May 2, 1989

MAY 04 1989

Real Estate Division
Acquisition

Mr. Timothy M. Wilkins
Refuge Manager
Yazoo National Wildlife Refuge
Route 1, Box 286
Hollandale, Mississippi 38748

Dear Mr. Wilkins:

I refer to your Permit No. 39460 to the Vicksburg District, Corps of Engineers, covering an easement to construct Weir "E" on the Yazoo National Wildlife Refuge. This permit terminates on September 30, 1989.

We are requesting an extension of one year on the permit, making the expiration date September 30, 1989. This extension is needed due to the time frame of contract award and completion days needed for the contract.

Your cooperation in this matter is greatly appreciated.

Sincerely,

A handwritten signature in cursive script, reading "Burke S. Torrey", is written over the typed name.

Burke S. Torrey
Chief, Real Estate Division

NOV 1 1989

LA-Mississippi
Yazoo NWR
Corps of Engineers (M2)

Mr. Burke S. Torrey
Corps of Engineers
P.O. Box 60
Vicksburg, Mississippi 39180-0060

Dear Mr. Torrey:

This acknowledges receipt of your October 13, 1989, letter and appraisal report of the right-of-way on the Yazoo National Wildlife Refuge, Steele Bayou, Item 66-A project. Quite frankly, we were rather surprised to see that you had gone to these lengths to resolve the differences we had discussed at our July 13, 1989, meeting in Vicksburg.

We left that meeting with the understanding your staff was going to give us market data that would substantiate that the residual value of the land was something greater than \$100 per acre; and we thought we had reached a consensus that the "before value" of the subject land with its excellent waterfowl hunting and recreational amenities was approximately \$800 per acre. Our appraisal of the subject bears this out as well as other lands in the delta that we are acquiring which are very comparable.

The values presented in Mr. James V. Davis appraisal report for good waterfowl lands are not convincing. We take issue with the following points:

- (1) We disagree with Mr. Davis considering the entire property as the "parent" parcel for valuation purposes. The 12,741 acre refuge comprises about 3,883 acres of cultivating land with the balance of the area in woods, streams, lakes, roads, easements, etc. If the refuge had been offered for sale prior to the imposition of the Corp's easement, we believe it could have been readily marketed as, at least, two or three separate parcels of land. Undoubtedly wetland along Straight and Swan Lake, which encompasses the Corps' easement area, would have brought a premium price in the recreational hunting market place. Its waterfowl hunting quality (prior to the easement) was considered to be outstanding - comparable to that of some of the best duck hunting land in the State of Mississippi. In any logical marketing plan the acreage surrounding the easement area would have been offered separately from the refuge as a whole.

memorandum

DATE: February 17, 1989

REPLY TO: Acting
ATTN OF: Regional Director, FWS, Atlanta, GA (AWE/ARW)

SUBJECT: Impacts of Corps Yazoo Basin Project [sic] on Yazoo National Wildlife Refuge

TO: Director, FWS, Washington, DC (AFWE)

As requested in Mr. Moffett's recent telephone call to this office, the following information is provided concerning the Service's position on the Corps of Engineers (Corps) project currently under construction through Yazoo National Wildlife Refuge. As a point of clarification, the project that is impacting the refuge is designated the Steele Bayou Project by the Corps. It is one of many subprojects in the Yazoo River Basin.

Item No. 1 - What is the status of the Corps' work on the refuge? How far are they with mitigation, and are we satisfied?

Approximately 50 percent of the project work on refuge lands has been completed. However, channel excavation within the refuge has been slowed during the past 2 months due to high water levels.

Mitigation work is in the planning stage with the following issues being addressed:

1. The impact of a weir south of the refuge as it relates to refuge water levels and the needed capacity to drain Swan Lake management areas created by the project.
2. The elevations and functions of mitigation water control structures on the refuge. One major problem with the current design is the anticipated uncontrolled annual flooding of impoundments. If annual flooding occurs, the project will not function as desired by the Service.
3. The potential to reforest along the top of the spoil outside the planned levee.
4. The Corps accepting the cost of all maintenance for the project.

The Service and the Corps have initiated and plan to continue meetings to resolve these mitigation issues. We believe they will be resolved to our satisfaction.

Position Statement

Steele Bayou Project at Yazoo National Wildlife Refuge

Yazoo National Wildlife Refuge encompasses 12,471 acres and was established in 1936 to provide wintering waterfowl habitat. The Corps of Engineers proposed plans for constructing the Steele Bayou Project in 1964. This project will utilize about 900 acres of refuge wetlands and bottomland hardwood habitat to facilitate construction of a stream channelization project and impact about 5,000 acres of refuge oxbow lake and bottomland hardwood habitat adjacent to the project site. These flood prone areas are important to about 100,000 ducks (predominantly mallards) for feeding and resting during winter months. Also, several thousand wood ducks use the area for nesting and brood rearing habitat during spring and summer months. Other threats to the long term viability of this important wetland area include siltation and contaminants. Several feet of silt have been deposited in lower refuge oxbow lakes and bottomland hardwoods originating from erosion of privately owned agricultural lands within the refuge watershed. Also, accumulations of pesticides from past agricultural practices are limiting use of refuge wetlands by some species of fish, amphibians, and other aquatic vertebrates.

The Fish and Wildlife Service has been providing input to the Corps relative to impacts the channelization project will have on fish and wildlife resources. Features that must be included in the project to mitigate and compensate for any anticipated loss of fish and wildlife habitat on refuge lands have been incorporated into the project. This was done consistent with provisions of the Fish and Wildlife Coordination Act and the National Wildlife Refuge Administration Act.

On July 30, 1982, the Corps began construction activities at Yazoo National Wildlife Refuge and work has been continuing since that date. Various phases of the project have caused concern among local citizens, national outdoor writers, and most recently The Wilderness Society.

The Service supports the Corps' Steele Bayou Project on Yazoo National Wildlife Refuge consistent with agreements between the agencies. The Corps agreed to compensate the Service fair market value for refuge lands used to construct the project and to mitigate fish and wildlife habitat losses and adverse impacts in a timely manner. The project can be accomplished as planned and be compatible with the refuge's primary purpose (waterfowl management). The mitigation features of constructing levees and water control structures to create three impoundments in Swan Lake and one impoundment in Straight Lake will provide improved

habitat for fish and wildlife resources, especially for wood ducks and mallards. When completed, the Steele Bayou channel will transport silt and pesticide laden waters around, rather than through, refuge wetlands. A weir structure at Black Bayou will enable the Service to replenish water in the wetlands when water quality conditions are most favorable. This will reduce the threats of silt and contaminants to the refuge.

The Service recognizes both the pros and cons associated with the Steele Bayou Project. Mitigation features have not been funded and constructed commensurate with the first two construction phases by the Corps. If necessary, the Service will deny issuance of a special use permit for construction of the final portion of channel on the refuge until the agreed upon mitigation work is implemented.

(3pg)

Date: February 17, 1989

From: Refuge Manager, Yazoo NWR, Hollandale, MS

Subject: Phone conversation with Charles Potter concerning ABC news TV coverage of the Yazoo Basin Drainage Project

To: Associate Manager, Refuges & Wildlife, FWS, Atlanta, GA

On February 17, 1989, at 1:30 P.M. CST, I received a call from Mr. Charles Potter, North American Wildlife Foundation, concerning the above subject. During our conversation, I was told that ABC/Peter Jennings would do a documentary on "Our Changing Lives"--directed toward Corps of Engineer projects in the Mississippi Delta. The documentary will question how the Yazoo Basin Project complies with President Bush's no net wetland loss.

The ABC producer for the program is Ms. Susan Aassen. My understanding is that the film crew will be here sometime between February 21 and March 3, 1989 for approximately a week.

I was also told that Mr. Mike Moore, State Attorney General, would be by to look at the project. Governor Ray Mabus is in the process of deciding what direction the state will go concerning the Yazoo Basin Project.

The New York Times was also supposed to print an article on the Project. They have not called yet, but I am told they will.


Tim Wilkins

Date: February 9, 1989

From: Refuge Manager, Yazoo NWR, Hollandale, MS

Subject: Steele Bayou Project Update

To: Associate Manager, Refuges & Wildlife, FWS, Atlanta, GA

Question #1 - Status of work, etc.?

The work on 66A has been slowed during the past two months due to high water levels. Currently dredging has been completed to within 2.6 miles of the north end of 66A, approximately 5.1 miles complete.

Mitigation work is still in the planning stages. Several questions concerning project design are in the process of being answered. These questions concern:

- 1.) The impact of the weir south of the refuge as it relates to refuge water levels and the capacity to drain Swan Lake management areas created by the project.
- 2.) Elevations and functions of mitigation water control structures on the refuge. One major problem with the current design is the anticipated uncontrolled annual flooding of impoundments. If annual flooding occurs, the project will not function as desired by the FWS.
- 3.) The potential to reforest the spoil outside the planned levee construction along the top of the spoil.
- 4.) The cost of all maintenance for the project should be the Corp of Engineers responsibility.

Final mitigation plans will depend on the answer to these questions.

Currently there is no mitigation in progress. Vicksburg ES staff and refuge staff met with Colonel Frances R. Skidmore and staff of the Vicksburg COE to discuss progress and schedules. The first meeting was held on December 14, 1988. Another is planned in February. These meetings should prove to be a very positive approach to solving problems. The first meeting resulted in a much better understanding of the project from the refuge side. One that some COE branches had not been exposed to.

Currently, I am satisfied with the COE's attempt to work with the FWS to accomplish refuge mitigation.

Question #2 - Independent view of project?

I feel the independent view of the project was discussed accurately in my memo dated October 27, 1988, and the position statement "Steele Bayou Project at Yazoo National Wildlife Refuge" developed in November.

Since the above mentioned correspondence was completed, I have learned that the weir as designed in Compartment #2 on the east side of the lake-bed will allow uncontrolled flooding of the compartment annually. This is not acceptable and is one of the topics to be answered by the COE when they respond to the January, 1989, memo from the Vicksburg ES office.

This is the only topic that I can recall which would lend itself to be interpreted by Mr. Charles Potter as my being "concerned" about the project. I have said and will continue to say that the project must now be completed to salvage the valuable habitat in Swan Lake Bed. This 5,000 acres of wetland does not need to be drained!

Question #3 - Recommendations?

I recommend that the project continue as directed by the FWS with any changes needed to make it compatible with refuge management goals. Questions concerning project designs, etc. are being answered now. Meetings with COE staff will continue. Bi-monthly project update meetings will be held with COE Branch Chiefs and the Colonel and FWS staff. These meetings will allow all concerns to be discussed and solutions found.

I will have Robert Barkley forward you a copy of the memo to the COE addressing specific concerns of the project as it relates to Yazoo NWR.


Tim Wilkins

memorandum

(4pg)

DATE: February 17, 1989
Acting
REPLY TO: Regional Director, FWS, Atlanta, GA (AWE/ARW)
ATTN OF:
SUBJECT: Impacts of Corps Yazoo Basin Project [sic] on Yazoo National
Wildlife Refuge
TO: Director, FWS, Washington, DC (AFWE)

As requested in Mr. Moffett's recent telephone call to this office, the following information is provided concerning the Service's position on the Corps of Engineers (Corps) project currently under construction through Yazoo National Wildlife Refuge. As a point of clarification, the project that is impacting the refuge is designated the Steele Bayou Project by the Corps. It is one of many subprojects in the Yazoo River Basin.

Item No. 1 - What is the status of the Corps' work on the refuge? How far are they with mitigation, and are we satisfied?

Approximately 50 percent of the project work on refuge lands has been completed. However, channel excavation within the refuge has been slowed during the past 2 months due to high water levels.

Mitigation work is in the planning stage with the following issues being addressed:

1. The impact of a weir south of the refuge as it relates to refuge water levels and the needed capacity to drain Swan Lake management areas created by the project.
2. The elevations and functions of mitigation water control structures on the refuge. One major problem with the current design is the anticipated uncontrolled annual flooding of impoundments. If annual flooding occurs, the project will not function as desired by the Service.
3. The potential to reforest along the top of the spoil outside the planned levee.
4. The Corps accepting the cost of all maintenance for the project.

The Service and the Corps have initiated and plan to continue meetings to resolve these mitigation issues. We believe they will be resolved to our satisfaction.

Item No. 2 - Independent view of project from Refuges and Wildlife.

The Refuges and Wildlife (ARW) view of the project was discussed accurately in the position statement "Steele Bayou Project at Yazoo National Wildlife Refuge" developed in November (see attachment).

Since this document was completed, we have learned that the weir as designed in Compartment No. 2 on the east side of the lakebed will allow uncontrolled flooding of the compartment annually. This is not acceptable and is one of the issues to be resolved with the Corps.

Item No. 3 - Independent view of project from Fish and Wildlife Enhancement.

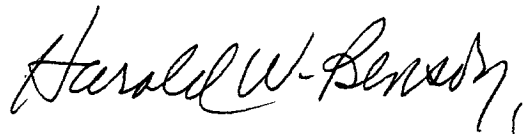
Fish and Wildlife Enhancement (AWE) has reviewed the project impacts on refuge lands with concern owing to channelization of 9 miles of Steele Bayou and destruction of about 750 acres of bottomland hardwood wetlands. However, they are satisfied with the \$6 million mitigation plan comprised of levees, weirs, and water control structures that will improve water level management on the refuge. In addition, waters in Steele Bayou which presently carry high concentrations of pesticides will be diverted away from the refuge as necessary to improve water quality.

Item No. 4 - Recommendations for changes or improvements.

AWE - We are insisting that the Corps mitigation plan be implemented concurrently with project construction.

ARW - We recommend that the project continue as directed by the Service. Questions concerning project designs and other issues are being addressed at bimonthly project update meetings with the Corps. We believe these meetings will allow all concerns to be discussed and solutions found.

If you have further questions on the Steele Bayou Project, please contact Sam Drake at FTS 242-3538 or commercial 404/331-3538.



Attachment

cc:
Refuge Manager, Yazoo NWR, MS
Vicksburg Field Office, Vicksburg, MS
Associate Manager (RF-1)

Position Statement

Steele Bayou Project at Yazoo National Wildlife Refuge

Yazoo National Wildlife Refuge encompasses 12,471 acres and was established in 1936 to provide wintering waterfowl habitat. The Corps of Engineers proposed plans for constructing the Steele Bayou Project in 1964. This project will utilize about 900 acres of refuge wetlands and bottomland hardwood habitat to facilitate construction of a stream channelization project and impact about 5,000 acres of refuge oxbow lake and bottomland hardwood habitat adjacent to the project site. These flood prone areas are important to about 100,000 ducks (predominantly mallards) for feeding and resting during winter months. Also, several thousand wood ducks use the area for nesting and brood rearing habitat during spring and summer months. Other threats to the long term viability of this important wetland area include siltation and contaminants. Several feet of silt have been deposited in lower refuge oxbow lakes and bottomland hardwoods originating from erosion of privately owned agricultural lands within the refuge watershed. Also, accumulations of pesticides from past agricultural practices are limiting use of refuge wetlands by some species of fish, amphibians, and other aquatic vertebrates.

The Fish and Wildlife Service has been providing input to the Corps relative to impacts the channelization project will have on fish and wildlife resources. Features that must be included in the project to mitigate and compensate for any anticipated loss of fish and wildlife habitat on refuge lands have been incorporated into the project. This was done consistent with provisions of the Fish and Wildlife Coordination Act and the National Wildlife Refuge Administration Act.

On July 30, 1982, the Corps began construction activities at Yazoo National Wildlife Refuge and work has been continuing since that date. Various phases of the project have caused concern among local citizens, national outdoor writers, and most recently The Wilderness Society.

The Service supports the Corps' Steele Bayou Project on Yazoo National Wildlife Refuge consistent with agreements between the agencies. The Corps agreed to compensate the Service fair market value for refuge lands used to construct the project and to mitigate fish and wildlife habitat losses and adverse impacts in a timely manner. The project can be accomplished as planned and be compatible with the refuge's primary purpose (waterfowl management). The mitigation features of constructing levees and water control structures to create three impoundments in Swan Lake and one impoundment in Straight Lake will provide improved

habitat for fish and wildlife resources, especially for wood ducks and mallards. When completed, the Steele Bayou channel will transport silt and pesticide laden waters around, rather than through, refuge wetlands. A weir structure at Black Bayou will enable the Service to replenish water in the wetlands when water quality conditions are most favorable. This will reduce the threats of silt and contaminants to the refuge.

The Service recognizes both the pros and cons associated with the Steele Bayou Project. Mitigation features have not been funded and constructed commensurate with the first two construction phases by the Corps. If necessary, the Service will deny issuance of a special use permit for construction of the final portion of channel on the refuge until the agreed upon mitigation work is implemented.

4pg

UNITED STATES GOVERNMENT

memorandum

DATE: October 27, 1988

REPLY TO
ATTN OF:

Refuge Manager, Yazoo NWR, Hollandale, MS

SUBJECT:

History of Corps of Engineers Activity on Yazoo NWR
and Position Statement

TO:

Regional Director, FWS, Atlanta, GA

Files for the Corps of Engineers (COE) Steele Bayou Project as it relates to Yazoo NWR date back to April 24, 1964. Anticipated impacts of this channelization project on refuge resources have been evaluated and discussed for many years. Planned COE activity will occur along a 10-mile stretch on the east side of the refuge and directly impact approximately 900 acres of refuge lands. Construction on the refuge will be in three segments; 55A, 66A, and 66B.

Actual COE construction activity on refuge lands began on July 30, 1982, when a crew moved in to clear all trees from the 55A right-of-way (ROW). This was completed in late August 1982, and during February 1984, dirt-moving equipment began work. Project 55A was completed in late December 1984, and channelization removed a bottleneck in the drainage system which now allows refuge wetlands to drain much faster (within 2 weeks instead of 2 months) following heavy rainfall within the watershed. The impacted wetlands encompass about 5,000 acres of bottomland hardwoods and is important as a resting and roosting area for wintering waterfowl--primarily wood ducks and mallards.

The COE paid the Service \$148,500 (fair market value) for the 197 acres of land and timber within the 1.8 mile 55A ROW. This money continues to be used for reforestation projects on Yazoo NWR which to date have resulted in planting of 1,034 acres to bottomland hardwoods by the refuge staff. The COE also constructed wingwalls on four water control structures, installed a 60'x48" pipe and 9'x72" riser in greentree reservoir #1, and cleaned out the Deer Lake drain to improve waterfowl habitat management capabilities. The COE hoped this would be mitigation for the entire project, but the Service considered it payment only for Service lands used in the 55A project.

"Safe ... The Only Sound Way To Work!"



DEPARTMENT OF THE ARMY
VICKSBURG DISTRICT, CORPS OF ENGINEERS

P. O. BOX 60

VICKSBURG, MISSISSIPPI 39180-0060

REPLY TO
ATTENTION OF:

March 31, 1988

Engineering Division
Project Management

Mr. Robert Barkley
Acting Field Supervisor
Fish and Wildlife Service
900 Clay Street, Room 235
Vicksburg, Mississippi 39180

Dear Mr. Barkley:

I refer to the meetings on February 9 and 24, 1988, between you and members of my staff during which you requested current information regarding our proposed construction plans for the portion of the Steele Bayou Project within the Yazoo National Wildlife Refuge.

Enclosure 1 is an aerial photographic mosaic of the refuge which contains a superimposed delineation of the project's construction features within the refuge. The depicted right-of-way limits for Items 55A and 66A represent what was actually obtained for construction of those items. The dimensions of construction features shown for Item 66B, Black Bayou, and Main Canal represent preliminary design information. The structures at Site A and Site B Weirs will be constructed within the existing right-of-way for the placement of the to-be-dredged material from the channel. The weirs at Sites C, D, and E would require the estimated rights-of-way shown on enclosure 1.

Enclosure 2 is a table which lists proposed completion dates for plans and specifications and construction periods for each project construction feature within the refuge. These schedules are contingent upon sustained adequate funding and designing capability. The President's budget for Fiscal Year 1989 will allow us to begin construction on Site C and Site D water control structures during that year; design of these structures is in progress.

Based on the discussions at the February 24, 1988, meeting, you requested that the following items be incorporated into the construction plan for the refuge area:

a. Purchasing and installing two 24-inch-diameter corrugated metal pipes with flashboard risers beneath future access road to Weir E.

b. Purchasing and installing replacement for 36-inch-diameter corrugated metal pipe with gated control at Silver Lake, about 1/4 mile upstream of Weir E (to be accomplished as a part of first item of work on Main Canal).

c. Providing top to bottom water control at Weir C and Weir D.

d. Relocating the outlet ditch at the easternmost Silver Lake drainage structure.

e. Assisting in providing convenient access to the levee system and cross dikes within the refuge area.

Our preliminary evaluation of these items indicates that they are reasonable and acceptable modifications or additions to the project.

I trust that the above information satisfies your immediate concerns regarding the additional project features to the extent that you can now grant us a permit for construction of Weir E. As shown on the enclosed schedule, we are planning to award a construction contract on Site E Weir this month. Your prompt consideration of this matter is requested in light of this schedule.

I hope this information has been helpful. Please let me know if I can be of further assistance.

Sincerely,

Francis R. Skidmore
Colonel, Corps of Engineers
District Engineer

Enclosures

Copies Furnished:

✓ **Mr. Timothy Wilkins (with enclosures)**
Refuge Manager
Yazoo National Wildlife Refuge
Route 1, Box 286
Hollandale, Mississippi 38748

Mr. Alan C. Bansack (without enclosure 1)
Senior Realty Officer
Fish and Wildlife Service
75 Spring Street, S.W.
Atlanta, Georgia 30303



DEPARTMENT OF THE ARMY
VICKSBURG DISTRICT, CORPS OF ENGINEERS

P. O. BOX 60

VICKSBURG, MISSISSIPPI 39180-0060

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Yazoo National Wildlife Refuge
Route 1, Box 286
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Mr. Alan C. Bansack (without enclosure 1)
Senior Realty Officer
Fish and Wildlife Service
75 Spring Street, S.W.
Atlanta, Georgia 30303

STEELE BAYOU BASIN
SWAN LAKE AREA
(SCHEDULE AS OF 15 MARCH 1988)

<u>Construction Features</u>	<u>Plans and Specifications Complete</u>	<u>Construction Initiate</u>	<u>Schedule Complete</u>
Weir E	N/A	Mar 88	Mar 89
Black Bayou Item 1A (Miles 0.0 - 2.2 and includes construction of base for Cross- dikes 3 and 4 working platform for Item 66B channel construction)	Feb 89	Aug 89	Aug 91
Steele Bayou Item 66B (Includes excavation of channel)	Jan 90	Jun 90	Jun 92
Main Canal, Item 1	Apr 91	Oct 91	Dec 93
Silver Lake Drainage Structures and Closure	Dec 89	Apr 90	Dec 90
Site C and Site D Water Control Structures	Dec 89	Apr 89	Dec 89
Site B Water Control Structure and Dike 2	Sep 89	Jan 90	Dec 90
Site A Water Control Structure	Sep 89	Jan 90	Sep 90
Swan Lake Levee and Dike Caps (2, 3, 4)	N/A	(Future work as soil conditions permit)	

Enclosure 2

Position Statement

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Executive News Svc.

APn 10/27 2027 Endangered Refuges

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By GUY DARST Associated Press Writer

WASHINGTON (AP) -- Denouncing what it called "one of the great scandals of American conservation," the Wilderness Society on Thursday chose 10 national wildlife refuges as most endangered to spotlight threats to the refuge system.

"These 10 refuges are just the tip of the iceberg," said George Frampton, president of the society. "From Florida to Alaska the refuge system is threatened by poisonous agricultural runoff containing heavy metals, toxic chemicals and pesticides; by wetlands drainage and water diversion; by overcrowding and off-road vehicles; by oil drilling and other incompatible activities."

A report from the society describing the 10 said, "Without prompt action, some of them may die."

In no particular order, these are the 10 most threatened: National Key Deer in the western Florida Keys; Loxahatchee in Florida's Everglades swamp; Stillwater near Reno, Nev.; Chincoteague on the Virginia coast; Yazoo in Mississippi; Arctic on Alaska's North Slope; Lower Rio Grande, Texas; Kesterson in California's San Joaquin Valley; Upper Mississippi River along the Wisconsin, Iowa, Minnesota and Illinois shores of the river; and Great Swamp in New Jersey, 25 miles from Manhattan.

Kesterson is so contaminated by irrigation runoff that many ducks stopping there are killed, and most of the staff's time is spent trying to keep waterfowl from landing. The society described the refuge as "in a coma."

Frampton said the 445 refuges managed by the Fish and Wildlife Service have taken a back seat to the national parks, which have major legislation spelling out protections, a huge supporting constituency derived from 300 million annual visitors and a history of being carved out of the wilderness decades ago.

"By contrast, many of our refuges are mere remnants -- designated during development projects as a sop to environmentalists to protect the few remaining fragments of habitat within a much greater area destroyed," Frampton said.

The society called on Congress to spell out goals and philosophy of the system, something no statute now does, to appropriate more money for land purchase and for the service to use more of its funds for protection and less for bureaucratic overhead.

Also, the service must do more to protect water quality, and should renegotiate agreements with landowners, often other federal or state agencies, "so that refuge managers have more control over the quality of the habitat. ... In many cases, the best solution is probably to transfer title to the Fish and Wildlife Service."

"All of these threats are man-caused," Frampton said. "Almost all of them could be mitigated or controlled by intelligent management."

Frank Dunkle, director of the Fish and Wildlife Service, said in a statement: "The situations cited by the Wilderness Society are not new, nor are they being ignored. The society seems to think we can build a moat around each of our 445 refuges to protect them from pollution and other external threats. Unfortunately, that just is not possible."

"I wish, however, the society had given us and the Congress more credit for what we are doing to combat the problems identified in the report."

The society said these refuges didn't make the top 10 but had serious problems anyway: Fallon, Nevada; Bowdoin, Montana; Hakalau Forest, Hawaii; Upper Souris and J. Clark Salyer, North Dakota; Ouray, Wyoming; Kenai, Alaska; and Tule Lake, California.



NEWS

THE WILDERNESS SOCIETY

1400 EYE STREET, NW, WASHINGTON, D.C. 20005 (202) 842-3400

*RD wants a reply -
Begin to draft.*

Contacts: Ben Beach (202-842-3400)
John Castagna (same)

Embargoed - for release in P.M. papers, Thursday October 27, 1988

WILDERNESS SOCIETY NAMES TEN MOST ENDANGERED NATIONAL WILDLIFE REFUGES

WASHINGTON, Oct. 27--Sanctuaries from the Florida Keys to the coast of the Arctic Ocean are among the ten most endangered national wildlife refuges listed in a report issued today by The Wilderness Society.

National refuges are faced with a host of problems, the report concludes, including water projects, off-road vehicles (ORV's), toxic chemicals such as selenium and mercury from agriculture and mine runoff, oil drilling, and low-altitude practice bombing runs by the military.

"Some of these places are refuges in name only," said George T. Frampton, Jr., the group's president. "Many no longer offer wildlife the basics that they need to live, and some of the refuges actually are killing the animals that use them."

The ten national refuges that face the gravest threats, according to the report, are Stillwater (Nevada), National Key Deer (Florida), Kesterson (California), Yazoo (Mississippi),

Arctic (Alaska), Upper Mississippi (Wisconsin, Minnesota, Illinois, Iowa), Chincoteague (Virginia), Loxahatchee (Florida), Great Swamp (New Jersey) and Lower Rio Grande (Texas). The ten were not ranked in any particular order.

There are 445 national wildlife refuges coast to coast, administered by the U.S. Fish and Wildlife Service, which is part of the Interior Department.

In addition to naming the ten most endangered national refuges, The Society identified others that face severe threats: Hakalau (Hawaii), Tule Lake (California), Ouray (Utah), Upper Souris and J. Clark Salyer (North Dakota), Fallon (Nevada), Kenai (Alaska), and Bowdoin (Montana).

A 1982 draft report by the Fish and Wildlife Service identified 6,956 threats to individual refuges and warned that much protected habitat and wildlife was at risk. In preparing the final version of that report, supervising officials changed the word "threats" to "problems" and cut out the warning entirely.

"It seems that the Reagan administration just can't be bothered", Frampton said. "In fact, the administration's greatest concern about the refuges is not how well they are protecting wildlife but how much money can be made off them," Frampton charged. "The number-one refuge priority for Secretary Hodel has been to open up the Arctic Refuge to the oil industry. That isn't stewardship."

To begin to redress the myriad problems facing the refuges, The Wilderness Society today urged adoption of a five-point plan: 1) stricter regulation of poisonous agricultural runoff, 2) stepped up acquisition of lands adjoining existing refuge lands to provide needed wildlife habitat, 3) reordered budget priorities so that a higher percentage of limited refuge funds goes to resource protection, 4) passage of an organic act to set out a clearer philosophy and set a long-term goal for the system, and 5) renegotiation of the cooperative agreements governing many refuges so that the Fish and Wildlife Service gains sufficient authority.

"We will urge the next administration to reverse the steady deterioration of the refuge system," the report said. "Without prompt action, some refuges may die. Kesterson [in California], once a vital spot along the Pacific Flyway but now best known for its dead and deformed birds is, in effect, in a coma..."

The Wilderness Society, founded in 1935, is a 226,000 member group that works to conserve the nation's public lands.

The Wilderness Society's

TEN MOST ENDANGERED NATIONAL WILDLIFE REFUGES

*"ref-uge 1: shelter or protection from danger or
distress 2: a place that provides shelter or protection"*
Webster's Dictionary



INTRODUCTION

Today many of our 445 national wildlife refuges are refuges in name only. Migrating waterfowl are landing in poisoned marshes, development is destroying vital wetlands, and dams and irrigation projects are choking off essential sources of water. At one, Kesterson National Wildlife Refuge in California, waterfowl are so threatened by contaminants that the refuge now spends much of its energy trying to scare away wildlife.

This report identifies ten refuges that we consider most endangered. Without prompt action, some of them may die. Kesterson, once a vital spot along the Pacific Flyway, is in effect, in a coma, and is unlikely to revive unless the U.S. Bureau of Reclamation is forced to clean up the mess it created. The ten, which are not listed in any particular order, are:

→ ☐ National Key Deer Wildlife Refuge (Florida), where as much as 20 percent of the endangered Key deer population is killed by cars each year;

☐ Stillwater National Wildlife Refuge (Nevada), an important stop for migrating birds, where toxic agricultural runoff threatens fish and waterfowl;

☐ Chincoteague National Wildlife Refuge (Virginia), where soaring numbers of beachgoers, some in off-road vehicles, threaten areas vital to endangered shorebirds;

→ ☐ Yazoo National Wildlife Refuge (Mississippi), where the largest drainage project in American history is threatening further damage to already troubled waterfowl wintering grounds;

☐ Arctic National Wildlife Refuge (Alaska), where proposed oil development would destroy a unique wilderness vital to polar bears, an international caribou herd, and other wildlife;

☐ Lower Rio Grande National Wildlife Refuge (Texas), an international biological crossroads, where a battle against shrinking habitat is now becoming even more difficult because of an enormous proposed resort;

☐ Kesterson National Wildlife Refuge (California), now officially closed, where wildlife horrors earned Kesterson a reputation as "the Three Mile Island of irrigated agriculture";

☐ Upper Mississippi River National Wildlife and Fish Refuge (Minnesota, Wisconsin, Iowa, and Illinois), a sprawling unit imperiled by polluted agricultural wastewater, sedimentation, and inappropriate public use;

→ ☐ Loxahatchee National Wildlife Refuge (Florida), a remnant of the northern Everglades natural system, where a complex of dikes and levees has disturbed waterflow and where now a waste disposal plant for a bordering tract is on the drawing board, and

☐ Great Swamp National Wildlife Refuge (New Jersey), only 26 miles from Times Square, which is on the receiving end of polluted runoff from a fast-growing suburban area.

Because so many refuges are seriously threatened, selecting the ten that are in the deepest trouble was not easy. Compounding the difficulty was the very limited amount of research carried out by the U.S. Fish and Wildlife Service, the Interior Department agency that oversees the refuges.

These actions are robbing the nation's beleaguered wildlife of habitat. More and more wildlife is becoming homeless every day, and eventually will perish.

To make it clear that the problems are not limited to the ten on our list, this report identifies several other national wildlife refuges that are especially threatened. They are Hakalau Forest (Hawaii), Fallon (Nevada), J. Clark Salyer and Upper Souris (North Dakota), Ouray (Utah), Kenai (Alaska), Bowdoin (Montana), and Tule Lake (California). Still more could easily be added to this short list.

The first official acknowledgement of a serious system-wide problem came in August, 1982. A draft report by the Fish and Wildlife Service identified 6,956 threats to the individual refuges' natural resources. "These threats will continue to degrade certain fish and wildlife resources," the report said, "until such time as mitigation measures are implemented. In some cases, this degradation or loss of resource is irreversible. It represents a sacrifice by a public that, for the most part, is unaware that such a price is being paid."

But those sentences never appeared in the final report. Nor did the word "threats," which was changed to "resource problems" or simply "problems." Political appointees at the Reagan Interior Department did not want to heighten concern about the health of the refuges because their goal was to step up commercial activities on refuge lands. Twice, memos went from headquarters in Washington to the field urging managers to suggest how they could "expand economic uses in such areas as grazing, haying, farming, timber harvesting, trapping, oil and gas extraction, small hydroelectric generation, concessions, commercial hunting and fishing guides, guided interpretive tours, and commercial fishing." Interior Secretary James Watt tried to open up four million acres to oil and gas leasing, and his successors have made drilling the coastal plain of the Arctic Refuge their highest refuge priority.

These actions are robbing the nation's beleaguered wildlife of habitat. More and more wildlife is becoming homeless every day, and eventually will perish. The stakes are particularly high for endangered species, whose survival is one of the refuges' primary goals. Congress reauthorized the Endangered Species Act last month, but no matter how many species are put on the list and how many recovery plans are devised for them, they have no hope of surviving unless there are places for them to feed, breed, and rest.

A quarter-century after Rachel Caron's *Silent Spring* warned us of the toll taken by pesticides, we should no longer be knowingly poisoning wildlife.

The seriousness of habitat loss in this country is especially obvious this fall. The annual southern migration of ducks is expected to include only 66 million birds, down from the 100 million levels of the 1970s. The population decline is so dramatic that the Fish and Wildlife Service has reduced the number of hunting days by 25 percent and cut bag limits from four to three in most parts of the country.

The plummeting duck population is probably due mostly to shrinking breeding habitat in the Dakotas and southern Canada. This country's wetlands now cover less than half the acreage they did in colonial times, and we are losing nearly a half million acres a year. By allowing the poisoning and draining of wetlands supposedly protected by inclusion in the national wildlife refuge system, we are making a bad situation even worse.

There is no doubt that the system is now at the low point of its 85-year history. The system dates back to 1903, when President Theodore Roosevelt preserved three acres on a tiny island off Florida's east coast. His goal was the protection of a home for brown pelicans, egrets, and herons. That act, the product of a campaign led mostly by sportsmen, marked the birth of Pelican Island National Wildlife Refuge and of a system that today is home to more than 700 species of birds, and hundreds more of mammals, reptiles, and amphibians—and even greater varieties of fish and plants. The refuges, which can be found in every state but West Virginia, include 90 million acres.

Most Americans will find the names on our list unfamiliar. The refuges are not famous vacation destinations like their cousins, the national parks. Part of the problem is what former Interior Secretary Cecil Andrus, now Governor of Idaho, called the Fish and Wildlife Service's "commitment to anonymity." If Americans knew more about their national wildlife refuges, they would tolerate much less abuse of these sanctuaries.

To ease the threats facing the national wildlife refuges, we propose a five-point plan:

- 1) Congress should pass an organic act that would spell out the goal and philosophy of the national wildlife refuge system. The other three federal land systems (national parks, national forests, Bureau of Land Management areas) have such laws, but the refuge system has only the muddled Refuge Administration Act of 1966. The organic act should state clearly that these units exist to guarantee healthy habitat for wildlife and should not be open to commercial activities unless there is clear evidence that they would not harm the refuge's wildlife and their habitats.

- 2) The U.S. Fish and Wildlife Service needs to get more of its very limited funds to the individual refuges for use in resource protection. Overhead has been rising much more quickly than the agency's budget. Too much of what little money reaches the refuges is spent on recurring maintenance and too little on biological programs. In fact, it sometimes has seemed that the Sacramento Bee, United Press International, and other news organizations are trying harder than the Fish and Wildlife Service to learn the extent of the problems on the refuges.

3) Federal and state authorities must prevent degradation of refuge waters. A 1977 amendment to the Clean Water Act exempted irrigation drainwater from discharge permit requirements. However, these sources and others are often the basic cause of refuge water contamination. A quarter-century after Rachel Carson's *Silent Spring* warned us of the toll taken by pesticides, we should no longer be knowingly poisoning wildlife.

4) Land acquisition must be stepped up. Private parcels in and around small refuges, which have been authorized by Congress for purchase, are not being acquired because of the low level of appropriations from the Land and Water Conservation Fund. Fed mostly by offshore oil royalties, the fund is the largest source of money for the purchase of wildlife refuge lands. Delaying all such purchases, as proposed by the Reagan administration, only increases the prices that eventually will have to be paid—if the lands are not developed first. The most promising solution is the American Heritage Trust Act, which would supersede the Land and Water Conservation Fund and guarantee a significant annual investment. Such a trust fund was the number-one recommendation last year of the President's Commission on Americans Outdoors.

5) The Fish and Wildlife Service ought to renegotiate cooperative agreements governing many refuges so that refuge managers have more control over the quality of the habitat. If all or most of the important management decisions are made by state bodies and by other federal agencies, the impact on wildlife receives limited consideration. In many cases, the best solution is probably to transfer title to the Fish and Wildlife Service.

We will urge the next administration to reverse the steady deterioration of the refuge system and to start by adopting this plan. The new Interior Secretary and other appointees responsible for managing the refuges should go to Kesterson, Stillwater, and other damaged refuges and see them as loud-and-clear warnings of what could follow. They should go to the Arctic Refuge and ask themselves whether future generations would agree that oil drilling on the coastal plain, which might provide two percent of our oil needs, is wise.

Noted author John G. Mitchell once described the creation of the national wildlife refuge system as "a kind of monument to human repentance." The time has come to recapture the spirit that inspired Theodore Roosevelt to start designating these necessary sanctuaries. We are responsible for the threats that imperil so many of our fellow creatures, and only we have the ability to save them.

NATIONAL KEY DEER WILDLIFE REFUGE

Florida

Refuge sources: Deborah Holle, refuge manager
(305-872-2239)

Other sources: Jim Webb, Florida regional director, The
Wilderness Society (305-448-3636)

THREATS

Roadkill:

In a single year, as many as 20 percent of the Key deer are killed by cars on U.S. 1 and state roads. In 1947 there were fewer than 50 of these animals. After the refuge was established, the population increased, peaking at 350 to 400 in 1978. Unfortunately, the population has begun to decline again. Last year 52 deer were run over, including ten pregnant or lactating does, and there are now fewer than 300 left. The road network and traffic volume in areas inhabited by the deer are constantly expanding, and local authorities support road construction that will increase habitat loss, traffic—and deer mortality.

Urban development:

Increasing traffic is part of the larger problem of urban development. Poorly planned commercial and residential construction continues to gobble up lands vital to a healthy deer population and critical to the ecological integrity of the refuge.

Dogs:

Free-running dogs owned by residents and tourists maul the deer, including healthy bucks and pregnant does.

Deteriorating water quality:

Inadequately treated domestic waste is polluting refuge waters.

Location: 15 of the western Florida Keys

Established: 1957

Size: 7,549 acres (including lands under option)

Wildlife: Several endangered species, including the Key deer, bald eagle, manatee, and peregrine falcon, plus the alligator, great white heron, osprey, and 250 other bird species

Features: Consisting of tracts on 15 of the Florida Keys, this refuge was created to prevent extinction of the tiny Key deer, a white-tail that stands only 27 inches high at the shoulder and was one of the first additions to the Endangered Species List. The refuge also is important to the survival of other wildlife and harbors about 450 plant species, including the endangered Key tree cactus.

Drainage ditch problems:

Drainage ditches, which are remnants of mosquito control programs, imperil the deer's fresh water supplies during dry periods. Because they are deep and have steep sides, they commonly lead to fawn drownings.

Unmanaged boating:

Noise and other disturbances caused by unmanaged boat use, mainly due to uncontrolled access to the refuge, threaten the feeding and nesting of wading birds and other wildlife.

RECOMMENDATIONS

Step up land acquisition:

The only certain way to prevent the loss of additional habitat is to buy available lands important to the Key deer. Acquisition costs increase with the pressure of development, so delay is expensive. For FY89, Congress appropriated \$3 million from the Land and Water Conservation Fund, but that will protect only 300 more acres. Federal funding must increase to permit prompt purchase of undeveloped lands. Meantime, vital conservation acquisitions by private parties and the state in and around the refuge should continue.

Involvement in local planning should increase:

Development decisions affecting the refuge are made at the local level. The U.S. Fish and Wildlife Service badly needs to take a more active role in insuring that local planning decisions reflect the needs of the refuge and its wildlife.

Increase research and public education:

Research on threats posed by encroachment on the refuge and its wildlife, and on appropriate responses to those problems, must be accelerated. The findings then should be used to guide federal, state, and local decisions. Educating residents and visitors calls for special programs and the building of a

properly staffed visitor center. The center would provide interpretation of the unique aspects of the Keys, National Key deer Refuge, and the other three refuge units administered in the Keys.

Make structural modifications:

The "mosquito ditches" on the refuge should be filled as soon as possible, and those elsewhere should be modified so that fawns do not get trapped. Structures and programs to separate the deer and traffic should be put in place.

Designate critical habitat:

Under the Endangered Species Act, the Secretary of Interior is empowered to designate certain habitat critical to an endangered species, and thus trigger added protection. The need to take this step for the Key deer is clear, but the department has long neglected its duty to do this.

Step up enforcement:

Local agencies need federal funds for enhanced control over speeders, dogs, and roadway access. The refuge's enforcement staff needs to grow in order to help with these problems on the refuge. To limit unauthorized boat access, the Fish and Wildlife Service should be given control of areas below mean high tide, which are owned by the state.

STILLWATER NATIONAL WILDLIFE REFUGE

Nevada

Of interest: In 1988 Stillwater, one of North America's most important inland staging areas for migrating birds, was the second U.S. area designated a unit of the Western Hemisphere Shorebird Reserve Network. The other one is Delaware Bay.

Refuge source: Ron Anglin, refuge manager
(702-423-5128)

Other sources: Rose Strickland, Sierra Club (702-329-6118); Norm Saake, Nevada Department of Wildlife (702-423-3171); Dr. Ken Taber, president, Nevada Waterfowl Association (702-747-6426); Patricia Schifferle, regional director, The Wilderness Society (415-541-9144)

THREATS

Contaminants:

The terminus of two river systems extensively used for cropland irrigation, this area receives all its water from the U.S. Bureau of Reclamation's Newlands Project. As a result, it has become the dumping ground for arsenic, boron, selenium, lithium, and other toxins that are in the pesticide-laden runoff and return flows. The waters also contain mercury, originating from silver mining once done in the vicinity.

Testing found that mercury levels in the management area's fish were one to four times the maximum suggested for human consumption. In one agricultural drain, the U.S. Geological Service estimates that the boron levels are those you would get from dumping an 80-pound bag every day. Recently a dead pelican was found with 450 parts per million (ppm) (dry weight) of mercury, more than twice the lethal dose, and 78 ppm (dry weight) selenium. [The State of Nevada requires that selenium levels for municipal drinking water be below .01 parts per million.] No one is certain how such trace elements are interacting. As a result of dying and decomposing birds, an avian botulism cycle has begun.

Location: About 75 miles east of Reno

Established: 1948

Size: 24,203 acres

Wildlife: More than 160 bird species, especially waterfowl, including tundra swans, cinnamon teal, canvasbacks, redheads, avocets, and black-necked stilts...also the endangered bald eagle

Features: A part of the 165,000-acre Stillwater Wildlife Management Area, the refuge includes desert marshes, ponds, and open salt water.

Avian botulism caused the deaths of more than 10,000 birds recently found on a 180-acre gun club nearby.

In 1983, 50,000 dead ducks were found within the wildlife management area. Over the past three years there have been two fish die-offs in the millions in the Carson Sink, north of Stillwater, as well as more than 2,000 bird deaths, attributed to avian cholera and botulism. Contaminants may well be at fault for these extraordinary losses, though the Fish and Wildlife Service says that it suspects other causes. The agency is due to report shortly on whether drainage water is harming fish and wildlife.

Because of dams and other upstream uses, so little water now reaches Stillwater that only 8,000 of the management area's 224,000 acres are still in marshes. The Bureau of Reclamation has reduced the flow this year to provide additional water for nearby Pyramid Lake, another body of water depleted by irrigation and home of two endangered fish: the Lahonton cutthroat trout and the cui-ui. The Bureau's scheme, now being challenged in court, could spell the end of the wetlands.

Bomber training runs:

Fallon Naval Air Station, just southwest of Stillwater, conducts dogfight and bombing exercises over the refuge, with frequent sonic booms and violations of the airspace agreements with the Fish and Wildlife Service. "[F]requent low-altitude aircraft operations are constantly flushing waterfowl, shorebirds, and other Refuge birds," according to a 1988 report by the agency, *Effects of Aircraft Noise and Sonic Booms on Fish and Wildlife*.

Inappropriate public use:

Off-road vehicle use, unmanaged airboat traffic, poaching, drinking parties, and other forms of human activity threaten wildlife. Efforts to limit these problems are inadequate.

RECOMMENDATIONS

Increase water flow:

Without ample clean water, the refuge simply cannot survive. Immediate steps must be taken to allow more of the water in the two river systems to reach Stillwater. One possibility is the purchase of water rights from farmers, several of whom are willing to sell them. The Interior appropriations bill for FY89 provides \$1.2 million for such transactions, but the amount needed to provide a permanent solution is likely to be many times that. Two wildlife needs, the refuge and the endangered fish at Pyramid Lake, should not be pitted against each other when the problem is created by an irrigation district in between them. Senator Harry Reid (D-NV) is trying to negotiate a settlement.

Increase the agency's authority:

Under the three-party agreement of 1948, the Fish and Wildlife Service has no control over water decisions. This makes sound management of the refuge impossible. All construction and management plans, for example, must be approved by the Truckee-Carson Irrigation District (TCID). The Nevada Department of Wildlife (NDOW) is responsible for controlling public use. The Fish and Wildlife Service should be given sole management authority for the wildlife management area.

Reduce bombing runs:

The military should halt its expansion into airspace that needs protection to limit the impact on wildlife. Congress may have to pass legislation.

Tighten the Clean Water Act:

Federal and state authorities are responsible for preventing unacceptable concentrations of toxins and other contaminants in Nevada's water. Waters incapable of sustaining fish and bird life may be hazardous to other species, including humans. In view of the torrent of pesticides and other contaminants washing onto wildlife habitats across the country, the responsible agencies must be required to implement effective non-degradation criteria and programs wherever national wildlife refuges and public health are at severe risk.

CHINCOTEAGUE NATIONAL WILDLIFE REFUGE

Virginia

Of interest: Chincoteague was created to protect snow geese and other migratory birds, but it is best known for its wild ponies, popularized by Marguerite Henry's book *Misty of Chincoteague*. Descended, legend has it, from Mustangs on a 16th-century Spanish shipwreck, the 150 ponies are owned by the Chincoteague Volunteer Firemen. They swim across the channel every July, and some are auctioned, in part to control the population. Another herd is on the Maryland side of Assateague Island.

Refuge sources: Don Perkuchin, refuge manager (804-336-6122); Bob Wilson, assistant manager; Irv Ailes, refuge biologist

Other sources: Judy Johnson, founder and president of Committee to Preserve Assateague Island (301-828-4520)

THREATS

Off-road vehicles:

Surf fishers and other visitors like to drive their ORV's along the southern end of the refuge's beach in an area known as Toms Cove Hook. These vehicles can destroy dune vegetation, cause erosion, and disrupt wildlife. This year, from March 15 to August 31, ORV's were excluded from most of the hook. In 1987 16 pairs of piping plovers had produced only three young to flight stage on the hook, but this year 16 pairs reared 26 young. Chincoteague is home for 70 percent of all piping plovers that nest in the national wildlife refuges. ORV users are pushing hard for an end to this "experiment."

Other public use:

Visitation at Chincoteague is growing steadily. Ninety percent of the summer visitors are beachgoers, putting pressure on wildlife nesting and other shoreline activity. Business interests in the Town of Chincoteague continue to press for expanded parking lots, more bathhouses, and replacement of a road that frequently washes out. Such pressures on the

Location: South end of Assateague Island, just east of Chincoteague Island

Established: 1943

Size: 9,513 acres

Wildlife: Piping plover (threatened species), Delmarva Peninsula fox squirrel (endangered), snow goose, wood duck, least tern, snowy egret, peregrine falcon (endangered), clapper rail, and many others...bird species total more than 250

Special features: Assateague Island is a 45-mile long barrier island straddling the Maryland-Virginia border. The refuge features salt marshes, ponds, stands of loblolly pine and oak, and 15 miles of sandy beach. It lies along the Atlantic flyway and is important to migratory waterfowl.

refuge led the International Union for the Conservation of Nature and Natural Resources (IUCN) to include Chincoteague as one of twenty-two 1987 additions to its list of threatened protected areas. Of the 22, Chincoteague was the only one from the United States.

Clear cutting:

The Fish and Wildlife Service has clear cut several areas totalling more than 40 acres in the southwestern quadrant of the island, saying it was necessary to limit the spread of the Southern pine beetle. The agency said that it wanted to manage regrowth so that there was a mix of hardwoods with the native pine. Now the Fish and Wildlife Service is also proposing a new visitor center and auditorium to be built in one of the clearcut areas. The likely result is the loss of habitat important to the endangered Delmarva squirrel and many bird species.

RECOMMENDATIONS

Retain ORV ban on Toms Cove Hook:

This year's trial left Tom's Cove Hook available exclusively to nesting birds during the nesting season. It was a dramatic success, and the exclusion should be made permanent. Only one percent of the refuge's visitors are affected, and the hook remains open during the best fishing periods.

Reduce refuge traffic:

The refuge needs a shuttle bus system to reduce the number of cars in the refuge. With such a shuttle, there would be less pressure to put money into parking lots and roadways.

Revive master plan process:

The effort to devise a master plan was abandoned last year, apparently because the Fish and Wildlife Service wanted to avoid confronting some difficult problems. That effort needs to resume in order to deal with ORV use, forest and wildlife management, facilities location and development, transportation, and other major issues in a way that will maximize public input.

Accelerate land acquisition:

To provide additional habitat needed for shorebird nesting, four islands to the south of Chincoteague should be added to the refuge: Morris, Cedar, Metomkin, and Assawoman. Another important potential addition is a 58-acre tract near the north end of Chincoteague Island. If they are not acquired, they probably will be developed. The Congress recently appropriated \$770,000 from the Land and Water Conservation Fund for some of this acquisition during FY89, but more is needed.

Designate wilderness:

Certain identified areas qualify for designation by Congress as wilderness. Such a designation would ensure that there would be no development within the protected areas.

Adhere to 1982 plan:

A 1982 general management plan, published by the National Park Service in cooperation with the Fish and Wildlife Service, directed that human use be limited to what could be "accommodated without adverse impacts on the wildlife." Managers need to honor that rule, and as a general matter, the two federal agencies need to work together more closely.

YAZOO NATIONAL WILDLIFE REFUGE Mississippi

Refuge sources: Tim Wilkins, refuge manager
(601-839-2638)

Other sources: Mike Goff, Mississippi Wildlife Federation
(601-353-6922); Charlie Potter, North American Wildlife
Foundation (312-940-7776)

THREATS

Contaminants in the water:

Agricultural runoff has been carrying contaminants into the refuge. Fish samples taken in 1982 and 1983 showed high concentrations of DDT, dieldrin, and toxaphene. Eggs of wood ducks, hooded mergansers, and eastern green herons collected in 1984 also showed signs of contamination. Herons' reproductive success declined to a hatching rate of just 55 percent.

Corp of Engineers' drainage projects:

In 1986 the Corps bulldozed a 5.7-mile-long, 1600-foot-wide swath of virgin oak and cypress trees within the refuge in preparation for construction of a drainage canal requiring more than 500 acres of refuge land. The clearing was twice the size expected by the U.S. Fish and Wildlife Service. Now, the Corps has begun digging the channel, which runs along the edge of Swan Lake, the refuge's main body of water for wintering waterfowl. The digging has drained water from the lake, and Swan Lake may not hold water at all this winter.

This is the second segment of the channel, designed to run along the northern and eastern boundaries of Yazoo and called the Steele Bayou Project. A 1.2-mile segment to the south, built in 1984 at a cost of 187 refuge acres, has caused water loss to critical wetlands in the southern portion of Yazoo. Also planned is a third segment, to the north of the 5.7-mile section.

Location: 30 miles south of Greenville

Established: 1956 (approval for acquisition came in 1936)

Size: 12,471 acres

Wildlife: Canada goose, mallard, wood duck, bobwhite, mink, American alligator...more than 180 bird species recorded

Features: This refuge, five miles east of the Mississippi, is part of the Yazoo Delta in northwestern Mississippi. Lakes, marshes, bottomland forests, and fields of crops provide critical winter habitat for migratory waterfowl and other wildlife.

The Corps claims that the channelization and the mitigation to accompany it will prevent the contamination and siltation now damaging the refuge. That claim is unconvincing. There is considerable skepticism in Mississippi even about the Corps' basic commitment to mitigation. The Corps has been slow to start this work, which the agency now claims will begin in 1989. Even if the Corps does attempt mitigation, there is significant doubt about the feasibility of its proposals. The impact of both the channelization and the proposed mitigation on wildlife may be difficult to assess because there are no plans to study wildlife distributions before, during, and after the Corps' work.

The Steele Bayou Project is one of four that make up the Yazoo Basin Projects, the largest drainage project in American history. Half of Mississippi's remaining four million acres of delta hardwood bottomlands will be drained if the work is not stopped. The projected cost to taxpayers: more than \$2 billion. Preliminary work on these projects began in 1976, and the Corps is now condemning land along what

eventually will be a 200-mile drainage ditch. This massive undertaking was authorized in 1936 to limit agricultural flooding. Because that is no longer a priority in the Greenville area, the Corps now claims that its goal for the Steele Bayou project is to control urban flooding, but experts say that this project will not solve that problem.

RECOMMENDATIONS

Stop the projects:

The Yazoo Basin Projects, authorized a half-century ago, are outdated. They should be stopped before any more taxpayer money is wasted and any more important wildlife habitat is lost.

Mitigation should be performed:

The mitigation measures for work already performed by the Corps ought to be completed in time for next winter's waterfowl migration. Further, when a "mitigation" project is designed, it should be planned and developed for its own wildlife and habitat purposes—not as an adjunct to the draining and channelization.

Minimize disturbance from toxic contamination cleanup:

Structural solutions to the contamination problems in Swan Lake and elsewhere at Yazoo should be reevaluated and the least environmentally damaging solution implemented as soon as possible. The options include rerouting contaminated agricultural wastewater around the refuge and building cross dikes and other water control structures.

ARCTIC NATIONAL WILDLIFE REFUGE Alaska

Of interest: For millenia, the Porcupine Caribou Herd has been migrating from Canada to the coastal plain in the spring to bear its young. Natives depend on the herd for food and clothing, and for the continuation of their way of life.

Refuge sources: Glenn Elison, refuge manager (907-456-0250)

Other sources: Tim Mahoney, chairman, Alaska Coalition (202-547-1141); Randall Snodgrass, Alaska lands program director, and Susan Alexander, Alaska regional director, The Wilderness Society (202-842-3400)

THREATS

Oil development:

A 1987 report by the Interior Department, mandated by the Alaska Lands Act, said that there was a 19 percent chance that a commercially viable oil field could be found beneath the coastal plain, assuming oil prices of \$33 a barrel (1984 dollars). If oil were found, the output probably would amount to less than two percent of U.S. oil consumption over the life of the field, Interior Department figures show. The Reagan administration and the oil industry have pushed Congress to allow development but so far have not succeeded.

Even the preliminary stage, exploration, would transform the coastal plain, which the Fish and Wildlife Service concedes is the center of wildlife activity on the refuge. There would be as many as 100 wells, complete with waste pits containing toxic substances that could spill onto surrounding lands. Each well would require 15 million gallons of fresh water, 35,000 cubic yards of gravel (much of it dredged from river bottoms and stream bottoms), 160 C-130 aircraft loads of construction materials, and more. Naturally, if development were to follow, the scale of the activity would multiply.

To increase its political leverage, the Interior Department has invested considerable time and money laying the groundwork for the so-called "megatrade." Native corporations

Location: northeast corner of Alaska, on Canadian border

Established: 1960 (Was called Arctic National Wildlife Range until Alaska Lands Act of 1980)

Size: 19,374,236 acres (second-largest in system)

Wildlife: Porcupine Caribou Herd, grizzly bear, polar bear, arctic fox, ptarmigan, muskox, snow goose, Dall sheep, tundra swans, many more

Features: Bisected by the peaks and glaciers of the eastern Brooks Range, the refuge is best known for its northern portion: the coastal plain along the Arctic Ocean, called "America's Serengeti." South of the mountains is subarctic boreal forest.

would trade their surface rights to refuge lands elsewhere in Alaska to the Fish and Wildlife Service in exchange for subsurface rights at the coastal plain. As owners of those rights, the corporations would stand to earn royalties if a viable field should be found and developed. Meantime, bonus bids, rents, and royalties that normally would accrue to the U.S. Treasury would be lost.

Megatrade created heated opposition in Congress, and a September 29 report by the U.S. General Accounting Office (GAO) said that the Interior Department had inflated the value of the land that the public would acquire by a factor of six. In short, it was a giveaway of public assets. GAO found that "the shortcomings of the proposed exchanges are so serious that further consideration of them should be discontinued." Before adjourning, Congress passed legislation blocking such a trade, but the Interior Department doggedly continues to evaluate the option. The agency is now studying public comments on its legislative environmental impact statement, which were due October 24.

RECOMMENDATIONS

Designate the coastal plain a wilderness area:

To ensure that oil drilling will not occur on the coastal plain, Congress should pass legislation making the area wilderness. In the 100th Congress, such measures were introduced by U.S. Rep. Morris Udall (D-AZ) in the House and U.S. Senators William Roth (R-DE) and Bill Bradley (D-NJ) in the Senate. Any bills that would open the coastal plain to the oil industry should be defeated.

Designate the rest of the refuge wilderness:

Currently eight million acres of the refuge are part of the National Wilderness Preservation System. The balance of the Arctic Refuge fully qualifies for such protection, but in a long-term management plan issued September 12, the Fish and Wildlife Service recommends that no additional wilderness be designated.

LOWER RIO GRANDE NATIONAL WILDLIFE REFUGE Texas

Special features: Located astride the intersection of four climatic and geographical forces (Chihuahuan Desert, subtropical uplands, and the river valley and gulf coastal plains), the refuge has been called an "international biological crossroads." It's also at the intersection of two major bird migration routes and links ten distinctive vegetative communities. Biologists say the area's plant and wildlife diversity is rivaled in this country only by the southern tip of Florida.

Of interest: With about 350 species of birds frequenting the refuge, the area has become a magnet for U.S. birders.

Refuge sources: Robert B. Schumacher, refuge manager (512-787-3079); J.E.B. Stuart, acquisition chief

Other sources: Cyndy Chapman, Frontera chapter of National Audubon Society (512-968-1719)

Location: Along 200 miles of the Rio Grande River, from Falcon Dam to Boca Chica beach

Established: 1978

Size: 26,325 acres

Wildlife: An extraordinary 525 wildlife species, including the white-winged dove, chachalaca and endangered species like the ocelot, jaguarundi, bald eagle, brown pelican, and peregrine falcon

THREATS

Shrinking habitat:

Ninety percent of the native brushland has been wiped out for agriculture and other uses, breaking up the habitat necessary to sustain viable wildlife populations. The refuge was established to stem the loss of this habitat and to convert some of it back to its original condition. Approved plans called for acquisition of about 120,000 acres in this corridor by the 1990s, but so far only a fourth of that amount has been acquired.

Pesticides:

More than 100 pesticides are routinely applied to crops in the region. During aerial spraying, drift and overspray result in pesticides falling directly onto the refuge. Because the refuge consists of so many small fragments, most surrounded by cropland, it is particularly susceptible to this problem. Pesticides also reach wildlife habitat as part of agricultural runoff. According to the National Audubon Society's 1987 wildlife report, birds in the refuge have died after eating insects poisoned by the pesticides.

Wastewater:

Wastewater from communities on both sides of the border is another threat. In addition, industrial discharges are polluting the refuge's water supply.

Real estate development:

Building projects are likely to encroach further on the refuge. The most noteworthy threat is an enormous resort, Playa del Rio, that may be built near the mouth of the Rio Grande. The developers would fill in 8,000 acres of vital wetlands in the process of developing 71,000 residential, rental and hotel units, a dozen golf courses, and other facilities. The project "would have an unacceptable adverse impact on wetlands, shellfish beds, fishery areas, wildlife habitat and recreation areas....," according to the regional director of the U.S. Fish and Wildlife Service.

Dams:

Since 1982 Brownsville has spent hundreds of thousands of dollars on engineering studies for dams it would like to see built along the Rio Grande. Thousands of acres of dwindling

wild lands would be flooded by reservoirs. During a drought, the river barely gets beyond Brownsville, and if dammed, it would provide even less fresh water to the productive estuaries near the Gulf.

Management difficulties:

Because the refuge consists of a series of tracts strung out over a 200-mile corridor, management of the lands is very difficult.

RECOMMENDATIONS

Accelerate acquisition:

Unless more of the habitat is protected, the refuge cannot possibly achieve its wildlife goals. The \$10 million appropriation for land acquisition approved by Congress in September is significant, but the pace must pick up. Land that is not acquired by the Fish and Wildlife Service runs the risk of being developed. Now is the time to buy land because values have dropped 20 to 30 percent since 1983. The goal should be to complete acquisition within five years.

Increase monitoring:

The refuge staff needs to learn more about the amount and location of pesticides and polluted water coming into the refuge and their specific impact on wildlife. Right now there is only an employee or two gathering this data. The Fish and Wildlife Service should work closely with the Environmental Protection Agency to develop a program to protect endangered species from the harm caused by pesticides.

Deny dredging permit:

The Army Corps of Engineers should deny the application for a dredge and fill permit for Playa del Rio.

Step up regulation and enforcement:

To limit the flow of wastewater, industrial waste, and pesticide-laden runoff into the refuge, stiffer water pollution regulation and enforcement will be required. The Fish and Wildlife Service needs to take a leading role in encouraging and coordinating local pollution controls efforts. The U.S. should work with Mexico to reduce its water pollution along the border.

KESTERSON NATIONAL WILDLIFE REFUGE

California

Refuge sources: Gary Zahm, refuge manager (209-826-3508)

Other sources: Harry M. Ohlendorf, wildlife research biologist, University of California-Davis (916-752-6420); Hal Candee, attorney, Natural Resources Defense Council (415-777-0220); Patricia Schifferle, California/Nevada regional director, The Wilderness Society (415-541-9144); Maureen Marche, State Water Resources Control Board (916-322-3132)

THREATS

Contaminants:

Selenium is a trace element that, in concentrated amounts, is toxic, and is a growing peril as it moves up the food chain. Agricultural runoff carried selenium, arsenic, and other toxic substances into Kesterson, and by the early 1980s the damage to wildlife had become evident. Tests found the highest levels of selenium ever seen in a living fish. Before long, U.S. Fish and Wildlife Service employees were finding birds that were dead and others that were badly deformed. Some had no eyes. Mean concentrations of selenium in the livers and kidneys of birds collected at Kesterson ponds were about ten times those found at a nearby control area. Other wildlife was suffering, too.

In 1984 Fish and Wildlife Service crews began to spread out over the refuge with shotguns and explosive devices to scare away wildlife that was heading for Kesterson's tainted ponds. In March, 1985, a few days after CBS' "60 Minutes" ran a story on Kesterson, Interior Secretary Donald Hodel ordered it closed. In June, 1986, the U.S. Bureau of Reclamation finally closed the agriculture drains sending contaminated water to the refuge.

Location: 18 miles north of Los Banos

Established: 1970

Size: 5,900 acres

Wildlife: Scattered remnants...formerly popular with migrating waterfowl, featuring more than 200 bird species, including eagles, geese, ducks, coots, and cranes, plus the endangered San Joaquin kit fox

Features: Created to mitigate loss of wetlands caused by a U.S. Bureau of Reclamation project, Kesterson contained 4,600 acres of native grasslands, shallow marshlands, and unique vernal pools. About 1,300 additional acres, which included wetlands, received agricultural drainwater from a U.S. Bureau of Reclamation project.

RECOMMENDATIONS

Dispose of contaminated material:

The state's Water Resources Control Board has been wrangling with the U.S. Bureau of Reclamation since 1984 over a satisfactory cleanup plan. In 1987 the board directed the bureau to scrape the top six inches of soil from Kesterson's ponds and put the contaminated material in a 45-acre, plastic-lined landfill. The work was to be completed by August 14, 1988. But in April BuRec told the board that the project would be too expensive and suggested a plan, focusing on management, that would keep wildlife out of the ponds. That proposal was unanimously rejected in July, but the board did

agree to a revised plan. BuRec now has until January 1 to fill six seasonal ponds in the southern portion of the refuge with dirt, to at least six inches above groundwater level. Unless BuRec finishes this work on time, winter rains are likely to bring the selenium to the surface. The bureau also was directed to continue experiments on alternative cleanup methods. BuRec, which is responsible for the virtual destruction of the refuge, should dispose of the contaminated mate-

rial instead of using Kesterson as a site for continuous experimentation.

Acquire land:

The federal government should buy other lands in the vicinity to replace the habitat lost. This area is critically important to migrating birds.

UPPER MISSISSIPPI RIVER NATIONAL WILDLIFE AND FISH REFUGE

Minnesota, Wisconsin, Illinois, Iowa

Refuge sources: Richard Berry, complex leader (608-784-5540); James Lennartson, refuge manager (507-452-4232)

THREATS

Sedimentation:

Soil erosion due to development and poor farming practices is causing extensive sedimentation. That, in turn, damages habitat and reduces fish and wildlife reproduction. Some backwater areas may be filled within 50 years. Because of sedimentation of the Mississippi itself, dredging is required, and the spoil is often dumped on the refuge, covering habitat, changing drainage patterns, and depositing concentrated pollutants on the land.

Chemical contaminants:

Domestic and industrial wastewater, as well as pesticide-laced agricultural runoff, pollute refuge waters. Because they usually are bonded to or associated with fine sediments, they are constantly resuspended by wind, waves, and navigational activities. The result is extended impact on the natural system.

Inappropriate public use:

The refuge is understandably popular with those seeking outdoor recreation. Some activities, however, are incompatible with the refuge's mission. Off-road vehicle (ORV) use, firewood cutting, and snowmobiling threaten the habitat and wildlife. Recreational cabin permittees' use of adjacent lands and unconfined pets are also problems in certain locations. Limited staff make enforcement of rules very difficult.

Boating facilities:

Increased construction of marinas, docks, and other facilities on river and stream banks damage and destroy wildlife habitat.

Location: Along 284 miles of the Mississippi, from Lake City, Minn., to Rock Island, Ill.

Established: 1924

Size: 89,129 acres (47,915 in Wisconsin; 20,322 in Iowa; 17,751 in Minnesota, and 3,141 in Illinois)

Wildlife: 270 species of birds, including bald eagles, canvasbacks, and tundra swans; 50 mammal species; 45 reptile and amphibian species, and 113 fish species

Features: This collection of riverside parcels includes wooded islands, marshes, sand bars, and other areas vital to the river's wildlife, including migratory waterfowl traveling the Mississippi Flyway.

RECOMMENDATIONS

Transfer land to Fish and Wildlife Service:

The U.S. Fish and Wildlife Service owns only 46 percent of the land in the refuge; the rest is owned by the Army Corps of Engineers. A so-called "cooperative agreement," signed in 1963, governs the shared jurisdiction and gives the refuge staff very limited control. The Corps, for example, retains all timber and development rights. The Corps also issues all special use permits, often for activities conflicting with refuge goals. The agreement needs to be changed to transfer all lands to the Fish and Wildlife Service and thus give wildlife managers more authority.

Add staff:

With only about 23 employees working on this extended refuge, including clerical and maintenance workers, it is impossible to monitor problems, manage public use, and carry out the wildlife programs essential to the refuge mission. More staff is essential.

Step up regulation and enforcement:

Reduction of sedimentation and contamination is critical to the refuge's survival. This will be possible only if the states enact and enforce appropriate laws.

Stop dumping:

Dredgers should not be allowed to dump spoil except on sites jointly designated by refuge managers and the Corps.

LOXAHATCHEE NATIONAL WILDLIFE REFUGE Florida

Of interest: Loxahatchee is the only substantial remnant of the northern Everglades natural system and the only protected portion of that region.

Refuge sources: Burkett Neely, refuge manager
(407-732-3684)

Other sources: Jim Webb, regional director, The Wilderness Society (305-448-3636)

THREATS

Unnatural waterflow:

The refuge and its wildlife depend on the sheetflow of water characteristic of the Everglades and on the natural cycle of wet and dry seasons. Both features have been changed dramatically. The region's complex system of levees and canals has thrown the natural system out of kilter. Accelerating development (private airports, subdivisions, roads, and other public facilities) within the watershed results in pumping that periodically deprives Loxahatchee of adequate water flow. Development also leads to increased reliance on the refuge for flood control, so excessive amounts of water sometimes are sent there. Changes in water flow and levels damage nesting, reduce food supplies, and limit natural wildfires. Successful feeding and propagation of wading birds, particularly the wood stork, are highly sensitive to changes in normal seasonal levels. A two-inch variation can be the margin of survival.

Contaminants in the water:

High levels of phosphorous and nitrogen, carried into the refuge by agricultural runoff, are changing the vegetation at an alarming rate. Prime saw grass habitat is being replaced, especially along the edges of the refuge, by cattails and other vascular plants. The result: vital breeding and nesting habitat is destroyed. Contaminants in the runoff also lead to high levels of toxins in Loxahatchee's fish and birds.

Location: About ten miles west of Boynton Beach

Established: 1951

Size: 145,635 acres

Wildlife: Wood stork (endangered), roseate spoonbill, snail kite (endangered), American alligator, blue-winged and green-winged teal, white-tailed deer, Fulvous whistling duck, white ibis, and a variety of herons and egrets

Features: Located at the southern end of the Atlantic and Mississippi Flyways, this refuge hosts some of the nation's rarest plants and animals. The area is a mixture of tree islands, saw grass, wet prairies, and sloughs.

Proposed solid waste disposal plant:

Palm Beach County wants to build such a facility on several hundred acres just east of the refuge. Under the plan, a pile of garbage 180 feet high would be amassed on land overlying a productive section of the Biscayne Aquifer. The type of liner proposed, to prevent leakage into the ground water, has a failure rate of about 40 percent, a study found. Incineration can affect air quality already seriously threatened by existing and proposed highways.

Inappropriate public use:

Poaching, excessive airboat use, oversized boat motors, overfishing, and other problems associated with increasing recreational activity at the refuge pose threats to wildlife.

RECOMMENDATIONS

Restore natural waterflow:

The Save Our Everglades campaign to restore the ecosystem, to the extent possible, to its historic condition needs to be kept vibrant. A model for natural flows to the refuge should be developed.

Improve water quality:

Pesticide and nutrient pollution must be stopped at its sources, and management programs ought to be developed to handle pollution already in the system. We support Governor Bob Martinez' recent proposal to convert a 3,750-acre state-owned sugar cane area northwest of Loxahatchee back to swamp land. Currently, polluted runoff from these and other lands is being pumped into the refuge via the canal system.

Abandon garbage plant proposal:

The county must find sites that do not create such great environmental risks. Siting decisions for all public facilities should protect refuge resources.

Give Fish and Wildlife Service more authority:

The refuge was created to mitigate the regional flood control system's effects on wildlife. Only 2,551 acres of the refuge, on the east side, are actually owned by the Fish and Wildlife Service. The rest is simply leased from the state under an agreement that expires in 2001. With water decisions in the hands of the U.S. Army Corps of Engineers and the South Florida Water Management District, the Fish and Wildlife Service has little control over the quality of wildlife habitat. The lease should be renegotiated to give top priority to protection of refuge resources and to transfer ownership to the United States by 2001.

GREAT SWAMP NATIONAL WILDLIFE REFUGE

New Jersey

Of interest: A jetport proposal in 1959 led citizens to form a preservation group that raised more than \$1 million to purchase 3,000 acres, which then were given to the U.S. Interior Department.

Refuge sources: William Koch, refuge manager
(201-647-1222)

Other sources: Richard Kane, New Jersey Audubon
(201-766-5787)

THREATS

Water pollution:

Rapid growth in the refuge's 55-square-mile watershed is straining the two sewage treatment plants, in Morris and Chatham Townships, whose effluent flows eventually into the refuge. Among the pollutants that have been found in that wastewater are highly toxic PCB's. Road salt, fertilizer, and pesticides in runoff from farms, golf courses, and lawns also contribute to this problem. A new study by the New Jersey Department of Environmental Protection says that the nutrient load in the refuge is likely to increase. The Fish and Wildlife Service has predicted that the number of waterfowl hatched at Great Swamp, now about 2,500 a year, will be cut in half by the mid-1990s. The impact goes beyond the refuge; because Great Swamp acts as a filter for the Passaic River, the source of drinking water for downstream communities, degradation could threaten residents in those towns.

Toxic dumps:

This small refuge has a five-acre asbestos dump, which is serious enough to be a Superfund candidate, and two landfills that may contain hazardous substances. The asbestos dump and the larger of the two landfills lie within a wetland area and pose a contamination threat to the water. The landfill was never properly covered. The asbestos dump was mostly covered with a thin layer of topsoil, but it has become exposed

Location: Basking Ridge, just 26 miles west of Times Square

Established: 1960

Size: 6,936 acres

Wildlife: Wood duck, red and gray fox, white-tailed deer, plus blue-spotted salamander and bog turtle, both listed as endangered species by the State of New Jersey... More than 300 species of birds, mammals, fish and other vertebrates recorded

Features: Great Swamp consists mainly of cattail marsh, hardwood ridges, swamp woodland, and grassland. It contains many large old oak and beech trees, as well as stands of mountain laurel and rhododendron.

again in places. These three sites pre-date the establishment of the refuge.

Fluctuations in water flow:

The development in the watershed causes greater, and faster, water runoff. The result is increasing peaks and troughs in water flows into the refuge, imperiling waterfowl and other marsh life. The new study by the New Jersey Department of Environmental Protection predicts that these fluctuations will continue to increase.

Traffic:

Growing traffic volume through Great Swamp and on nearby roads has led to more roadkills, dust, noise, and pollution.

Tree cutting:

To increase the woodcock population, the Fish and Wildlife Service wants to cut down red maples and other trees, thus allowing their replacement by shrubs and other vegetation favored by woodcocks. The result will be habitat loss for migratory songbirds and other birds that need old-growth wooded areas, which are scarce in the region.

RECOMMENDATIONS

Improve water quality monitoring:

The refuge needs better information on its water quality problems. An Environmental Protection Agency study that ended last year should be continued by the Fish and Wildlife Service, and it should be expanded to test for possible toxic substances. An ecological study of the impact of increased nutrient loads and flow fluctuations should be undertaken, as proposed by the state Department of Environmental Protection.

Create planning commission:

The major decisions on development in the watershed's 11 municipalities are made by local authorities. The refuge's draft master plan, issued in 1985, called for a regional planning commission to coordinate development within the watershed. That was a sound proposal. But the Fish and Wildlife Service has pulled back, suggesting only that the refuge manager "enhance communication between agencies and groups that influence development decisions..." Now the master plan has quietly been shelved, leaving the community and refuge staff uncertain as to the approach to be used in solving problems.

Clean up dumps:

The dumps should be cleaned up. If funding is unavailable, then the dumps at least should be more effectively sealed until cleanup funds are available. We urge the Environmental Protection Agency, once it completes work on the asbestos site at the plant itself, to also clean up the Great Swamp dump, which was a product of that plant.

Reduce traffic:

Pleasant Plains Road should be closed to through traffic. The Fish and Wildlife Service ought to work with the county to develop other routes for Longhill Road commuter traffic.

Abandon tree cutting plan:

The wooded areas should be left as they are. Old growth is vital to sustaining this refuge's biological diversity.

Revive the master plan process:

Only by taking the plan off the shelf and finishing it can the Fish and Wildlife Service address its problems, communicate them to the public, and have a chance at coordinated preventive action. Otherwise, these problems will worsen and will end up being handled by the staff on an ad hoc basis.

Continue land acquisition:

To limit development right on the fringes of the refuge, private parcels that Congress has authorized for purchase should be bought. As demonstrated in the shelved master plan, well planned acquisitions can alleviate various problems. The money would come from the Land and Water Conservation Fund.

OTHER ENDANGERED NATIONAL WILDLIFE REFUGES

Many other national wildlife refuges are known to have very serious problems. Below are just a few of those known to be in trouble. Still other refuges may be in danger, but the U.S. Fish and Wildlife Service's underfunded monitoring program is ill-equipped to identify them.

FALLON NATIONAL WILDLIFE REFUGE, near Stillwater National Wildlife Refuge at the terminus of Nevada's Carson River, has virtually dried up due to water pulled out of the river system by irrigation projects. Little wildlife remains at this once-important Pacific Flyway migration stop.

BOWDOIN NATIONAL WILDLIFE REFUGE, in northeastern Montana, has lost important nesting habitat due to excessive salinity, alkalinity, and contaminants. The refuge's ability to alleviate some of these problems by increasing the flow of water to Bowdoin is marginal because the refuge has limited water rights. Though tests by the U.S. Geological Survey found no convincing evidence of a selenium problem, refuge mud tested by the research firm hired by the Sacramento Bee found selenium levels of 3,136 parts per billion. Recurring avian botulism is a serious problem, killing thousands of birds a year.

HAKALAU FOREST NATIONAL WILDLIFE REFUGE, consisting of 13,107 acres on the slopes of Mauna Kea, was created to protect four endangered birds found only in Hawaii: the Hawaii akepa, Hawaii creeper, akiapolaau, and the 'io (Hawaiian hawk). They depend on koa and ohia trees, which have had trouble regenerating because of feral pigs and cattle. The state wants to keep the pigs there for hunting. Exotic plants like banana poka also threaten native species.

UPPER SOURIS and J. CLARK SALYER NATIONAL WILDLIFE REFUGES, near Minot and Upham, North Dakota, respectively, are threatened by major flood control and water supply projects proposed for Canada and to be funded partially by the U.S. Army Corps of Engineers. These refuges, which contain important habitat for nesting and migrating waterfowl, would suffer frequent water deficiencies and would be receiving contaminated water. Among the resources at risk is the important recreational fishery in Lake Darling.

OURAY NATIONAL WILDLIFE REFUGE, in the middle Green River Basin 30 miles southwest of Vernal, was established to provide waterfowl nesting habitat lost when Flaming Gorge Dam was built in southwestern Wyoming. But agricultural runoff from lands to the north is carrying contaminated water into the refuge, and alarmingly high selenium levels are turning up in American coots. Water loss, due to dam proposals, is another concern.

KENAI NATIONAL WILDLIFE REFUGE, on Alaska's Kenai Peninsula, has been open to oil and gas extraction since the late 1950s. Over the years, various problems have arisen, including bulldozed seismic trails that will require hundreds of years to recover, spills that threatened refuge waters and wildlife, air pollution from gas flaring, noise, and high dust levels from oil worker traffic on the many miles of road put in to facilitate development. Another threat is caused by the material used to reduce the dust problem, which has scattered PCB's through many portions of the refuge. In addition, the state is pressing for a trapping program in Kenai that could harm wildlife populations.

TULE LAKE NATIONAL WILDLIFE REFUGE, off Route 139 in far north California, is one of the six Klamath Valley national wildlife refuges in Oregon and California. This region is known for enormous fall concentrations of waterfowl, sometimes exceeding 1.5 million birds. But these refuges, particularly Tule Lake, are suffering from too much pressure from hunters, contaminated runoff and return water flows, and the limited authority they have over their lands and water. Recently the Fish and Wildlife Service took water, sediment and marshlife samples from Tule Lake, and the results, expected in several months, are likely to confirm other evidence of contaminated habitat.

U.S. FISH AND WILDLIFE SERVICE
Atlanta



Date: 10/31

To: ARW

Ok but what is our position?
Do we (FWS) or don't we support
the alterations at Yazoo?

a great history, but where do
we stand on the issue?

This needs a major rewrite.

What is
FWS
Service position

Date: October 27, 1988

From: Refuge Manager, Yazoo NWR, Hollandale, MS

Subject: ~~History~~ ~~of~~ Corps of Engineers Activity on Yazoo NWR
and ~~Draft~~ Position Statement

To: Regional Director, FWS, Atlanta, GA

Files for the Steele Bayou Project as it relates to Yazoo NWR date back to April 24, 1964. Impacts on the refuge have been discussed for many years. Planned Corps of Engineers (COE) activity will occur along a 10 mile stretch on the east side of the refuge and directly impact approximately 900 acres of refuge lands. Construction on the refuge will be in three segments; 55A, 66A, and 66B.

Actual activity by the COE began on July 30, 1982, when a crew moved in to clear all trees from the 55A right-of-way (ROW). This job was completed in late August 1982. During February, 1984, COE contractors moved dirt-moving equipment onto the refuge and began work on the 55A project. Project 55A was completed in late December 1984. The COE payment for the 197.15 acres of the 1.8 mile 55A ROW totaled \$148,500. This money continues to be used for reforestation projects. Reforestation efforts on Yazoo NWR to date have resulted in the force account planting of 1,034 acres to bottomland hardwoods. The COE considers this mitigation. The COE did construct wingwalls on four water control structures, installed a 60"x48" pipe and 9"x72" riser in GTR #1, and cleaned out the Deer Lake drain to improve waterfowl habitat management capabilities.

The 66A project began in April 1987, when a COE contractor moved onto the refuge to begin clearing operations. During the fall of 1986, the refuge issued a salvage contract to harvest as much timber within the ROW as possible. Early rains prevented the salvage of approximately 50% of the timber, most in the upper end of the ROW. Once the COE contract was let, the refuge was told that the contractor owned the ROW timber. Except for cypress logs, all remaining timber was pushed, piled and burned. This part of the operation was completed in December 1987. Payment for the 5.7 mile 66A ROW, totalling 505.2 acres, has not been settled to date. Dredging on the 66A project is approximately 60% complete.

because of differences in opinion over the ~~apparent~~ ~~value~~ between FWS and COE. The Service is in the process of contracting for an independent appraisal to resolve this issue.

impacted the area encompasses about 5,000 acres and is important as a nesting and roosting area by wintering waterfowl - primarily wood ducks and mallards.

and was based on fair market value for the land and timber to be impacted.

and presume this was based on fair market value.

what do we consider it to be? so, are we satisfied or not?

temporary permit.

told by whom? what is the point here? like, what needs settling? what mitigation is due the Refuge? if we are not satisfied, why issue a permit for 66B?

but the Service considers to payment for the lands used for the project only. It removed a bottleneck in the drainage system which now allows refuge wetlands to drain much faster following heavy rainfall within the watershed.

The final phase of channelization will be project 66B which is scheduled to begin during 1989. This will involve about 250 acres of refuge land and extend the channel 2 1/2 miles along the east edge of Swan Lake. Very little timber clearing will be required on this portion of the project.

Mitigation asked for by the Service includes 10 miles of levees and seven major water control structures which will create four large impoundments. The impoundment levees include 8.2 miles of levee constructed from the 66A and 66B projects spoil and 2.5 miles of cross levees constructed from off-site material. The cross levees will separate the three largest impoundments. These impoundments will allow the refuge to regulate water levels in Swan Lake bed and divert pesticide/silt laden waters around the refuge.

asked for by FWS, or agreed to by COE? what is the status of mitigation agreement here?

Create new impound. or subdivide Swan Lake?

The Upper Yazoo Basin project of which Steele Bayou is a part has become extremely controversial during the past year and a half. The refuge has responded to numerous requests for information as to how the project impacts the refuge. The response to these requests gives both positive and negative attributes of the project. These are listed beginning with the positive.

acknowledge from our perspective the positive aspects of the project. but gives overall Service support when completed the project will

1. ~~Remove~~ Pesticide/silt laden waters around the refuge. Currently Silver Lake Bayou (Main Canal), Black Bayou, #9 drain ditch and several smaller streams and ditches dump directly into Swan Lake bed. Over the years this has resulted in silt deposits which threaten to fill the lake bed. Some areas have filled in an estimated three feet in the last eight years, making dry land of what once was a lake bed. Studies, some ongoing, with results incomplete, have revealed pesticide problems which have almost eliminated some aquatic wildlife species indigenous to Swan Lake. When mitigation is completed, the lake bed will be on the road to recovery.

quat, but bottom line pls. do we or don't we support? Are we or are we not happy?

such as fish, frogs and other aquatic vertebrates.

2. The system of levees and water control structures will allow the Service to manipulate water levels in Swan Lake. This will allow the refuge to maintain optimum water levels instead of the current random extreme fluctuations.

and straight lake. This will allow the refuge to maintain optimum water levels instead of the experiencing current random extreme fluctuations, if from 1 1/2 feet to 5 feet average water depth, inundating the bottomland hardwoods during winter months.

3. Manipulation of the planned impoundments will create wood duck brood habitat. The reduction of silt and pesticides will allow production of aquatic foods utilized by young wood ducks to improve dramatically.

4. ~~Wintering~~ ^{About 100,000} waterfowl, ^{that historically used the area for resting and roosting} will also benefit by the creation of a cleaner, more productive environment. The impoundments will be manipulated to create important wildlife foods beneficial to a wide range of wildlife including waterfowl. The current water regime is one of drastic fluctuations where water may rise and fall up to four feet in a two week period. Stabilized water will offer a controlled habitat conducive to sustained wildlife use.

Current value to waterfowl?
which will also be used as a feeding area.

5. A cleaner environment will allow Swan Lake to return to a highly productive wetland where indigenous wildlife species can return and survive. This work offers the opportunity to reclaim a national treasure, something not possible for most old oxbow swamps in the Mississippi Delta.

Negative aspects of the project include:

1. The clearing of ^{mature} bottomland hardwoods is hard to accept, when so few are left, ^{in the Mississippi Delta region.} ~~it is sometimes better to give up a part, to save the remainder.~~

2. The ROW is large. ^{lost about 1,000 acres} ~~The project should have been re-evaluated to determine if a smaller ROW was appropriate.~~ ^{5,000 acres from ing} The COE was asked ~~to do this~~ ^{and} but their answer was that the planned ROW was required. ^{This facilitated use of large draglines for the project and spreading some of the spoil.}

3. Mitigation for the project, ^{drainage} ~~should have been concurrent with the project.~~ ^{to accelerate construction of subimpoundments} The COE initial response to ^{the Service's} this request was that spoil areas would need 5 to 10 years to stabilize. This ^{is} was not satisfactory to the Service. After much effort and media pressure, the COE ^{has verbally} agreed to move construction of mitigation features forward. The initial schedule called for work on cross dikes 3 and 4 to begin in August 1989 (see attachment #1). ^{that} Changes in design and delays brought about by permits for boring crews, ^{etc.} ~~will result in~~ rescheduling projects for 1990. ^{Also, the COE} Funding for mitigation projects was not requested this FY. The refuge would benefit from a schedule with earlier completion dates. ^{one} ~~most likely the only~~ Political pressure is ~~most likely the only~~ method to accomplish this.

? not sure what the point is here! Are we satisfied with the tradeoff?
if assumed we issued permits for the ROW. if we were unhappy, why didn't we insist on reevaluation?
After all, it's our work!
one of excessive clearing.
The COE now advises for how about withholding permits?

by the Service and general public because
Approved

area

to cancel the temporary permit
for the 66A project
or not issue a
permit for 66B funds

In the interim, ~~and~~ other alternative could be explored. The COE is operating under a temporary permit which could be withdrawn if satisfactory progress is not made on scheduled mitigation features. At a minimum, temporary water control structures ~~could~~ ^{should} be installed to alleviate some of the water loss brought about by the project.

until the COE initiates
Service mitigation features
Scale

Do waterfowl use
now?

about 5,000 acres adjacent to
4. Water levels in Swan Lake have been affected negatively. Water which took one to two months to drain from the refuge now take less than two weeks.

A ~~the~~ test levee ^{was} built in the late 70's and ~~is~~ just north of the Black Bayou entrance to Steele Bayou ^{and} holds water in a portion of Swan Lake. This levee was constructed to determine how well dirt fill would hold up in Swan Lake bed proper. It

following completion of
Project 55-A, therefore
bottomland hardwoods
the area ~~is~~ ^{will be} available
for wintering waterfowl
use has been reduced

improved ^{for waterfowl management capabilities} appears to be doing well and could be completed without many complications. Temporary water control structures could be ^{installed by the COE in the} used until permanent structures were completed. At the present time, rainfall must be received on a regular basis to maintain ^{sufficient} water levels at their natural elevation, ^{behind this levee.}

which is? if thought we
had drastic water level
fluctuations

implementation ^{Schedule for} The Service is experiencing problems with the COE work on Yazoo NWR ^{with} but could benefit from this the ^{the} portion of the overall project if the COE completed mitigation features in a timely manner. The agency does not support the Yazoo Basin drainage projects in general. The overall basin project as it ^{planned} stands will have strong negative impacts on wetlands. The project ^{to} will induce drainage of wetlands and clearing of bottomland hardwoods--resources much needed by wintering waterfowl and many species of wildlife.

the channel and
are we dubious
about this? Will
R&E or want R&E benefit
from project?

R4YAMS for R4WRSUP 15:07 EDT 28-Oct-88 Message 458-2214 [1]

Upper?

Position Statement

Steele Bayou Project at Yazoo National Wildlife Refuge

Yazoo National Wildlife Refuge encompasses 12,471 acres and was established in 1936 to provide wintering waterfowl habitat. The Corps of Engineers proposed plans for constructing the Steele Bayou Project in 1964. This project will utilize about 900 acres of refuge wetlands and bottomland hardwood habitat to facilitate construction of a stream channelization project and impact about 5,000 acres of refuge oxbow lake and bottomland hardwood habitat adjacent to the project site. These flood prone areas are important to about 100,000 ducks (predominantly mallards) for feeding and resting during winter months. Also, several thousand wood ducks use the area for nesting and brood rearing habitat during spring and summer months. Other threats to the long term viability of this important wetland area include siltation and contaminants. Several feet of silt have been deposited in lower refuge oxbow lakes and bottomland hardwoods originating from erosion of privately owned agricultural lands within the refuge watershed. Also, accumulations of pesticides from past agricultural practices are limiting use of refuge wetlands by some species of fish, amphibians, and other aquatic vertebrates.

The Fish and Wildlife Service has been providing input to the Corps relative to impacts the channelization project will have on fish and wildlife resources. Features that must be included in the project to mitigate and compensate for any anticipated loss of fish and wildlife habitat on refuge lands have been incorporated into the project. This was done consistent with provisions of the Fish and Wildlife Coordination Act and the National Wildlife Refuge Administration Act.

On July 30, 1982, the Corps began construction activities at Yazoo National Wildlife Refuge and work has been continuing since that date. Various phases of the project have caused concern among local citizens, national outdoor writers, and most recently the Wilderness Society.

The Service supports the Corps' Steele Bayou Project on Yazoo National Wildlife Refuge consistent with agreements between the agencies. The Corps agreed to compensate the Service fair market value for refuge lands used to construct the project and to mitigate fish and wildlife habitat losses and adverse impacts in a timely manner. The project can be accomplished as planned and be compatible with the refuge's primary purpose (waterfowl management). The mitigation features of constructing levees and water control structures to create three impoundments in Swan Lake and one impoundment in Straight Lake will provide improved

habitat for fish and wildlife resources, especially for wood ducks and mallards. When completed, the Steele Bayou channel will transport silt and pesticide laden waters around, rather than through, refuge wetlands. A weir structure at Black Bayou will enable the Service to replenish water in the wetlands when water quality conditions are most favorable. This will reduce the threats of silt and contaminants to the refuge.

The Service recognizes both the pros and cons associated with the Steele Bayou Project and supports the project. Mitigation features have not been funded and constructed commensurate with the first two construction phases by the Corps. If necessary, the Service will deny issuance of a special use permit for construction of the final portion of channel on the refuge until the agreed upon mitigation work is implemented.

memorandum

DATE: October 27, 1988

REPLY TO
ATTN OF: Refuge Manager, Yazoo NWR, Hollandale, MS

SUBJECT: History of Corps of Engineers Activity on Yazoo NWR
and Position Statement

TO: Regional Director, FWS, Atlanta, GA

Files for the Corps of Engineers (COE) Steele Bayou Project as it relates to Yazoo NWR date back to April 24, 1964. Anticipated impacts of this channelization project on refuge resources have been evaluated and discussed for many years. Planned COE activity will occur along a 10-mile stretch on the east side of the refuge and directly impact approximately 900 acres of refuge lands. Construction on the refuge will be in three segments; 55A, 66A, and 66B.

Actual COE construction activity on refuge lands began on July 30, 1982, when a crew moved in to clear all trees from the 55A right-of-way (ROW). This was completed in late August 1982, and during February 1984, dirt-moving equipment began work. Project 55A was completed in late December 1984, and channelization removed a bottleneck in the drainage system which now allows refuge wetlands to drain much faster (within 2 weeks instead of 2 months) following heavy rainfall within the watershed. The impacted wetlands encompass about 5,000 acres of bottomland hardwoods and is important as a resting and roosting area for wintering waterfowl--primarily wood ducks and mallards.

The COE paid the Service \$148,500 (fair market value) for the 197 acres of land and timber within the 1.8 mile 55A ROW. This money continues to be used for reforestation projects on Yazoo NWR which to date have resulted in planting of 1,034 acres to bottomland hardwoods by the refuge staff. The COE also constructed structured wingwalls on four water control structures, installed a 60'x48" pipe and 9'x72" riser in greentree reservoir #1, and cleaned out the Deer Lake drain to improve waterfowl habitat management capabilities. The COE hoped this would be mitigation for the entire project, but the Service considered it payment only for Service lands used in the 55A project.

"Safe ... The Only Sound Way To Work!"

In April 1987, the COE contractor began clearing operations for the 66A project under a temporary permit. The refuge had attempted to salvage timber within the ROW during the previous fall, but early rains had prevented the salvage of approximately 50 percent of the timber (mostly located in the upper end of the ROW). Once the COE contract was let, the contractor became owner of the ROW timber. Except for cypress logs, all remaining timber was pushed, piled, and burned which resulted in some local criticism. This part of the operation was completed in December 1987 and channel construction is now about 60 percent completed.

Payment for the 5.7 mile 66A ROW, totalling 505.2 acres, has not been settled to date because of differences in opinion over the appraised value between the Service and COE. The Service is in the process of contracting for an independent appraisal to resolve this issue.

The final phase of channelization will be project 66B which is scheduled to begin during 1989. This will involve about 250 acres of refuge land and extend the channel 2 1/2 miles along the east edge of Swan Lake. Very little timber clearing will be required on this portion of the project.

Mitigation for the Steele Bayou Project as requested by the Service and agreed to by the COE includes 10.7 miles of levees and seven major water control structures which will create four large impoundments. About 8.2 miles of levee will be constructed from the 66A and 66B spoil and 2.5 miles of cross levees will be constructed from off-site material. The cross levees will separate Swan Lake into three large impoundments and create a new impoundment at Straight Lake. These impoundments will allow the refuge to regulate water levels and divert pesticide/silt laden waters around the refuge.

The Upper Yazoo Basin project of which Steele Bayou is a part has become extremely controversial during the past year and a half. The refuge has responded to numerous requests for information as to how the project impacts the refuge. The response to these requests acknowledge both positive and negative attributes of the project but gives Service support only to the Steele Bayou portion of the overall project. From our perspective, the positive aspects for the Steele Bayou Project are:

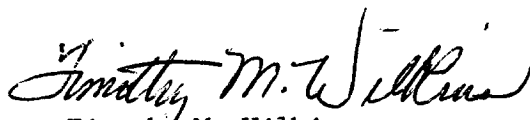
1. Pesticide/silt laden waters from agricultural operations in the watershed will be diverted around the refuge. Currently Silver Lake Bayou (Main Canal), Black Bayou, #9 drain ditch and several smaller streams and ditches dump these nondesirables directly into Swan Lake bed. Over the years this has resulted in silt deposits which will eventually fill the lake bed. Some areas have filled in an estimated 3 feet in the last 8 years, making dry land of what once was a lake bed. Preliminary results of some ongoing studies have revealed pesticide problems which have almost eliminated some aquatic wildlife species indigenous to Swan Lake such as fish, frogs, and other aquatic vertebrates. When the COE channelization and mitigation projects are completed, the lake bed will be on the road to recovery.
2. The system of levees and water control structures will allow the Service to manipulate water levels in Swan Lake and Straight Lake. This will allow the refuge to maintain optimum water levels instead of experiencing natural random extreme fluctuations of from 1 1/2 feet to 5 feet average water depth inundating the bottomland hardwoods during winter months.
3. Management of the planned impoundments will create wood duck brood habitat. The reduction of silt and pesticides will allow production of aquatic foods utilized by young wood ducks to improve dramatically.
4. Wintering waterfowl (up to 100,000 have historically used the area for resting and roosting) will also benefit from the creation of a cleaner, more productive environment which will also be used as a feeding area. The impoundments will be manipulated to encourage growth of important wildlife foods beneficial to a wide range of wildlife including waterfowl. The current water regime is one of drastic fluctuations where water may rise and fall up to 4 feet in a 2 week period. Stabilized water will offer a controlled habitat conducive to sustained wildlife use.
5. A cleaner environment will allow Swan Lake to be restored to a highly productive wetland where indigenous wildlife species can return and survive. This work offers the opportunity to reclaim a national treasure, something not possible for most old oxbow swamps in the Mississippi Delta.

Negative aspects of the project include:

1. The clearing of mature bottomland hardwoods is hard to accept by the Service and general public because so few are left in the Mississippi Delta region. The Service decided to sacrifice about 900 acres of habitat to save the 5,000 acres of bottomland hardwoods from adverse impacts of siltation and pollution.
2. The ROW is wide. The COE was asked to determine if a smaller ROW was appropriate, and their answer was that the planned ROW was required. This facilitated use of large draglines for the project and spreading some of the spoil. Still the appearance to the general public is one of excessive clearing.
3. Implementation of approved mitigation for the project is not proceeding concurrent with construction of the drainage project. The COE initial response to the Service request to accelerate construction of subimpoundments was that spoil areas would need 5 to 10 years to stabilize. This response is not satisfactory to the Service. After much effort and media pressure, the COE has verbally agreed to move construction of mitigation features forward. The initial schedule called for work on cross dikes 3 and 4 to begin in August 1989 (see attachment #1). However, the COE now advises that changes in design and delays brought about by permits for boring crews will result in rescheduling projects for 1990. Also, the COE did not make a budget request to Congress for funding mitigation projects this fiscal year. The refuge needs a schedule with earlier completion dates. Political pressure is one method to accomplish this. Other alternatives are to cancel the temporary permit for the 66A project or not issue a permit for 66B until the COE funds and initiates Service mitigation features, or temporary water control structures could be installed by the COE to alleviate some of the water loss brought about by the project.
4. Water levels in approximately 5,000 acres adjacent to Swan Lake have been affected negatively. Water which took 1 to 2 months to drain from the refuge now take less than 2 weeks following completion of Project 55A. Therefore, the period of time the bottomland hardwood areas are available for use by wintering waterfowl has been reduced. A test levee was built in the late 70's just north of the Black

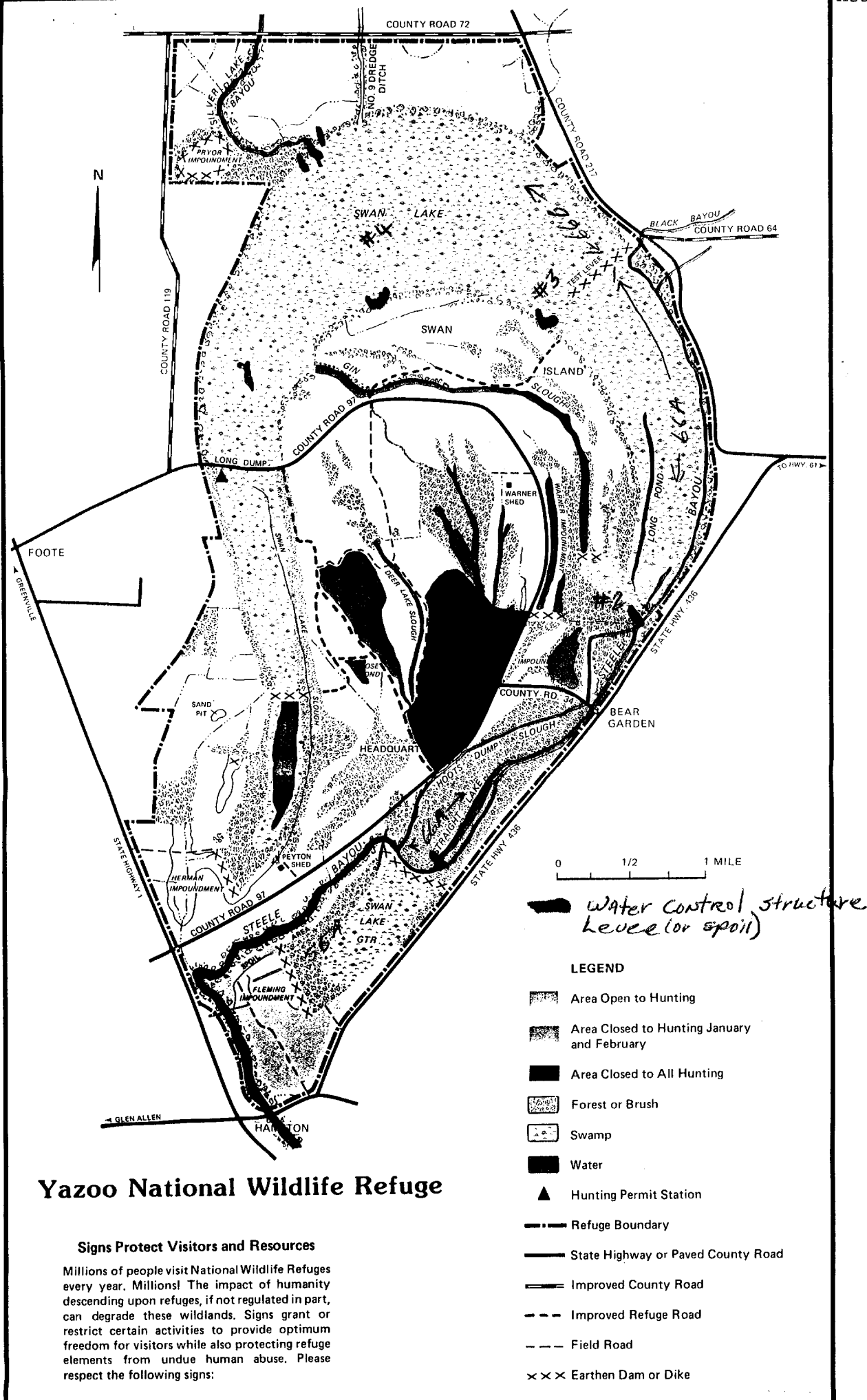
Bayou entrance to Steele Bayou and holds water in a portion of Swan Lake. This levee was constructed to determine how well dirt fill would hold up in Swan Lake bed proper. It appears to be doing well and could be improved for waterfowl management capabilities without many complications. Temporary water control structures could be installed by the COE in the lease until permanent structures were completed. At the present time, rainfall must be received on a regular basis to maintain sufficient water levels behind this levee.

5. The Service is experiencing problems with the COE implementation schedule for mitigation work on Yazoo NWR. The refuge will benefit from the Steele Bayou Project when the COE completes the channel and mitigation features. However, the agency has strong reservations about the Upper Yazoo Basin drainage projects in general. The overall basin project as planned will have strong negative impacts by inducing drainage of wetlands and clearing of bottomland hardwoods--resources much needed by wintering waterfowl and many species of wildlife.


Timothy M. Wilkins

STEELE BAYOU BASIN
SWAN LAKE AREA
(SCHEDULE AS OF 15 MARCH 1988)

<u>Construction Features</u>	<u>Plans and Specifications Complete</u>	<u>Construction Schedule</u>	
		<u>Initiate</u>	<u>Complete</u>
Weir E	N/A	Mar 88	Mar 89
Black Bayou Item 1A (Miles 0.0 - 2.2 and includes construction of base for Cross- dikes 3 and 4 working platform for Item 66B channel construction)	Feb 89	Aug 89	Aug 91
Steele Bayou Item 66B (Includes excavation of channel)	Jan 90	Jun 90	Jun 92
Main Canal, Item 1	Apr 91	Oct 91	Dec 93
Silver Lake Drainage Structures and Closure	Dec 89	Apr 90	Dec 90
Site C and Site D Water Control Structures	Dec 89	Apr 89	Dec 89
Site B Water Control Structure and Dike 2	Sep 89	Jan 90	Dec 90
Site A Water Control Structure	Sep 89	Jan 90	Sep 90
Swan Lake Levee and Dike Caps (2, 3, 4)	N/A	(Future work as soil conditions permit)	



memorandum

DATE: May 27, 1988

REPLY TO
ATTN OF: Refuge Manager Yazoo NWR Complex

SUBJECT: Completed Pondberry Survey on Panther Swamp NWR

TO: Botanist; Endangered Species Office, Jackson, MS

A survey to determine the occurrence of pondberry, Lindera Melissaefolium, in planned 1988 timber sale areas on Panther Swamp NWR was conducted on May 19th, 20th, and 23rd. No pondberry was located.

Four persons were used to complete the survey, two staff from Panther Swamp NWR and two staff from Yazoo NWR. All four of these participants met with Biologist, Becky Banker from Delta National Forest and observed the plant first hand on May 19th.

As previously discussed between you and Dave Ellis, the survey was conducted so that at least 40% of the sale area was surveyed. A 50% survey was conducted in portions of the area (See attached maps). The great majority of the survey area had only a sparse to light covering of understory vegetation. The large leafed pondberry would have been easily recognizable under these conditions. When possible, however, future surveys will be conducted during the March flowering period for this plant.

If you need additional information about this survey, please contact Dave Ellis. Also, please keep us informed of any new or changed information regarding this plant.

Attachments

Copies: Sam Drake
Ray Aycock

Sincerely,
Tim Wilkins
Tim Wilkins
Refuge Manager

PANTHER SWAMP NATIONAL WILDLIFE REFUGE

UNITED STATES
DEPARTMENT OF THE INTERIOR
R 5 W

YAZOO COUNTY, MISSISSIPPI

UNITED STATES
FISH AND WILDLIFE SERVICE
R 3 W 90°30'

R 4 W

90°35'

90°30'

T 12 N

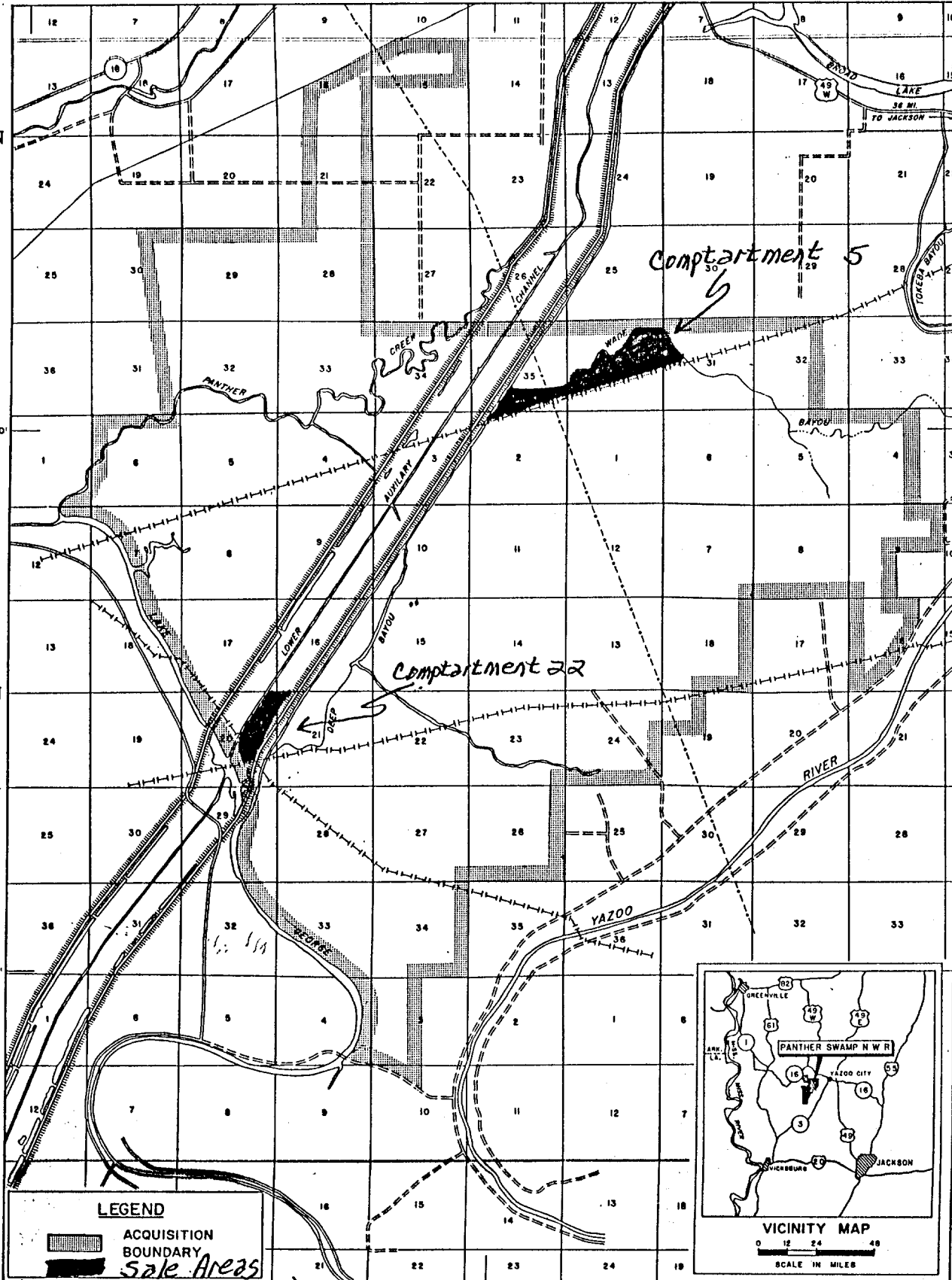
T 12 N

T 11 N

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T 10 N



LEGEND



ACQUISITION
BOUNDARY
Sale Areas

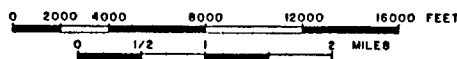
R 5 W
COMPILED IN THE DIVISION OF REALTY
FROM SURVEYS BY U.S.G.S.

R 4 W

CHOCTAW MERIDIAN

90°35'

90°30'

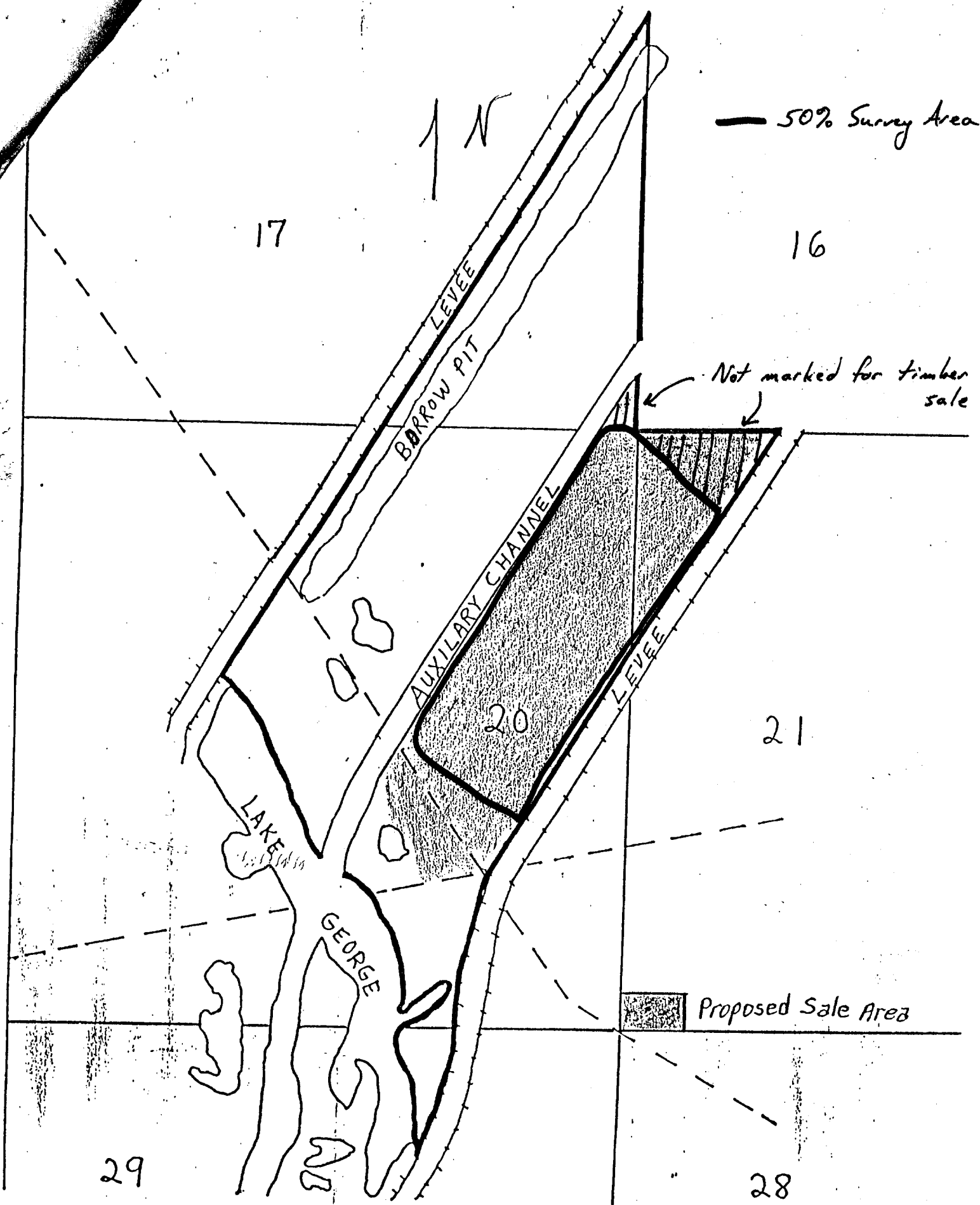


ATLANTA, GEORGIA
REVISED 12/86

JUNE 1977

TRUE NORTH
MAGNETIC N.
MEAN DECLINATION
1977

4R MISS 926 404



5 ins. = 1 m

PANTHER SWAMP

NWR

COMP NO. 5

99

N

AUXILIARY

CHANNEL

$\frac{10}{9206}$

LEVEE

35

POWERLINE

$\frac{08}{9606}$

WADE

TEXAS
R 3 W

EASTERN

PIPELINE

BAYOU

$\frac{01}{9211}$

$\frac{07}{9212}$

$\frac{06}{9206}$

36

$\frac{05}{9606}$

$\frac{02}{9212}$

$\frac{03}{9206}$

I 11

31

2

A-1 MILE LM



Proposed Sale Area

50% Survey Area

40% Survey Area



United States Department of the Interior

FISH AND WILDLIFE SERVICE

75 SPRING STREET, S.W.

ATLANTA, GEORGIA 30303

2pg

THE U.S. FISH AND WILDLIFE SERVICE

A POSITION STATEMENT ON THE UPPER YAZOO BASIN PROJECT, MISSISSIPPI

May 20, 1988

Four separable, yet interrelated, projects of the Upper Yazoo Basin Project are currently authorized for construction, under construction, and/or completed. They consist of the Upper Yazoo Projects, the Ascalmore Creek-Tippo Bayou Project, the Big Sand Creek Project, and the Panola-Quitman Floodway East Bank Levee. Upon completion, the Upper Yazoo Basin Projects will entail over 245 miles of channelization, 250 miles of levees, 7 flood control structures, and over 100 drainage structures. Unlike other features of the Corps program that protects the Mississippi Delta from catastrophic flooding, the Upper Yazoo Basin Projects have the purpose and effect of expanding and intensifying agriculture in a highly flood prone area. Its purpose is essentially agricultural intensification and expansion rather than flood damage reduction.

Project impacts to fish and wildlife resources are severe. The Service estimates in excess of 31,500 acres of bottomland hardwood wetlands will be lost due to project construction and project-induced land clearing by project beneficiaries. Additionally, natural flooding on 82,000 acres of bottomland hardwood wetlands will be reduced. Wintering waterfowl habitat will be reduced by 50 percent in an area that is Mississippi's number one waterfowl wintering area. Obviously, the impact of the channelization of 245 miles of delta streams, the increased erosion and sedimentation resulting from clearing 31,500 acres of wooded wetlands, and the loss of spawning and nursery habitat on 82,000 acres of wooded wetlands no longer subject to periodic flooding will adversely impact fishery resources in the project area.

Because of the ongoing construction of what is best described as a single purpose agricultural drainage and reclamation project, four areas of concern have been identified. Based upon review and analysis of the impacts of the Upper Yazoo Basin Project, we conclude that the project is not keeping with the Federal government's crop acreage reduction programs; represents Federal swampbusting; represents a significant Federal subsidy for agricultural expansion and intensification in wetlands; and, is not in conformance with laws and policies protecting this nation's wetlands and thus, is not in compliance with the National Environmental Policy Act and the Fish and Wildlife Coordination Act. Further, we are of the opinion that these shortcomings can not be addressed while the project is under construction in what is, by definition, a piecemeal fashion.

Immediate steps should be taken to reformulate the project in a manner that addresses today's problems and needs and is consistent with national programs, policies, and laws relating to agricultural production, wetland preservation, and fish and wildlife conservation. A Supplemental

Environmental Impact Statement specific to the Upper Yazoo Basin Projects should be initiated immediately as a means of reformulating the project, addressing all reasonable alternatives, identifying impacts, and developing means and measures to mitigate adverse impacts to fish and wildlife resources.

In summary, the Service questions further implementation of the Upper Yazoo Basin Project and supports a reformulation of the project with full acknowledgement, compliance, and disclosure of existing laws and policies.

(3pg)

Alabama Illinois Iowa Louisiana Michigan Mississippi Ohio Saskatchewan
Arkansas Indiana Kentucky Manitoba Minnesota Missouri Ontario Tennessee Wisconsin

MISSISSIPPI FLYWAY COUNCIL

MISSISSIPPI FLYWAY COUNCIL



1952

August 13, 1986

Frank Dunkle, Director
U.S. Fish and Wildlife Service
Department of the Interior
18th and C Street, N.W.
Washington D.C. 20240

Dear Mr. Dunkle:

The Mississippi Flyway Council is seriously concerned with the loss of wetlands and bottomland hardwoods. On July 29, 1986, the Council passed the appended resolution voicing its concern with respect to the impacts and mitigation of the Upper Yazoo Basin projects and, in particular, the conflict of these projects with the objectives of the North American Waterfowl Management Plan.

Sincerely,

A handwritten signature in cursive script that reads "William D. Graves". The signature is written in dark ink and is positioned above the printed name and title.

William D. Graves, Chairman
Mississippi Flyway Council

WDG:kd

cc: Council Reps
Ken Gamble

RESOLUTION
MISSISSIPPI FLYWAY COUNCIL

UPPER YAZOO BASIN, MISSISSIPPI
FLOOD CONTROL PROJECTS

WHEREAS, the loss of bottomland hardwoods and other wetlands is of national and international concern; and

WHEREAS, these wetlands constitute necessary habitat for numerous species of migratory waterfowl; and

WHEREAS, the lower Mississippi River region historically provided vast acreages of wetlands used by wintering migratory waterfowl; and

WHEREAS, the Yazoo Delta of Mississippi has represented an integral and important segment of this wintering habitat; and

WHEREAS, agricultural development, encouraged by Federal flood control and drainage projects, has left only remnants of this habitat -- presently approximately 11 percent of the land area of the Yazoo Delta; and

WHEREAS, the majority of this remaining wetland habitat is located in the Yazoo Backwater and Upper Yazoo Basin areas of the Yazoo Delta; and

WHEREAS, the Upper Yazoo Basin presently contains significant amounts of waterfowl habitat consisting of approximately 200,000 acres of bottomland hardwoods and over 110,000 acres of winter flooded cropland; and

WHEREAS, the Upper Yazoo Basin winters 39 percent of the mallards and 42 percent of all ducks in Mississippi; and

WHEREAS, the Upper Yazoo Basin is under threat of being drained by ongoing or planned Corps of Engineers flood control projects; and

WHEREAS, these flood control projects would consist of 228 miles of channelization, 244 miles of levees, and over 100 drainage structures; and

WHEREAS, the impacts of these projects would result in the loss of over 25,000 acres of bottomland hardwoods, and the removal of winter flooding from over 56,000 acres of wetlands; and

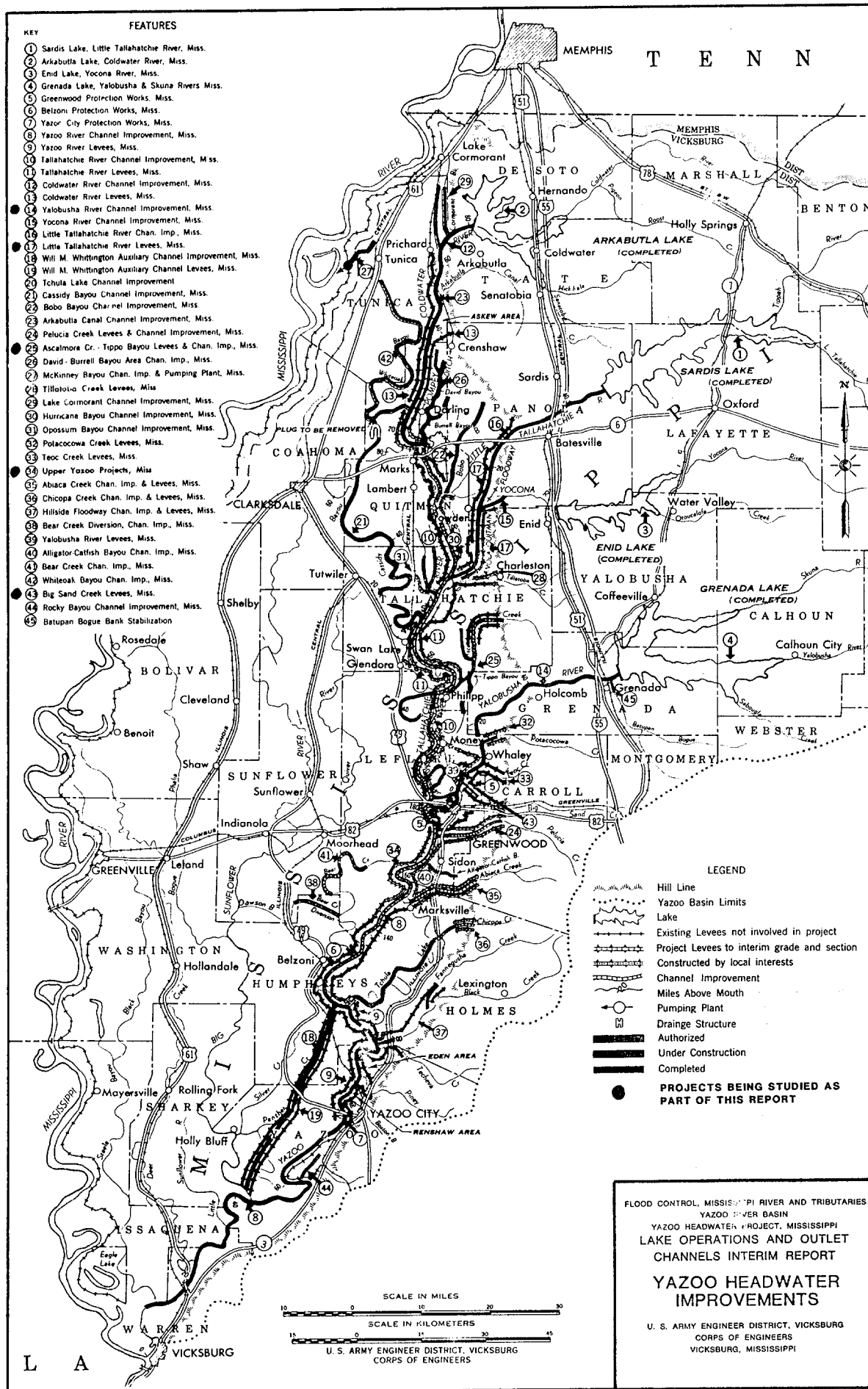
WHEREAS, the 1986 North American Waterfowl Management Plan states that the maintenance of abundant waterfowl populations is dependent on the protection, restoration, and management of habitat; and

WHEREAS, the Waterfowl Management Plan specifies that special attention should be given to the conservation of waterfowl habitat in the lower Mississippi River-Gulf Coast region; and

WHEREAS, the Waterfowl Management Plan specifically included a recommendation for the protection of 686,000 acres of mallard and pintail migration and wintering habitat in the lower Mississippi River-Gulf Coast region; and

NOW, THEREFORE, BE IT RESOLVED that the Mississippi Flyway Council finds the Upper Yazoo Basin projects threatening to the well-being of waterfowl and in direct conflict with the objectives of the North American Waterfowl Management Plan; and

BE IT FURTHER RESOLVED that the Mississippi Flyway Council requests that all construction and planning of the Upper Yazoo Basin projects be halted until a plan is developed to adequately compensate for project impacts; and, in so doing, nullify the adverse effects to waterfowl habitat.





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30365

OCT 21 1987

4WMD-MEB/TW

Mr. James W. Pulliam, Jr.
Regional Director
United States Department of the Interior
Fish and Wildlife Service
75 Spring Street, S.W.
Atlanta, Georgia 30303

Dear Mr. Pulliam:

We have recently received a copy of your draft Upper Yazoo Basin, Mississippi mitigation report. We appreciate the opportunity to review the report and your support of our efforts in requesting that the Corps of Engineers thoroughly evaluate this project and prepare an adequate 404(b)(1) evaluation and acceptable mitigation plan.

As we indicated in our letters of January 18, 1980, and May 24, 1984, and reiterated in a meeting of Mr. Jack Ravan and Major General Sands, Division Engineer, Lower Mississippi Valley Division Corps of Engineers, the Environmental Protection Agency (EPA) considers that mitigation of this project is a major issue if the project is continued.

The impacts which are discussed in the report as associated with the Upper Yazoo project include channelization of 230 miles of waters of the United States, reduction or loss of fisheries habitat on 82,000 acres of wet bottomland hardwoods, a 30 percent reduction of the winter water habitat for migratory waterfowl, conversion of 6,000 acres due to project construction and approximately 25,000 acres due to project induced clearing with cumulative adverse impacts affecting 1 million acres of forested wetlands. It must be recognized that the federal drainage and flood control projects have resulted in significant losses of wetlands, fish and wildlife habitat, and degradation of water quality values in the Yazoo River watershed. Because of these cumulative impacts, EPA must closely scrutinize each project during our analysis and application of the 404(b)(1) Guidelines.

The objectives of the Upper Yazoo Basin mitigation report include conserving remaining bottomland hardwoods, restoring bottomland hardwoods on marginal agricultural sites, utilizing structural flood control features to maintain favorable winter habitat conditions for waterfowl, restoring fisheries where possible, optimizing mitigation potential on public land, and intensively managing acquired mitigation lands for resource purposes. These objectives are consistent with the goals of EPA in its implementation of the Clean Water Act to restore and maintain the chemical, physical, and biological integrity of the waters of the United States. Therefore, EPA supports your mitigation report for the Upper Yazoo Basin, Mississippi and recommends that the Corps of Engineers adopt and implement the plan.

AWE AWF
DAWE AWF
DAWE AWF
BAE AWF
✓ ES AWF
SE AWF
FA AWF
TS AWF
Return To: _____
File/Toss: _____
Copy To: _____

Again, I appreciate the opportunity to comment on the report and look forward to working with you in maintaining and protecting these important resources.

Sincerely yours,

A handwritten signature in cursive script, reading "Lee A. DeHihns, III". The signature is written in dark ink and includes a stylized flourish at the end.

Lee A. DeHihns, III
Acting Regional Administrator



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

4E-ER/WET

345 COURTLAND STREET
ATLANTA, GEORGIA 30308

JAN 13 1980

Colonel Samuel P. Collins, Jr.
District Engineer
U.S. Army Corps of Engineers, Vicksburg
P.O. Box 60
Vicksburg, Mississippi 39180

SUBJECT: Upper Yazoo River Project
(LMKOD-FE 1522-14 VXD (Yazoo R.)-64)

Dear Colonel Collins:

This is in response to the public notice dated December 19, 1979, relating to the dredging and disposal operations necessary for enlarging the channel of the Yazoo River from a point about one mile downstream of Silver City, Mississippi, to a point about one mile downstream of Belzoni, Mississippi, including a cutoff at Silver City.

The spoil sites shown in this public notice have been coordinated with the U.S. Fish and Wildlife Service and a conscientious effort has been made to minimize damage to wetlands and wildlife areas. Nevertheless, considerable wetlands and wildlife areas are being consumed by the project and we understand, in discussing this project with the U.S. Fish and Wildlife Service, that no commitment has yet been made by the Corps of Engineers as to the amount of wetlands which will be mitigated as a result of project losses. We are concerned with the cumulative effect of this and similar projects along the Mississippi River.

It should be recognized that the project will cause the loss of wetlands and wildlife areas in addition to that lost under the dikes, in the spoil sites and by channel widening. The cumulative effects, Item 9 in the 404(b) Evaluation Report, does not give a complete evaluation. By deepening and widening the channel and maintaining it in this condition, the water table in the adjacent lands is lowered. This includes water levels in the adjacent wetlands, bottomland hardwoods, and pasturelands, presently too wet for farming. The cumulative effect of this and similar

projects is to place more land under cultivation, reduce wetland and wildlife habitat, compress native wildlife and migratory species into smaller and smaller areas and further endanger the already endangered species. From a hydrological standpoint, placing more land under cultivation and channelizing the river increases runoff, the rate of runoff and downstream sedimentation and flood peaks. From a water quality standpoint, the increased use of pesticides, herbicides and fertilizers, without the benefit of overflow wetland areas to absorb these nutrients and contaminants, causes an overall degradation in water quality values.

Taking these facts into consideration and because of the extensive wetland involvement for the entire project, we believe mitigation measures should be finalized prior to further construction of the project. Therefore, our concurrence in the work included herein and the overall project is contingent upon an acceptable mitigation plan being worked out with the U.S. Fish and Wildlife Service for the project.

Sincerely yours,



Arthur G. Linton, P.E.
Federal Activities Coordinator
Enforcement Division

cc: See Attached

RECOMMENDATIONS

In view of the magnitude of expected losses of rapidly disappearing bottom-land habitat, the Fish and Wildlife Service is opposed to further planning or construction of the project unless the following features are included in proposed plans:

1. The Corps of Engineers fund a joint study between the Mississippi Game and Fish Commission and the Fish and Wildlife Service leading to the designation and acquisition of lands to fully offset the project losses. As a first approximation, 30,000 acres of land adjacent to the Malmaison Game Management Area would offer the management potential to compensate for project-occasioned losses.
2. Costs for land acquisition, initial development, and annual operation and maintenance functions associated with fish and wildlife mitigation measures be included as an integral cost of the project.
3. The bendway cutoff northwest of Greenwood, Mississippi, be developed by constructing a gated control structure at the downstream end, providing a green belt and/or diversion features to avoid damages from agricultural drainage, and constructing two public access sites equipped with parking and boat-launching facilities.
4. Eutah Bend Lake be developed by constructing a gated control structure at the downstream end, providing a green belt and/or diversion features to avoid damages from agricultural drainage, and constructing two public access sites equipped with parking and boat-launching facilities.
5. Constructing 10 public access areas equipped with parking and boat-launching facilities on major streams in the area.

This report has been reviewed and concurred in by the National Marine Fisheries Service. A copy of Regional Director Stevenson's letter is attached. A copy of this report was also sent to the Mississippi Game and Fish Commission. Any comments that agency cares to make will be forwarded to you.

October 7, 1985

Refuge Supervisor, FWS, Atlanta, GA (RF-ME)

Reduced Hunting Opportunities

Refuge Manager, Yazoo NWR

Attached is a letter from Jim Stewart to the Regional Director where he questions the biological need for the reduced seasons and hunting opportunities at Hillside NWR and Panther Swamp NWR. Please draft a response and return to this office by October 15. They are good questions and deserve professional answers--similar to the questions we are receiving in phone calls from people like Tommy Williams from Jackson.

Sam O. Drake, Jr.

Attachment

DRAKE:gr

October 4, 1985

Mr. Tommy Williams
945 Westway Street
Jackson, Mississippi 39212

Dear Mr. Williams:

Attached is a copy of a study done at Mississippi State University that I referenced in our telephone conversation on October 2, 1985. This may better explain the need to keep a proper buck/doe ratio in a deer herd than I was able to convey to you during our conversation. Refuge Manager Wilkins will call you and discuss changes to the hunt program at Panther Swamp National Wildlife Refuge in the near future. Please advise if I can be of further assistance in this matter.

Sincerely yours,

Sam O. Drake

Sam O. Drake, Jr.
Refuge Supervisor
Wildlife Resources

Attachment

cc:
Refuge Manager, Yazoo NWR, MS

DRAKE:gr

Date: February 9, 1989

From: Refuge Manager, Yazoo NWR, Hollandale, MS

Subject: Steele Bayou Project Update

To: Associate Manager, Refuges & Wildlife, FWS, Atlanta, GA

Question #1 - Status of work, etc.?

The work on COE Project 66A has been slowed during the past two months due to high water levels. Currently dredging has been completed to within 2.6 miles of the north end of 66A, approximately 5.1 miles complete.

Mitigation work is still in the planning stages. Several questions concerning project design are in the process of being answered. These questions concern:

- 1.) The impact of the weir south of the refuge as it relates to refuge water levels and the capacity to drain Swan Lake management areas created by the project?
- 2.) Elevations and functions of mitigation water control structures on the refuge? One major problem with the current design is the anticipated uncontrolled annual flooding of impoundments. If annual flooding occurs, the project will not function as desired by the FWS.
- 3.) The potential to reforest along the top of the spoil outside the planned levee construction?
- 4.) Who pays the cost of all maintenance for the project (should be the Corp of Engineers responsibility)?

Final mitigation plans will need to address the questions above.

Currently there is no mitigation in progress. Vicksburg ES staff and refuge staff met with Colonel Frances R. Skidmore and staff of the Vicksburg COE to discuss progress and schedules. The first meeting was held on December 14, 1988. Another is planned in February. These meetings should prove to be a very positive approach to solving problems. The first meeting resulted in a much better understanding of the project from the refuge side. One that some COE branches had not been exposed to.

Currently, I am satisfied with the COE's attempt to work with the FWS to accomplish refuge mitigation.

Question #2 - Independent view of project?

I feel the independent view of the project was discussed accurately in my memo dated October 27, 1988, and the position statement "Steele Bayou Project at Yazoo National Wildlife Refuge" developed in November.

Since the above mentioned correspondence was completed, I have learned that the weir as designed in Compartment #2 on the east side of the lake-bed will allow uncontrolled flooding of the compartment annually. This is not acceptable and is one of the topics to be answered by the COE when they respond to the January, 1989, memo from the Vicksburg ES office.

This is the only topic that I can recall which would lend itself to be interpreted by Mr. Charles Potter as my being "concerned" about the project. I have said and will continue to say that the project must now be completed to salvage the valuable habitat in Swan Lake Bed. This 5,000 acres of wetland does not need to be drained!

Question #3 - Recommendations?

I recommend that the project continue as directed by the FWS with any changes needed to make it compatible with refuge management goals. Questions concerning project designs, etc. are being answered now. Meetings with COE staff will continue. Bi-monthly project update meetings will be held with COE Branch Chiefs and the Colonel and FWS staff. These meetings will allow all concerns to be discussed and solutions found.

I will have Robert Barkley forward you a copy of the memo to the COE addressing specific concerns of the project as it relates to Yazoo NWR.

Tim Wilkins