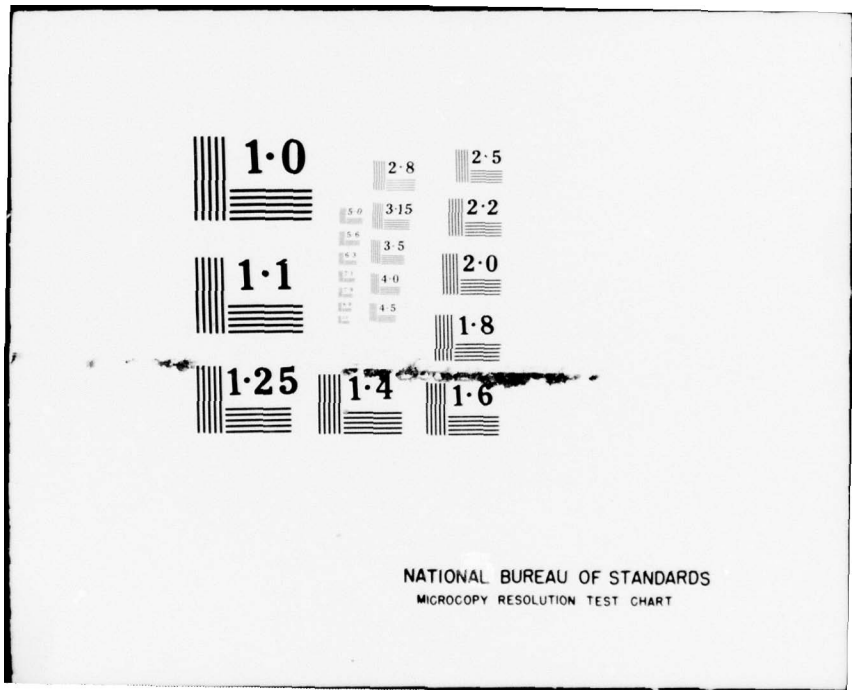
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Lower Mississippi Region
Comprehensive Study



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Environmental Impact Statement
1975

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Lower Mississippi Region Comprehensive Study

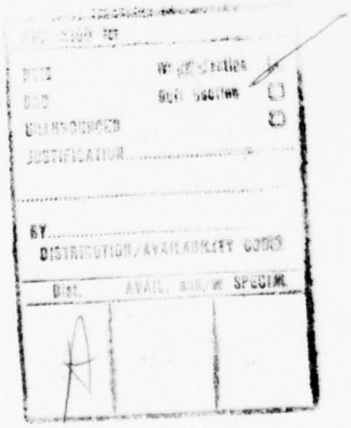
REVISED DRAFT ENVIRONMENTAL IMPACT STATEMENT

This appendix is one of a series of 22 documents comprising the complete Lower Mississippi Region Comprehensive Study. A list of the documents is shown below.

Main Report

Appendixes

Appendix	Description	Appendix	Description
A	History of Study	K	M and I Water Supply
B	Economics	L	Water Quality and Pollution
C	Regional Climatology, Hydrology & Geology	M	Health Aspects
D	Inventory of Facilities	N	Recreation
E	Flood Problems	O	Coastal and Estuarine Resources
F	Land Resources	P	Archeological and Historical Resources
G	Related Mineral Resources	Q	Fish and Wildlife
H	Irrigation	R	Power
I	Agricultural Land Drainage	S	Sediment and Erosion
J	Navigation	T	Plan Formulation
		U	The Environment



REVISED DRAFT ENVIRONMENTAL IMPACT STATEMENT

LOWER MISSISSIPPI REGION
COMPREHENSIVE STUDY

PREPARED BY

LOWER MISSISSIPPI REGION COMPREHENSIVE STUDY

COORDINATING COMMITTEE

JANUARY 1975

182 p.

DDC
JUL 8 1977

DISTRIBUTION STATEMENT A
Approved for public release;
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Lower Mississippi Region Comprehensive Study

(X) Draft ( ) Final Environmental Statement

Responsible Office: Lower Mississippi Region Comprehensive Study Coordinating Committee

1. Name of Action: (X) Administrative ( ) Legislative

2. Description of Action. Approve and adopt a framework program to be used as a guide for the 50-year (1970-2020) management of water and related land resources in the Lower Mississippi Region in portions of seven States.

3. a. Environmental Impacts. If implemented in its entirety, the framework program will help provide a more balanced distribution of the basin's water supply to permit maintenance of economic activity necessary to improve the standard of living of the region's residents. It will promote land use patterns that enhance opportunities for outdoor recreation, fish and wildlife utilization, preservation of the natural environment and cultural and historical features, and production of needed food and fiber. Furthermore, the program will promote improvements in water quality, reductions in flood damages, and improvements in water transportation facilities. These, along with improved services, will help to support and enhance the economic and social well-being of the region and the Nation.

b. Adverse Environmental Effects. Commitments of resources and construction activities associated with navigation channels, reservoirs, levees, sewage treatment facilities, and other types of projects required to implement the program may impose adverse impacts on the

environment. Such impacts on fish and wildlife resources and on cultural, esthetic, and other resources will depend upon specific project proposals and can be determined only in the course of future authorization studies for which detailed environmental impact statements will be prepared.

4. Alternatives. The recommended framework program is comprised of a mix of plans balanced between the objectives of National Income and Environmental Quality. Alternatives are likewise based on these objectives and on the further objective of Regional Development, with each objective receiving primary emphasis in one of the alternative programs.

5. Comments Requested. Federal, State, and local agencies from which comments have been requested are listed below. Comments have also been requested from citizens in the affected States.

Federal Agencies:

U.S. Department of Agriculture

U.S. Department of the Army

U.S. Department of Commerce

U.S. Department of Health, Education, and Welfare.

U.S. Department of Housing and Urban Development

U.S. Department of Transportation

U.S. Department of the Interior

Environmental Protection Agency

Federal Power Commission

States:

Arkansas

Illinois

Kentucky

Louisiana

Mississippi

Missouri

Tennessee

6. Draft Statement to CEQ

REVISED DRAFT

ENVIRONMENTAL IMPACT STATEMENT

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1. STUDY DESCRIPTION AND FRAMEWORK FOR DEVELOPMENT

1.01. The Lower Mississippi Region Comprehensive Study (authorized in the Flood Control Act of 1966) is a reconnaissance-type investigation of resource problems and needs within the alluvial valley and surrounding area of the Mississippi River below Cairo, Illinois. It contains no recommendations for specific projects, nor does it contain sufficiently detailed information for authorization of projects. It does, however, provide a broad-scaled analysis of the resource problems and needs, and outlines a recommended framework program for the region in terms of the probable nature, extent, timing, and costs of measures for satisfaction of foreseeable needs and the solution of identified problems.

1.02. The purpose of the recommended framework program is to serve as both a short- and long-range guide in planning for the conservation, development, and beneficial use of the water and related land resources in the study region. Program components are presented in broad terms relating to outputs required for the satisfaction of water withdrawal and water surface area needs, land use and management needs, and problem amelioration needs for the time period 1970-2020. In the plan formulation process, all demands on the resources were identified regardless of the concerned private or public entity or the investment-management requirement for needs satisfaction. However, only those needs satisfaction measures which fall within the purview of the public sector were translated into program costs.

1.03. Components of the framework program were selected on the basis of their contribution to the well-being of the people and to the

objectives of National Income, Regional Development, and Environmental Quality. The mix of these objectives reflected in the recommended framework program is responsive to the attitudes and desires of the people, to the extent that such a determination could be made in the study process (see Section 9 for discussion of public involvement aspects of study). Translation of the recommended framework program into output categories is summarized in Table 1.

1.04. The listing of current supply in the table includes the water and related land resource developments that existed in the region in 1970. It also includes natural areas that are now under some form of protective ownership or management, or otherwise presumed to require no program measures for preservation or enhancement. The program outputs are based on broad requirements for future resources development. Specific projects for which future authorization and detailed planning and funding will be required to implement the framework program were not developed since that detail of planning was beyond the scope of the study. The estimated total first cost of the recommended framework program is $14.8 billion (1972 dollar values), which is divided about equally between Federal and non-Federal interests.

1.05. The Federal-State Coordinating Committee responsible for overall leadership for the Lower Mississippi Region Comprehensive Study and framework for development was chaired by the President of the Mississippi River Commission, representing the Department of the Army. Members consisted of representatives of the States of Arkansas, Illinois, Kentucky, Louisiana, Mississippi, Missouri, and Tennessee, and the Federal

Departments of Agriculture; Commerce; Health, Education and Welfare; Housing and Urban Development; Interior; Labor; Transportation; the Federal Power Commission; and the Environmental Protection Agency.

1.06. The complete record of the Lower Mississippi Region Comprehensive Study findings, conclusions, and recommendations is contained in a Main Report and 21 appendixes. The appendixes give an account of the history of the study and provide details on the existing and prospective socioeconomic environment of the region. They also provide details on: (1) resource availability, (2) present resource use and developments; (3) future needs for water and land resource development consistent with the anticipated socioeconomic growth, and (4) alternative framework plans and programs for developing the resources. The Main Report summarizes the findings detailed in the appendixes. It further summarizes the final framework program and the conclusion and recommendations of the Coordinating Committee that was responsible for the overall conduct of the study.

Table 1 - Framework Program Composition, Lower Mississippi Region

Framework Category	Unit	Current Supply	Framework Output To 1980	Framework Output To 2020
Water Withdrawals				
Surface Water	mgd	14,000	4,170	50,940
Municipal and Industrial	mgd	(5,300)	(1,400)	(30,500)
Agricultural	mgd	(1,500)	(130)	(1,100)
Fisheries	mgd	(2,800)	(140)	(1,040)
Thermal Power Cooling	mgd	(4,400)	(2,500)	(18,300)
Ground Water	mgd	5,700	2,460	15,330
Municipal and Industrial	mgd	(1,300)	(1,800)	(13,400)
Agricultural	mgd	(3,500)	(320)	(490)
Fisheries	mgd	(800)	(240)	(840)
Thermal Power Cooling	mgd	(100)	(100)	(600)
Water Surface Area				
Reservoirs	acres	2,230,000 1/	376,000	1,306,000
Multi-purpose	acres	-	(229,000)	(540,000)
Recreation	acres	-	(147,000)	(766,000)
Streams	miles	89,400	-	-
Flood Control Channels	miles	(10,540)	19,526	26,331
Navigation Channels	miles	(3,418)	338	553
Navigation Locks	number	20	6	11
Navigation Ports	number	17	13	22
Recreation, Fish and Wildlife Access and Protection	miles	-	7,699	7,699
Scenic River and Stream and Lake Protection	miles	694	1,668	1,668
	acres	393,000	41,000	41,000
Land Acquisition				
Recreation	acres	291,000 2/	51,000	206,000
Fish and Wildlife	acres	2,021,000 3/	464,000 4/	1,416,000 4/
Environmental Quality	acres	7,732,000 3/	1,293,000 4/	1,293,000 4/

1/ Including natural lakes over 40 acres in size and rivers more than 1/8 mile in width; excluding all smaller water bodies which total an estimated 837,000 acres.

2/ Including 100,000 acres developed and used for recreation in 1970.

3/ Natural areas predicted to remain reasonably unimpaired by development activities through the year 2020.

4/ Includes beaches and shores; botanical, ecological, and geological systems; lake shores and scenic river banks; open and green space in urban areas; and wetland and near-wilderness areas.

Table 1 - Framework Program Composition, Lower Mississippi Region (cont'd)

Framework Category	Unit	Current Supply	Framework Output To 1980	Framework Output To 2020
Flood, Sediment and Erosion Control				
Watershed Management	acres	-	26,196,000	35,404,000
Flood Plain Management	acres	-	9,258,000	11,834,000
FPI Studies for Urban Areas	number	43	68	-
Land Treatment	acres	-	18,410,000	59,326,000
Reservoir Storage				
Principal Streams	acre-feet	5,363,000	468,000	548,000
Upstream Watersheds	acre-feet	664,000	1,171,000	1,921,000
Levees	miles	3,715	572	1,307
Pumping Plants	number	36	22	77
Streambank Erosion Control	miles	-	1,037	2,140
Roadbank Erosion Control	miles	-	4,533	11,330
Drainage Improvements				
Watershed Management	acres	-	1,296,000	6,482,000
Channels	miles	-	15,070	43,610
Water Quality Control				
Organic Waste Treatment	lbs(BOD_5)	1,933,000	2,808,000	13,243,000
Bacteria Control	mgd	265,000	359,000	925,000
Land Assimilation	lbs(BOD_5)	5,261,000	1,290,000	6,404,000
Stream Assimilation	lbs(BOD_5)	-	154,000	181,000
Coastal and Estuarine Productivity				
Shoreline Erosion Control	miles	-	10	10
Water Diversions 5/	cfs	-	1,500	186,400
Archeological and Historical Resource Protection				
Archeological Sites				
Testing	number	-	426	1,848
Excavation	number	-	97	425
Historical Resources				
Registration of Structures	number	-	2,003	9,394
Registration of Sites and Districts	number	-	482	1,344
Restoration of Structures	number	-	519	8,463
Maintenance of Roads and Trails	number	-	26	101
Maintenance of Cemeteries	number	-	125	544
Interpretive Markers	number	-	367	3,074
Vector Abatement Districts	number	-	50	67

5/ Diversions for salinity control, land building, and water level management.

2. ENVIRONMENTAL SETTING WITHOUT THE FRAMEWORK PROGRAM

General

2.01. The Lower Mississippi Region encompasses a total of approximately 102,400 square miles, occupying portions of seven States - Arkansas, Illinois, Kentucky, Louisiana, Mississippi, Missouri, and Tennessee. Generally, the region is the drainage area of the Mississippi River below the mouth of the Ohio River, except for portions of the Arkansas, Red, and White Rivers above the backwater limits for the design flood of the Mississippi River and Tributaries Project. Additional areas included are the flood-protected area at Cairo, Illinois, and the Louisiana coastal area between the drainage divides of the Pearl and Sabine Rivers, which drain primarily into the Gulf. The region's boundaries are shown in Figure 1.

2.02. About 35,000 square miles, or 34 percent of the region, consist of alluvial plain (delta) of the Mississippi River. Historically, during periods of flooding more than 26,000 square miles of the alluvial plain have been covered by flood waters. Flood control works were started by the settlers to reduce damages produced by flooding as early as 1727, and extensive construction of levees and related control works have since been continued to make the valley more suitable for human habitation.

2.03. Within the region is one of the highest seismic-risk areas in the United States. This is a major item for consideration in the design of all projects.

Geology

2.04. During and subsequent to the period of the last glacial advance on the North American continent, the Mississippi River brought

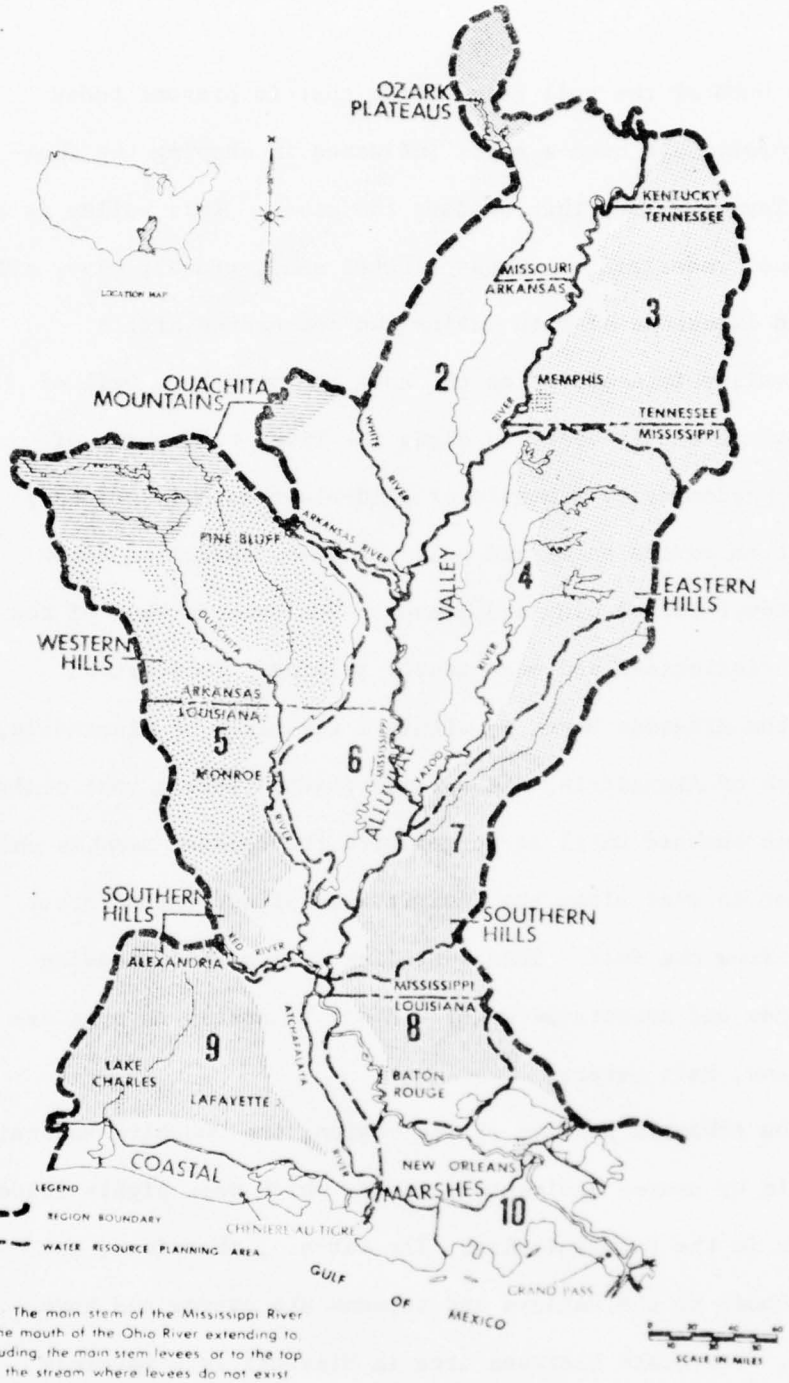


Figure 1 Topographic Features, Lower Mississippi Region

into the region much of the soil composition that is present today. The river, therefore, has been a major influence in shaping the character of the alluvial valley that borders the river. This valley is an extensive lowland, underlain by unconsolidated sand, gravel, clay, silt, marl, loess, and limestone of both marine and non-marine origin.

2.05. The valley is enclosed on the east and west by a wall of bluffs. The eastern bluffs directly along the river bank north of Baton Rouge are predominatly a mantle of wind-blown material (loess) which is subject to severe sheet and gully erosion. South of Baton Rouge they are comprised of clay and gravel. The uplands west of the valley are less distinctive and more gently rolling. They extend southward from the Arkansas River to within a few miles of Alexandria, Louisiana. South of Alexandria, the uplands flatten into a vast prairieland which slopes seaward until it merges with the coastal marshes which stretch from east to west along the Louisiana coast and extend about 50 miles inland from the Gulf. This 4-million acre area (including natural marshlands and associated water bodies) is mostly an open expanse of half land, half water.

2.06. In the Arkansas portion of the region, the Ouachita Mountain area is underlain by coarse sedimentary rocks, which were highly folded and faulted late in the Paleozoic Era. The terrain, therefore, is very rugged and most of the valleys and streams are narrow and have steep gradients. The Ozark Plateaus area in Missouri is a maturely dissected rolling upland, developed on gently uplifted rocks ranging in age from pre-Cambrian to Pennsylvanian. The area is characterized

by sharply dissected limestone plateaus, with narrow, rolling ridgetops that break sharply to steep side slopes. Valleys are narrow, and have steep gradients, especially in the upper reaches.

Water Resources

2.07. The Lower Mississippi Region is water-rich in comparison with other major river basins in the United States. On its surface are examples of nearly every type of water form. Surface water features, in addition to the Mississippi River system, include natural and man-made lakes, reservoirs, channels, bayous, swamps, and sloughs. The region's surface water resources cover a total of 3,067,000 acres, which is about 5 percent of the region's area. The Mississippi River dominates these sources and pours an average of 328 million acre-feet (an average flow of 453,000 c.f.s.) of water into the Gulf every year. Under the surface is one of the most extensive and potentially productive ground-water systems in the United States, capable of yielding a volume of 75,000 acre-feet per square mile. However, there are some locations which have no productive freshwater aquifers, the most notable being in north central and southern Louisiana.

2.08. Through natural interrelationships, ground water discharges into streams almost all the time, and during dry periods, streamflow is sustained by ground-water discharges. During floods, the direction of ground water flow is reversed, but this effect on aquifers is temporary and local.

Surface Water Quality

2.09. Good quality surface water is generally available on a regional basis, although significant water quality problems do exist in certain

streams and reaches of streams, including isolated areas along the Mississippi River between Baton Rouge and New Orleans, Louisiana. The waters of the Mississippi River main stem are moderately hard (101-200 parts per million by weight in terms calcium carbonate), while tributary streams contain soft (0-55 ppm) to moderately hard water of good chemical quality and low mineral content. The most prevalent surface water pollutants are chloride from oilwell brine in some rivers and streams, oilfield wastes, various constituents from municipal and industrial effluents, agricultural chemicals, and natural acidity.

Ground-water Quality

2.10. Ground water in the region has a higher, more constant mineral content than surface water and is generally free of biological contaminants, although it does sometimes contain undesirable color and acidity. Saltwater intrusion into fresh ground water is a problem in the region's coastal area. At some locations in these saline areas, fresh water can be skimmed from above salt water, and fresh artesian water can be found at varying depths from wells drilled offshore in the marginal delta area. The major ground water pollutants are much the same as those affecting the surface water quality.

Climate

2.11. The climate of the Lower Mississippi Region is humid and subtropical, with long, hot, humid summers and short moderate winters. Most of the region has an average precipitation of from 50 to 60 inches per year with an average annual runoff of 16 inches. The temperature

averages for the region range from 48° F. during January to 80° F. during July, with the extremes ranging from -26° F. to 112° F. The average number of frost-free days for the region varies from 182 days for the northern end of the region to 353 days for the southern end of the region. Minor amounts of snow and sleet contribute to the yearly precipitation, with average snowfall ranging from 12 inches in Missouri to about 1 inch in central and southern Louisiana. Freezing rain and glaze occur occasionally. Hail occurs periodically but seldom is of sufficient size to produce damages. Tornados, hurricanes, and tropical storms occasionally cause severe damage in various sections of the region; these strongly influence the environment of the region and there are programs for hurricane protection which include storm evacuation routes.

Air Quality

2.12. Air pollution is a matter of concern at major metropolitan areas, such as Baton Rouge and New Orleans, Louisiana; however, air quality problems were not investigated during the study.

Botanical Resources

2.13. Throughout most of the region the soils, moisture conditions, and temperatures are all conducive to the support of a lush herbaceous vegetation, dense forests, and a variety of row and close-seeded crops. Forests cover nearly 30 million acres, or about 45 percent of the region. Oak-gum-cypress forests, located in the Mississippi delta and along the major and minor tributaries, are the most plentiful type, accounting for about 30 percent of the acreage. Closely associated

with this type are elm-ash-cottonwood forests which occur primarily on the better-drained terraces of the flood plains. Oak-hickory and oak-pine forests are predominant on the higher ridges and on the loessial bluffs bordering the alluvial valley. On the rolling terrain of the uplands, the major forest type is loblolly-shortleaf pine; and on the well-drained sandy coastal plains near the Gulf the most plentiful type is longleaf-slash pine. Most of the coastal marshes are unforested because of natural environmental limitations. Vegetation therein consists primarily of grasses and bulrushes, with some woody species, including palmetto, French mulberry, baccharis, marsh elder, youpon, and sumac.

2.14. Crops such as cotton, corn, sorghum, hay, soybeans, sweet clover, sweet potatoes, and pecans are grown at normal seasons throughout the region, as are summer and winter pastures. Grasses such as bermuda, bahia, sudan, and dallis are generally used in summer pastures, while oats, winter wheat, ryegrass, and fescue are common in winter pastures. Crops such as sugar cane and winter vegetables occur primarily in the southern portion; and other crops such as deciduous fruits, rye, barley, wheat, tobacco, and peanuts are more common in the northern portion of the region. Rice is cultivated extensively in Arkansas and Louisiana, with minor amounts raised elsewhere.

Zoological Resources

2.15. The Lower Mississippi Region contains an abundance of mammals, birds, amphibians, reptiles, and fishes, as well as domestic livestock. Of the reptiles, only six are poisonous - the coral snake, cottonmouth (water mocassin), and copperhead, pygmy, canebrake, and eastern diamondback

rattlesnakes. There are more than 200 species of freshwater fish. Among these are several commercially important species, such as catfish, drum, and buffalo. Freshwater crayfish (crawfish) are harvested in abundance during early spring by commercial and private interests alike. Bullfrogs (frog legs are a delicacy of the region) are also harvested in large quantities along the coast.

2.16. The southern tip of the region is famous for its saltwater fishes, as well as its freshwater varieties. Economically important species include pompano, redfish, Spanish mackerel, menhaden, bluefish, flounder, and grouper. In the shellfish group, the area leads the Nation in the production of shrimps, crabs, and oysters.

2.17. Upland game populations, migratory and resident waterfowl, and freshwater and marine fishes contribute to hunting and fishing opportunities in the region. Also, there are many species of nongame wildlife, including song birds and endangered species such as the American alligator, southern bald eagle, red-cockaded and ivory-billed woodpeckers, red wolf, Indiana bat, brown pelican, peregrine falcon, manatee, and the hawksbill, ridley, and leatherback turtles. The black bear, golden eagle, mountain lion, river otter, osprey, and shortbilled marsh wren are rare species in the region.

2.18. Big game animals of this region are white-tailed deer and eastern wild turkey. Black bear and feral hogs are found in the area, but are not considered game animals. Principal small game animals are squirrels (gray and fox), rabbits (cottontail and swamp), bobwhite

quail, mourning dove, raccoon, and woodcock. Less important species include snipe, rail, fox (gray and red) and opossum.

2.19. Waterfowl species of importance to the region are primarily mallard, teal, pintail, widgeon, and wood duck, plus canada, blue, snow, and white-fronted geese. Waterfowl species of lesser importance are the shoveler, scaup, gadwall, ring-necked, and mottled ducks, and gallinule. For the migratory birds, the Mississippi flyway is one of the most important in the United States, and the coastal and estuarine area of Louisiana provides one of the most important wintering areas.

2.20. The 3 million acres of lake and stream habitat and the additional one-half million acres of pond habitat in the region provide abundant opportunities for sport fishing. Both lake and pond fishermen fish for largemouth bass, bluegill and redear bream, and channel catfish. In addition, white and yellow bass, and white and black crappie are of primary interest to lake fishermen, while bullhead catfish, carp, bowfin, and gar are of lesser interest to these fishermen.

Mineral Resources

2.21. The region's minerals can be grouped into three categories: mineral fuels, such as petroleum, natural gas, natural gas liquids, and lignite; metallic minerals, including lead, zinc, copper, iron ore, silver, and vanadium; and nonmetallic minerals, such as sand, gravel, stone, gypsum, clay, barite, bromine, salt, and sulphur. In 1969 the most important minerals in terms of production were liquid and gaseous fuels and petroleum. The southern Louisiana portion of the region is the most productive zone for mineral fuels, while the Missouri, Arkansas,

and northwestern Louisiana portion is most productive for metallic minerals; nonmetallic minerals are found over the entire region, with the most productive zone in the southern area. The water withdrawn from the region in 1970 for mineral use was about 600 m.g.d., mostly from brackish sources. Mineral production lands in the region amounted to a total of 67,000 acres in 1970.

Archeological and Historical Aspects

2.22. Archeologists have found convincing evidence that man has lived in the Lower Mississippi Valley since about 10,000 B.C. The data collected, although scanty, is sufficient to reflect man's slow transition from a nomadic hunter and forager to a semi-permanent resident, to a permanent inhabitant with a rich culture. The earliest known identifiable culture is Poverty Point, named for its largest and most imposing site in northeastern Louisiana.

2.23. European exploration of the region began with the Spanish explorer Hernando de Soto, who entered the valley in 1541. However, it was not until 1686 that the first permanent settlement (Arkansas Post) appeared, and not until 1803 that the United States took possession of the area west of the Mississippi River, as part of the Louisiana Purchase.

Contemporary Human Aspects

2.24. From the earliest days of settlement until about 1950, the life style of most people in the Lower Mississippi Region was closely tied to the soil, to agriculture, and to the traditional patterns of rural life. In recent decades, there has been a rapid and continuous expansion of urban areas and a simultaneous decline in the rural

population. As a consequence, traditional social patterns are changing. Mass communications media and transportation systems have made possible the easier movement of people and a rapid spread of ideas. Urban influences have affected so many social characteristics in the region that "rural" and "urban" environments can no longer be referred to as absolute opposites. In many instances, there is an overlap and a merging of the two. Many rural residents, for example, commute to jobs in nearby cities, while others continue to farm the land, but maintain business and social ties with the closest urban area.

2.25. In 1970 the population of the region was 6,293,233, of which 59 percent was classified as urban. Standard Metropolitan Statistical Areas (SMSA's) include Memphis, Tennessee; Pine Bluff, Arkansas; and Alexandria, Baton Rouge, Lafayette, Lake Charles, Monroe, and New Orleans, Louisiana.

Present Level of Economic Development

2.26. Major industries in the Lower Mississippi Region are agriculture, forestry, mining (petroleum), quarrying, and manufacturing. The combined gross product originating from these industries in 1968 amounted to approximately $8.7 billion (1967 dollars), of which nearly half was from manufacturing. Agriculture and mining each accounted for over $2 billion of the gross product.

2.27. The 1968 mineral production in the region accounted for 34 percent of the Nation's natural gas output, 31 percent of the natural gas liquids, and 25 percent of the petroleum. Furthermore, the region

contributed lead and bromine, one-third of the Nation's salts, and two-thirds of the sulfur.

2.28. The total personal income in the region in 1968 was approximately $15.4 billion, or about $2,447 per capita. Total earnings amounted to $12.3 billion, or $5,550 per worker. Also, in 1968 there were $2.1 billion in gross farm marketing receipts; and 2.2 million persons, or 35 percent of the region's population, were employed.

Existing Land Use

2.29. The lands of the Lower Mississippi Region can support a diverse range of land-dependent activities. Much of this capability is directly related to the region's abundant precipitation and climate. Land use is perhaps the best indicator of the state of development of the land resource. In 1970 the Department of Agriculture classified 43 percent of the land portion of the study area in the categories of cropland and pasture, and an additional 14 percent as pastured forest. There were over 2 million acres occupied by towns and cities. Though not specifically identified in the USDA's Conservation Needs Inventory (CNI) classification system, land use in 1970 also included 2,021,394 acres of land used primarily for fish and wildlife purposes and an additional 99,000 acres used primarily for recreation purposes. Table 2 gives a breakdown of the 1970 land uses in the region, based on CNI data.

Existing Water Use

2.30. In 1970 water withdrawn from the region's surface and ground water supplies amounted to 19,765 million gallons per day (m.g.d.) for

Table 2 - Land Use, 1970, Lower Mississippi Region

Land Classification	Purpose[1/]	Acres	Percent of Region's Land
Cropland	A,WL	17,343,000	28
Permanent Pasture	A,WL	6,782,000	11
Pastured Cropland	A,WL	2,871,000	4
Pastured Forest	A,WL,R	(4,207,000)	
Forests	A,WL,R	29,637,000[2/]	47
Other	A,WL,CF,MP, EQ,MS,R	3,506,000[3/]	6
Transportation, Urban and Built-up	RSD,CML,I,T, R,EQ	2,332,000	4
Total Lands		62,471,000[4/]	100

1/ A, agricultural production; WL, wildlife habitat; R, recreation; EQ, environmental quality; CF, commercial fisheries; MP, minerals production; MS, miscellaneous uses; RSD, residential; CML, commercial; I, industrial, T, transportation facilities.
2/ Includes pastured forests.
3/ 1,287,000 acres counted in agricultural land base.
4/ An additional 3,067,000 acres of the region are in water areas.

a variety of uses. Of this amount, 8,191 m.g.d. were consumptively used. Use categories included municipal, industrial, rural domestic, thermo-electric power production, irrigation, other agricultural (livestock and poultry), minerals, fish and wildlife, and commercial fish production. Table 3 provides a breakdown of the 1970 water withdrawals by category for the region.

Table 3 - Summary of Present Water Withdrawals by Category, Lower Mississippi Region

Category	1970 Use[1/] (Million Gallons Per Day) Withdrawals	Consumption
Municipal	616.7	229.0
Industrial	5,419.8	846.0
Rural Domestic	121.9	121.9
Thermoelectric power production	4,537.6	165.9
Irrigation	4,827.9	3,460.2
Other Agriculture	49.6	49.6
Commercial Fish Production[2/]	287.1	272.8
Minerals	602.3	152.4
Fish and Wildlife	3,302.0	2,896.0
Total	19,764.9	8,193.8

1/ Includes brackish water in some categories.
2/ Does not include 36,900 m.g.d. of Mississippi River diversion required for estuarine salinity control.

2.31. The region's 3 million acres of surface water is categorized as "large" water and "small" water. The large water includes 1.1 million acres of large lakes (500 acres or larger), about 1.1 million acres of small lakes (40 acres or greater but less than 500 acres in size), and streams having a width of one-eight of a mile or greater. The small water component (837,000 acres) includes lakes between 2 and 40 acres in size and streams less than one-eighth of a mile wide. These water

surface areas provide opportunities for swimming, boating, water skiing, and many other recreational activities. They also provide fish and wildlife habitat, and their scenic qualities and other attributes enhance the environmental quality of the study area.

Population Trends

2.32. Economic forecasts for the region indicate that the population will increase from 6.2 million in 1970 to 10.2 million in the year 2020. The urban population in these years will shift from 59 to 76 percent of the total, due partly to shifts in employment from agriculture to other types of work.

Agriculture and Industry Trends

2.33. The regional economy founded upon the agricultural productivity of the alluvial valley is now being brought into balance by expansion in the various industrial sectors, especially manufacturing and mineral-related production. This expansion and diversification have not detracted from the importance of the region's highly productive agricultural industry but have altered the economic base, with manufacturing and mineral-related production now leading agriculture in terms of output.

3. RELATIONSHIP OF FRAMEWORK PROGRAM TO LAND USE PLANS

General

3.01. The recommended land use plan contains provisions for assuring that lands are made available for recreation, fish and wildlife, and for environmental quality purposes over the next 50 years. It also contains provisions for satisfaction of nearly all predicted land needs for production of food and fiber and for increased industrialization and urbanization. In order to satisfy the maximum amount of all land needs, the plan calls for multiple-use of the region's lands and continued implementation of flood plain management programs, including structural measures for flood control, drainage, supplemental irrigation, and other problem related components of the program.

Recreation

3.02. The recommended land use plan for recreation provides for satisfaction of future needs through the implementation of measures which provide optimum site development of existing areas and acquisition of additional areas. The plan specifically provides for more intensive use of 190,000 acres of land, by provision of either facilities or access and facilities, and acquisition and development of 206,300 acres of land expressly for recreation development.

Fish and Wildlife

3.03. Land use measures in the fish and wildlife plan include easements and fee purchases designed to increase primary use wildlife lands more than 1.4 million acres by the year 2020. The plan also includes provisions to promote access to 25 million acres of secondary wildlife lands.

Environmental Quality

3.04. The recommended plan for environmental quality includes measures to preserve certain land areas with esthetic qualities or other attributes worthy of preservation for the enjoyment of future generations. The included measures provide for the regulated use of 1.3 million acres, of which 305,000 acres are designated for exclusive use for environmental quality purposes. The exclusive use acreages include botanical, geological, and ecological systems; sparsely developed shorelines of scenic lakes; and near-wilderness areas. The near-wilderness areas include portions of the Atchafalaya and Morganza floodways wherein the significant environmental areas would be preserved as nearly as possible in their natural state, but would be subject to periodic overflows in connection with operation of flood control works.

4. ENVIRONMENTAL IMPACT OF THE PROPOSED FRAMEWORK PROGRAM

General

4.01. While the framework program does not propose any specific projects, some impacts on the environment will occur if the program is implemented. Impacts of specific projects which may be developed in future studies will be discussed in separate detailed environmental statements prepared at that time. However, cumulative commitments of water and land resources in general may have short-term or long-term adverse effects, and these effects should be recognized and considered early in the planning process.

4.02. A major impact of the proposed framework program will result from channeling capital investments and labor resources into economic activities that will satisfy the region's increasing future needs relative to the use of the water and related land resources. The indicated increases in each framework category (Table 1), if implemented, will have beneficial and adverse effects on the natural environment. Some of the major impacts will stem from development activities associated with water quality, land use, navigation, land acquisition and management, and land use changes.

Water Quality

4.03. Population growth and associated economic activity are and will continue to place increasing demands on the waste assimilative capacity of the region's water resources. One means of satisfying these demands is increased capital investments in new and improved facilities to increase levels of waste-water treatment.

4.04. The framework program deals specifically with the problems of biodegradable organic wastes and bacteria, and with solutions judged technically feasible at this time. It deals only generally with other pollutants such as thermal wastes, nutrients, toxics, dissolved solids, and exotics for which accurate water quality data are unavailable. The development of such data is recommended and plans are proposed for high levels of treatment for all waste-water effluents from municipal and industrial point sources.

4.05. The primary requirement of the framework program is that all municipalities attain secondary treatment by 1980, advanced treatment by 2000, and continued advanced treatment thereafter. Industries are required to attain equivalent levels of treatment. Present estimates are that the waste loadings requiring advanced treatment in the year 2020 will be three times greater than those requiring secondary treatment in 1980. Where the prescribed levels of treatment fail to provide an effluent with a 5-day BOD which can be assimilated by receiving streams without violation of stream standards, the program requires that treatment and assimilation be supplemented by mechanical reaeration. A further requirement of the program is that agricultural organic waste discharges receive treatment consisting of the application of solid wastes to productive cropland at a rate which will provide nutrients that can be fully utilized by the crops. Sediment and erosion control and land management plans included in the program will provide in part for the solution of sedimentation and eutrophication problems, and provisions are made for water withdrawals to ameliorate potential thermal pollution problems associated with expected power development.

4.06. The proposed water quality improvements should have no adverse environmental effects. However, the treatment plants and collection systems that will be needed to achieve the improvements will result in some adverse environmental effects. Included are commitment of land and fuel resources, construction impacts, and long-term esthetic impacts and sludge disposal problems. There may also be malodorous conditions and health hazards resulting from the improper operation, breakdown, or malfunction of treatment plants.

Water Use

4.07. Water withdrawals in the region are expected to increase from 19.8 billion gallons per day (BGD) in 1970 to 85.6 BGD in the year 2020. The framework program provides for 15.2 BGD of this increase through the further development of wells. It provides for an additional 45.6 BGD through increased withdrawals from rivers and streams; 0.3 BGD through the development of reservoir storage; and 4.7 BGD through the development of pumping stations and distribution systems. Similarly, the program provides for reservoir construction to satisfy future needs for recreation and flood control (see paragraph 4.11) and allied purposes. It further provides for increased access and facilities to enhance the utilization of the region's stream fishing resource, increased public education to promote access to fishing ponds, increased diversion of water supplies for propagation of fish and wildlife, and maintenance of the productive capacity of the region's coastal and estuarine zone. The coastal and estuarine plan provides for diversion of freshwater discharges to the coastal zone of the region for enhancement of the fish and wildlife, nourishment of marshes,

and salinity control. The plan calls for a total diversion of approximately 271,000 c.f.s. of Mississippi River flow, while all other needs are simultaneously satisfied. By year 2020 this plan provides for 97 percent of the need for water level management, 50 percent of the requirement for land building, and all the need for salinity control. Control measures include modification of spillway gates and construction of salinity control structures; levees and channels for freshwater diversion; water control structures such as weirs, gates, and navigation locks; and bank stabilization works to control erosion.

4.08. The water use provisions of the program will ensure that water supplies are available when and where needed. They will enhance fishing and other water-oriented recreation opportunities and will in general help to maintain the standard of living, and human health and welfare. However, there are adverse environmental impacts inherent in the proposed program measures, with the impacts associated with reservoirs being the best known and the most significant. The provision of reservoirs (including flood control impoundments) will result in the inundation of approximately 1.3 million acres of land, which amounts to 2 percent of the existing land base.

4.09. Aside from the sizable commitment of land resources required for reservoir construction, there are numerous other impacts to be considered. Included are reservoir construction impacts such as tree removal, construction noise, and air pollution. Also included are ecological impacts such as the alteration or destruction of ecosystems accompanying the conversion of water in motion to slack water. Further

included are impacts associated with the conversion of land use from forest and agriculture to water areas and resulting wildlife habitat losses; exposure of mud flats during reservoir operation; ill-conceived land use changes adjacent to and downstream from reservoirs; displacement of people and wildlife; loss of land tax revenues; the inundation of important mineral deposits (sand, gravel, clay, etc.); and the creation of travel barriers. Other detrimental impacts may include erosion and landslides. The lakes formed by reservoirs provide a gain of habitat for some kinds of fish and a loss for others.

4.10. Like reservoirs, the wells, pumping stations, and distribution systems included in the framework program will involve the commitment of land resources and will involve some of the same adverse environmental impacts. In addition, possible contamination of ground-water supplies may occur during and after drilling operations, well plugging, or waste disposal associated with the further development of wells.

Flood Control

4.11. Within the framework program, there are 13 major reservoirs on principal reaches of streams and 1,481 small flood water retarding structures in upstream watersheds. There are also 1,300 miles of levees, 26,300 miles of channels, and 77 pumping plants. These measures together with watershed management on 35.4 million acres, flood plain management on 11.8 million acres, and land treatment and technical assistance to reduce flood runoff on 59.3 million acres will not only ameliorate flood problems but will also enhance the region's capability to meet its food and fiber production requirements and further enhance the safety and

well-being of the people. The total damages that would be prevented by the proposed measures through the year 2020 are estimated at $8 billion.

4.12. Adverse environmental impacts associated with flood control reservoirs were just discussed in paragraphs 4.08 and 4.09. There are similar impacts associated with the construction and maintenance of levees and channels required to achieve the flood control proposed in the framework program. The construction of levees would result in impacts such as noise, disturbance of vegetation and soils, temporary ponding of flood runoff on protected lands, alteration of stream hydraulics, and diminution of riverbank esthetics. It may also involve the displacement of people.

4.13. Channel modifications for flood control will alter stream habitat and could be deleterious to fish populations, especially game fish. Channelization usually eliminates the natural cover and disrupts the food supply. It contributes to warming of the water because of the more uniform shallow depths created and the induced absence of streamside vegetation. In some cases, channelization has been shown to eliminate sport fish in some streams by as much as 95 percent.

Drainage

4.14. The alluvial valley of the Lower Mississippi Region has a dramatic development history. More than two centuries of effort have gone into building levees, drainage works, and land clearing. High water tables, overflows, wetness, and poor internal soil drainage are dominant excess water problems on about 33.8 million acres of land. There are approximately 14 million acres of forest land and 2.9 million

acres of miscellaneous land which are not considered to need drainage although these lands have a wetness hazard. The framework program provides for treating 6.5 million acres requiring 43,610 miles of channel improvement (Table 1).

4.15. Agricultural drainage will increase the net income from agricultural land because of the increased yields from more favorable plant environment, increased operation efficiencies, and shifts in cropping patterns. Also, drainage will bring about more sanitary conditions and economic stabilization of enterprises related to agricultural production.

4.16. The adverse effects of drainage include reducing wetland wildlife habitat areas, inducing additional clearing of forest lands, reducing or destroying stream fishery resources through channel modifications, and increasing stream flow turbidity. To minimize these adverse effects, future proposals for specific projects will include consideration of measures to maintain water levels in selected low areas. Additional consideration will be given to the revegetation of construction areas and landowner agreements to minimize additional forest land clearing. Construction on streams with good fishery resources will be avoided where possible.

Navigation

4.17. The existing navigation system in the Lower Mississippi Region is a major asset to the economic stability of the Nation. It is indispensable to the movement of inland waterway commerce to and from the heartland of the Nation and provides a major outlet to world

markets. The regional waterborne traffic, which amounted to 84 billion ton-miles in 1970, is projected to increase to 392 billion ton-miles by the year 2020. The framework program provides for improvement and expansion of the existing navigation facilities, and for construction of new facilities to fulfill future needs of increased waterborne commerce in the region. The proposed measures include the enlargement of a total of 1,357 miles of channels, of which 942 miles have previously been enlarged for navigation; rehabilitation or replacement of 6 old locks and construction of 10 new locks; expansion of 14 existing ports and construction of 21 new ports; and the construction of a superport in the Gulf Coast area. These measures will generate social and economic benefits, but not without some loss of environmental values.

4.18. The maintenance and improvement of existing navigation channels and the extension of navigation into previously unaltered rivers will disturb and may destroy aquatic life in and adjacent to the navigation channels. Dredging, increased turbidity, siltation, and reduced water quality will be problem sources related to navigation. In addition, maintenance dredging can bring about the creation of new land areas, but can also create undesirable changes in vegetational succession by covering existing vegetation. These actions would change ecosystems from water to terrestrial types and result in subsequent gains and losses of life forms associated with the land disposal areas. Channel modification often alters flow characteristics in backwater areas, disturbing aquatic reproduction cycles in those areas. Improved navigation channels will permit increased traffic by some of the newer and larger commercial vessels and

will lead to the expansion of ports and other developments adjacent to navigation projects. Such expansion will in turn lead to adverse environmental effects such as increased industrial and municipal waste loads, commitment of land resources, and decreased esthetic qualities.

Land and Air Transportation

4.19. The existing highways, railroads, and airports in the region play an important role in the region's economy. This condition is expected to prevail for the region over the timeframe of the study. The recommended framework program did not include explicit input data or recommendations concerning the existing or future needs for these facilities in the region, except in terms of general appraisals of the associated land requirements. These requirements are included in the transportation, urban and built-up category and the category of "other" lands.

4.20. The recommended program, if implemented, may involve some relocations and will involve additions to the existing transportation system to provide necessary access to construction sites, recreation areas, and the like. These new facilities will help improve the social and/or economic well-being of the people of the region, afford better opportunities for recreation, and provide a means to transport goods and commodities more conveniently. Adverse environmental impacts associated with construction and maintenance of existing and new highways and railroads include land use changes, loss of timber, noise, air pollution, erosion and sediment transport problems, stream pollution, increased stream turbidity, and loss of wildlife habitat.

Land Acquisition

4.21. The framework program includes the fee acquisition or easement of about 3 million acres of land for recreational uses, fish and wildlife uses, and environmental preservation purposes. These lands will provide increased opportunities for both urban and rural type recreation; increased management and utilization of the fish and wildlife resources; increased protection and enhancement of natural features such as wetlands, near-wilderness areas, and scenic rivers; and creation of open and green space in urban areas. The contribution of these lands to human well-being and enjoyment could be substantial. Land acquisition of this type is generally viewed as beneficial, but without proper development and control the resources could be destroyed by overuse. In addition, some of these lands may contain mineral resources which could not be mined under the proposed conditions of use.

Land Management

4.22. Land management plans, including agricultural land treatment and flood plain management in rural and urban areas affecting some 59 million acres, are included in the framework program. Even though these plans generate significant economic benefits, they will also result in adverse environmental impacts. Intensive agricultural land use reduces wildlife habitat, accelerates runoff, and soil losses contribute to water pollution problems by increased stream loads of pesticides, herbicides, fertilizers, and sediment transport. The prudent land management plans recommended can minimize adverse effects while maximizing the agricultural economic return of the land. Land with large

supplies of sand, gravel, and clay used in construction should be protected from flooding during future land management efforts.

4.23. Human occupancy of flood plains has resulted in extensive loss and damage to life and property from floods in the past. Recommended flood plain management measures would in time restrict many presently accepted uses of flood plains and thereby minimize the social and economic costs of floods. The program requires that local interests utilize the flood plain information provided by various Federal agencies. The new urban flood insurance program provides added incentive for good urban flood plain management by local interests in that proper zoning to control growth in flood plain areas is required. The limitation of use and development of these areas would help preserve the natural diversity of plant and animal life usually associated with streams, and these areas would also serve as valued esthetic amenities. However, the long established urban centers and associated agricultural activities in the rich alluvial valley flood plain, unlike any other in the world, must be assured every right to continue to grow and prosper.

Land Use Changes

4.24. Land use needs related to the satisfaction of food and fiber, transportation, and urban and built-up requirements will exceed the region's land resource base before year 2000. The framework program is designed to satisfy as many as possible of these needs; at the same time, it provides for the short-term (1970-1980) satisfaction of all land needs for recreation and fish and wildlife, and most needs for environmental quality lands. The short-term allocation of lands to satisfy needs

for food production and all other open land related activities will cause a widening disparity between forest availability and forest needs. The forest losses will include certain tracts of bottom-land hardwood forests which provide good wildlife habitat and contribute to the environmental quality of the region. In addition, commitment of lands for reservoirs, levees, mineral production, and other program measures will require shifts in regional land use. Agricultural activities will involve adverse environmental effects including increased sedimentation, drainage, stream contamination by runoff of herbicides and pesticides, and clearing of forest lands for agricultural uses.

4.25. The economic and social benefits to the region are generally improved by the actions described in the recommended framework program, but the program also contains elements for the elimination or amelioration of some of the adverse environmental impacts.

4.26. The increases in the use or maintenance of land for fish and wildlife, recreation, esthetic/scientific, and related purposes will enhance the environment and help offset the detrimental effects produced by the increase in land uses cited above. This action will improve the standard of living, health, and welfare of the region's residents, but it will reduce the use of the land for other needs and will reduce the tax base for a temporary period of time.

4.27. The improved management techniques employed in forest lands will increase timber productivity and economic benefits, but could result in a loss of lands for fish and wildlife and natural environment.

5. ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

5.01. Careful and complete environmental assessments followed by prudent planning should minimize the adverse impacts of resource commitments and construction activities required to implement the framework program. Impacts that cannot be avoided will depend upon specific project proposals and will necessarily have to be determined and weighed in light of the prevailing conditions at the time future detailed studies are made. In general, the unavoidable impacts that will require additional future study will be associated with potential water resource developments such as water quality improvement, flood control, recreation, etc.

Water Quality

5.02. Improvement in water quality itself should not have adverse environmental effects. However, to accomplish improvements, treatment plants and collection systems will have to be constructed at nearly all urban areas. Adverse impacts associated with treatment plants and collection systems for water quality improvement are generally unavoidable. These impacts will include commitment of land resources, construction noise, loss of timber, air pollution, long-term esthetic and visual impacts, greater mineral (fuel) consumption, sludge disposal problems, and loss of wildlife habitat. The operation of treatment plants will result in malodorous conditions.

5.03. Implementation of several other components of the recommended framework program will result in adverse impacts on water quality. In addition to these adverse impacts, the release of heated water from power generation plants and industry may cause problems. The increase in

agricultural activity will increase the amount of stream pollutants originating from chemicals used in agricultural activity. Clearing of forest lands to open agriculture lands will produce sedimentation problems; and mineral production will adversely affect the water quality.

Water Use

5.04. The provision of reservoirs, wells, pumping stations, structures for freshwater diversion for the coastal and estuarine program components, and distribution systems to provide for increased water use recommended in the framework program (Table 1) can have unavoidable adverse environmental impacts. Included are inundation of land areas; change of habitat type; exposure of mud flats; construction impacts such as noise, air pollution, and tree removal; and land-use changes. Other unavoidable adverse impacts associated with provisions for water use include changes in ground water and surface water elevations, erosion, landslides, destruction of ecosystems, displacement of people, creation of travel barriers, possible contamination of aquifers during and after drilling operations, and pollution of streams and surface water resulting from oil and mineral production waste.

Flood Control

5.05. Reservoirs, levees, and channel modifications included in the framework program involve most of the adverse and unavoidable impacts cited in the previous paragraph. They further involve unavoidable impacts such as alteration of stream hydraulics and esthetic values, and deleterious effects on fish caused by increases in water temperature, changes in food supplies and stream habitats, and other environmental changes.

Navigation

5.06. There are unavoidable adverse environmental effects associated with provision of navigation facilities such as channels, ports, and locks recommended in the framework program. These impacts are produced by construction activities required for revision of existing facilities and provisions for new facilities. Included are loss of land, change of habitat, disturbance of aquatic life, dredging, increased turbidity, siltation, changes in vegetation, altered stream flow characteristics, decreased esthetic qualities, commitment of land resources, noise, air pollution, and improper land development.

Land and Air Transportation

5.07. Unavoidable impacts associated with the maintenance and construction of highways, railroads, and airports include noise, air pollution, land use changes, loss of timber, habitat use changes, loss of habitat, sediment and erosion problems, and stream turbidity.

Land Acquisition, Management, and Use Changes

5.08. Land acquisition is generally viewed as beneficial; however, without proper management, the resources could be destroyed by overuse. By and large, the land management plans included in the framework program are considered to enhance the natural environment; however, they could induce unavoidable adverse effects, as follows: reduced wildlife habitat; accelerated runoff; and increased water pollution from pesticides, herbicides, fertilizers, and sediment. The adverse effects associated with the land use changes include most of the effects listed above. They also include loss of forest land, with the associated loss of environmental quality lands and fish and wildlife habitat.

6. ALTERNATIVES TO THE PROPOSED ACTION

6.01. The reconnaissance-type study is one of extremely broad scope. It identified problem areas requiring more detailed analyses, and suggests a general guide for future plans designed to satisfy various needs. The study has considered Federal, State, and local capability for satisfying needs and resolving problems. Although the analysis was multi-objective in nature, it was not based on detailed plan formulation or cost estimates. Alternative means of satisfying needs and resolving problems were evaluated on the basis of environmental, social, technical, and economic considerations. Where appropriate, measures were selected on the basis of least cost or apparent economic justification to provide the necessary basis for estimating costs. The recommended framework program is only one possible mix of program components, and other planning policies could be adopted that would result in a different configuration of component plans.

6.02. The alternative of "no action" was considered, and three alternative programs to the recommended framework program were investigated. The recommended framework program has already been described in detail in Item 1, Study Description and Program for Development. It could be described as a hybrid containing the most compatible mix of components from the National Income and Environmental Quality Programs. The environmental impacts of the alternative programs would be identical in nature to the recommended program, but the extent of the impacts would vary according to the program emphasis on economic development and environmental

preservation. Table 4 summarizes the outputs of the alternative program in the year 2020 and gives an indication of the tradeoffs involved.

No Action

6.03. The alternative of no framework implementation would probably result in a continuation of current programs. This alternative could result in environmental degradation due to lack of economic strength or motivation to correct problems. On the other hand, some environmental problems may not worsen and lack of, or reduction of, economic activity may improve certain situations. However, it is unlikely that the needs for increased food and fiber producing lands and for better management and utilization of water and land resources of the region would be uniformly accomplished within the existing trends or programs. Twentieth century man has come to the realization that nature's resources are indeed exhaustible and that indiscriminate utilization of those resources can no longer be tolerated. Without a rational plan for the future, social and environmental costs of continuing current trends, such as indiscriminate clearing of the region's bottom-land hardwoods, cannot be afforded.

National Income Program

6.04. Program development for the National Income Objective involved formulating a regional program to meet specified needs based on a set of regional economic and demographic growth rates keyed to those for the Nation. The economic and demographic growth rates for the region have historically been less than the national average; thus the National Income Program for the region was developed on this criterion. The National Income Program was formulated to meet the region's material needs

Table 4 - Alternative Framework Program Outputs to Year 2020, Lower Mississippi Region

Framework Category	Unit	Alternative Framework Program		
		National Income	Regional Development	Environmental Quality
Water Withdrawals				
Surface Water	mgd	50,940	61,290	50,940
Municipal and Industrial	mgd	(30,500)	(37,430)	(30,500)
Agricultural	mgd	(1,100)	(980)	(1,100)
Fisheries	mgd	(1,040)	(1,410)	(1,040)
Thermal Power Cooling	mgd	(18,300)	(21,470)	(18,300)
Ground Water	mgd	15,330	18,100	15,330
Municipal and Industrial	mgd	(13,400)	(16,260)	(13,400)
Agricultural	mgd	(490)	(660)	(490)
Fisheries	mgd	(840)	(500)	(840)
Thermal Power Cooling	mgd	(600)	(680)	(600)
Water Surface Area				
Reservoirs	acres	1,306,000	1,706,000	1,306,000
Multi-purpose	acres	(540,000)	(675,000)	(540,000)
Recreation	acres	(766,000)	(1,031,000)	(766,000
Streams				
Flood Control Channels	miles	26,331	26,331	26,331
Navigation Channels	miles	553	553	553
Navigation Locks	number	11	11	11
Navigation Ports	number	22	22	22
Recreation, Fish and Wildlife Access & Protection	miles	7,699	7,699	7,699
Scenic River and Stream and Lake Protection	miles	1,668	1,668	1,668
	acres	41,000	41,000	41,000
Land Acquisition				
Recreation	acres	206,000	227,000	206,000
Fish and Wildlife	acres	1,416,000	1,905,000	1,416,000
Environmental Quality	acres	220,000	218,000	5,075,000
Flood, Sediment and Erosion Control				
Watershed Management	acres	35,404,000	35,404,000	35,404,000
Flood Plain Management	acres	11,834,000	11,834,000	11,834,000
Land Treatment	acres	59,326,000	69,875,000	59,326,000
Reservoir Storage				
Principal Streams	acre-feet	548,000	548,000	548,000
Upstream Watersheds	acre-feet	1,921,000	1,921,000	1,921,000
Levees	miles	1,307	1,307	1,307
Pumping Plants	number	77	77	77
Streambank Erosion Control	miles	2,140	2,140	2,140
Roadbank Erosion Control	miles	11,330	11,330	11,330

Table 4 - Alternative Framework Program Outputs to Year 2020, Lower Mississippi Region (cont'd)

Framework Category	Unit	Alternative Framework Program		
		National Income	Regional Development	Environmental Quality
Drainage Improvements				
Watershed Management	acres	6,482,000	6,482,000	6,482,000
Channels	miles	43,610	43,610	43,610
Water Quality Control				
Organic Waste Treatment	lbs(BOD_5)	13,243,000	15,515,000	13,243,000
Bacteria Control	mgd	925,000	1,093,000	925,000
Land Assimilation	lbs(BOD_5)	6,404,000	7,262,000	6,404,000
Stream Assimilation	lbs(BOD_5)	181,000	215,000	181,000
Coastal and Estuarine Productivity				
Shoreline Erosion Control	miles	10	10	10
Water Diversion	cfs	186,400	186,400	186,400
Archeological and Historical Resources				
Archeological Sites				
Testing	number	1,848	1,848	1,848
Excavation	number	425	425	425
Historical Resources				
Registration of Structures	number	9,394	9,394	9,394
Registration of Sites and Districts		1,344	1,344	1,344
Restoration of Structures	number	8,463	8,463	8,463
Maintenance of Roads and Trails	number	101	101	101
Maintenance of Cemeteries	number	544	544	544
Interpretive Markers	number	3,074	3,074	3,074
Vector Abatement Districts	number	67	67	67
Public Investment Costs				
Federal	$1,000	7,341,000	8,323,000	7,502,000
Non-Federal	$1,000	7,314,000	8,328,000	7,784,000
Average Annual Operation and Maintenance Costs				
Federal	$1,000	136,000	163,000	136,000
Non-Federal	$1,000	192,000	232,000	195,000

in harmony with needs for maintaining and enhancing the quality of the natural environment. Provisions to solve problems relating to water quality, flood control, agricultural land drainage, navigation, irrigation, health aspects, coastal and estuarine areas, and archeological and historical aspects were provided in the program. Total investment costs for implementing the program, based on 1972 dollars, are about $14.8 billion

Regional Development Program

6.05. The Regional Development Program was formulated on the basis that the land and water resources available could be used to sustain accelerated regional growth, including a more diversified economic base, increased income and employment, and improved income distribution, and quality of services within the region. This program was formulated on the criterion that the economic and demographic growth rates for the region would be equal to the national rates. The Regional Development Program was designed to satisfy to the degree possible the region's resource needs stemming from the accelerated growth. The provisions included in the Regional Development Program involve a total investment of $16.6 billion based on 1972 dollar values.

6.06. Based on present and predictable trends in land management practices and agricultural production, land use to permit the satisfaction of all regional development needs for open land would not permit retention of enough forest lands to satisfy the regional land needs for timber production and fish and wildlife habitat. Conversely, retention of the needed forest lands would preclude full satisfaction of open land needs. Thus the constraint imposed by limited resources would deter implementation of the Regional Development Program.

Environmental Quality Program

6.07. The Environmental Quality Program centers around the human concern for preserving and improving the natural environment. It contains components which satisfy both economic and natural environmental considerations, but environmental considerations were given top priority at the expense of components which add to the gross national product. Emphasis was placed on advanced waste treatment measures and preservation of natural and other environmentally important areas, which include areas such as the Atchafalaya River Basin (Louisiana) which is nationally significant because of its value as a bottom-land hardwood forest, wetland and wilderness area, and a haven for fish and wildlife. Long-term cumulative effects of this program as compared to the alternative programs would include preservation of greater portions of the natural environment, with correspondingly lesser portions exposed to economic development activities. This program was the most expensive; the total investment was estimated at $15.3 billion, based on 1972 dollar values.

7. THE RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

7.01. Considering the time span necessary for evolution and natural geological processes, man's uses of the region's environmental resources are short-termed. However, the recommended framework program utilizes resources in the short-term so as to enhance the long-term productivity of the region in the context of the totality of man's existence. While short-term uses of the region's environmental resources will generate some long-term adverse effects on the environment, there are also numerous long-term beneficial effects to be gained. For example, the conversion of bottom-land hardwood to agricultural land will deplete wildlife habitat and have a negative long-term impact on biological productivity, while continued agricultural development will produce economic benefits and will enable the region to satisfy its national allocation of food and fiber. Creation of new water surface areas will not only provide flood protection for urban and domestic, agricultural, and other types of important regional property, but will also provide a dependable water supply for industrial, municipal, and agricultural uses. These areas will serve as effective recreation sites for the region's population. The channelization of streams and rivers for navigation will provide for improvement in the transport of regional, national, and world products and thus enhance the regional and national economy. Flood plain management programs including urban flood plain zoning ordinances and other management techniques will provide long-term economic benefits and discourage development activities that could impair the long-term productivity of the flood plains.

8. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES WHICH WOULD BE INVOLVED IN THE PROPOSED PROGRAM SHOULD IT BE IMPLEMENTED

8.01. As presented, the framework study makes no proposals for specific projects. However, the resource commitments required to implement the components of the framework program are as follows:

8.02. Use of the region's water and land resources to implement the recommended framework program will involve some long-term irreversible or irretrievable commitments of the region's resources. Most commitments of resources will be for the life of specific projects that may be developed, but in some cases these environmental changes associated with specific projects could become a permanent condition.

8.03. The channel extensions and development in the region's rivers and streams, coupled with providing the ports, industrial sites, and transportation from the ports, will cause irreversible and irretrievable losses of stream and land habitat, destruction of vegetation, conversion of land use to ports and related transportation systems, and creation of spoil disposal areas, etc. Conversion of forest lands to agricultural uses will result in long-term losses of habitat, wildlife production, timber, and recreation areas which could not be recovered by this generation, but could be recovered in time. Reservoir construction would likewise result in long-term losses of land and associated wildlife habitat, timber, and changes in water-table elevations. Flood protection systems would involve many of the same types of losses as cited for the reservoir constructions. Depletion of mineral resources of the region would be irreversible and irretrievable.

8.04. Construction materials, such as topsoil, concrete, steel, lumber, etc., used during the construction of various projects would be irretrievable.

8.05. The time, money, and labor involved with the Comprehensive Study are irreversible and irretrievable commitments of resources. Likewise, the construction or implementation of the recommended program components would involve additional irreversible and irretrievable commitments of these resources.

9. COORDINATION

Public Participation

9.01. To insure public awareness and to invite participation and comment, the study included an active public involvement program composed of public meetings and attitudinal surveys, supplemented by informational brochures and news releases. The two major phases of the program provided for the free exchange of information and ideas between the public and study managers, and all meetings of the study's Coordinating Committee were open to the public.

9.02. The first phase of the program involved public orientation. A movie depicting planning objectives and categories of need was shown. Information was collected on which study objectives the public considered appropriate, and the first of two informational brochures was distributed. Public response varied depending upon the political atmosphere and institutional arrangements within each State. A computer analysis of the results obtained indicated a consensus in favor of continued economic growth and increased tourism.

9.03. The second phase of the program included a total of 11 public meetings and provided for further exchange between the public and study managers. Information on natural resource related needs was displayed by way of 35 mm. slides with accompanying narrative. Additional data were gathered from a comprehensive questionnaire structured to obtain an indication of needs the public considered important. The second informational brochure was circulated. The result of this portion of the program substantiated the earlier consensus for resource and

industrial development, but with the provision that a high quality natural environment be maintained for future generations. Distribution of a final public information brochure outlining the major components of the recommended program is planned.

Government Agencies

9.04. Coordination of the draft Environmental Impact Statement for the Lower Mississippi Region Comprehensive Study included coordination with all Federal and State agencies which participated in the study. The U.S. Department of Agriculture participated in the study through the Soil Conservation Service, Forest Service, and Economic Research Service. The Corps of Engineers participated through its Lower Mississippi Valley Division and three District offices in Memphis, Vicksburg, and New Orleans. The Department of Commerce was represented by the Bureau of Domestic Commerce (formerly Business and Defense Services Administration), the National Weather Service (formerly Environmental Science Services Administration), Bureau of Economic Analysis (formerly Office of Business Economics), Maritime Administration, and the National Marine Fisheries Service (formerly Commercial Fisheries of the Department of Interior). The Department of Interior agencies which participated in the study were the Bureau of Outdoor Recreation, Bureau of Sports Fisheries and Wildlife, Bureau of Mines, National Park Service, Geological Survey, and Southwestern Power Administration. The Department of Health, Education and Welfare was represented by the Bureau of Water Hygiene (formerly Public Health Service). Other Federal agencies that participated in the study included the Department of Housing and Urban Development, Environmental

Protection Agency, Federal Power Commission, and the Department of Transportation. The Department of Labor did not participate in the study other than to attend some of the early Coordinating Committee meetings.

9.05. The States of Arkansas, Illinois, Kentucky, Louisiana, Missouri, Mississippi, and Tennessee participated in the study by conducting public involvement meetings, providing basic data, assisting in preparation of the Environmental Appendix, and reviewing reports. Each of the participating States designated its own coordinating agency for intra-State coordination of study activities.

9.06. All letters and comments of the Government agencies on the proposed draft Environmental Impact Statement (EIS) are presented in Appendix A, and were considered in revising this draft EIS. A summary of the comments and responses is given below.

Department of Agriculture

1. Comment: Portions of the summary should be rewritten to provide clarity.

Response: Concur. Reference paragraphs 3a, 3b, and 4 of the summary.

2. Comment: Add information relating to resource data outputs, recommended program first cost, and discussions pertinent to program.

Response: Concur. Reference paragraph 1.04 and Table 1.

3. Comment: Discussion of hydrology should be rewritten within the broader context of "water resources."

Response: Concur. See paragraphs 2.07 through 2.10.

4. Comment: Discussion entitled "Botanical Resources" should be changed to "Botanical-Zoological Resources" and rewritten for clarity.

Response: Discussion clarified, with zoological resources discussed under separate heading. Reference is made to paragraphs 2.13 through 2.20.

5. Comment: Discussions of "Present Level of Economic Development" should be changed to "Present Level of Economic Development and Existing Land Use" and several paragraphs should be rewritten for clarity.

Response: Discussions were rewritten for clarity - see paragraphs 2.26 through 2.28; however, the land use section was kept separate.

6. Comment: Discussions pertaining to the "Existing Water Use" should be expanded to include data on water surface area related opportunities.

Response: Concur. Reference is made to paragraph 2.30 of the revised Draft EIS.

7. Comment: Discussions relating to Water Quality and Water Use should be rewritten for clarity. In addition, discussions pertaining to Flood Control should be added.

Response: Concur. Reference is made to paragraphs 4.03 through 4.13 of the revised Draft EIS.

8. Comment: Discussion of "Adverse Environmental Effects" should be rewritten for clarification.

Response: Concur. Reference paragraphs 5.01 through 5.08.

9. Comment: Discussions of "Alternatives To The Proposed Action" should be rewritten to provide more detail on components of the various programs.

Response: Concur. See paragraphs 6.01 through 6.07.

10. Comment: Discussions of "The Relationship Between Local Short-Term Uses of Man's Environment and The Maintenance and Enhancement of Long-Term Productivity" should be rewritten for clarity.

Response: Concur. See paragraph 7.01.

11. Comment: Subjects relating to "Irreversible and Irretrievable Commitments of Resources Which Would be Involved in the Proposed Study Should it be Implemented" should be rewritten for clarification.

Response: Concur. See paragraph 8.01.

12. Comment: Tabular data on framework program would be vastly improved by including a map showing drainage, state boundaries, major cities, and various WRPA boundaries and numbers. Column headings should be explained.

Response: Concur. Reference Table 1 and Figure 1.

13. Comment: Geology, General Land Use description would be better if the description were divided into upland and bottom-land components.

Response: Concur. However, the available information does not lend itself to such a division.

14. Comment: Discussions of surface water features should show individual acreages for bayous, swamps, sloughs, lakes, and streams.

Response: Concur. Available information on lake and stream acreage is shown in paragraph 2.31. Specific acreages for bayous, swamps, and sloughs is unavailable.

15. Comment: Surface and ground-water quality is affected by agricultural chemicals, oil field operations, and brine water in coastal zone areas.

Response: Concur. Reference paragraphs 2.09 and 2.10.

16. Comment: Discussion of botanical resources should be rewritten for clarification.

Response: Concur. See response to Comment 4.

17. Comment: Material pertaining to "Present Level of Economic Development" should identify agricultural production by upland and bottom-land categories.

Response: Agricultural production is identified in terms of land use for cropland, pasture, forest, and other lands. Information on land use by upland and bottom-land categories is unavailable. Reference Table 2.

18. Comment: Wildlife species which are more numerous today than prior to European immigration could include introduced species such as starlings. These species should be listed here or in an appendix for clarity. Land uses would be better displayed by topographic position.

Response: Detailed information on introduced species is not available. Similarly, data on land use by topographic position is unavailable.

19. Comment: Cropland acreages should be identified by topographic location and a discussion of how allocation of acreages for croplands affects other land use category acreages.

Response: See response to Comment 17.

20. Comment: More detailed discussion on navigation is needed to indicate where and how environmental degradation will be minimized.

Response: Future studies of specific project proposals will be required to formulate mitigation measures for adverse navigation impacts.

21. Comment: Discussion of the relationship between short-term uses of the environment and maintenance of long-term productivity should include mention of flood plain zoning.

Response: Concur. See paragraph 7.01.

22. Comment: Management objectives and guides for the study should be clarified.

Response: Concur. Reference paragraphs 1.01 through 1.06 and Table 1.

23. Comment: Discussions of "Relationship of Framework Program to Land Use Plans" should be clarified and be made more specific.

Response: Concur. Reference paragraphs 3.01 through 3.04.

Corps of Engineers

24. Comment: Types of projects required for framework program implementation and resources affected should be specified in summary statements.

Response: Concur. Reference is made to paragraph 3b.

25. Comment: The term WRPA should be explained prior to using it in Table 1; footnotes to Table 1 should be revised.

Response: Concur. However, Table 1 (revised) now gives only regional totals. The breakdown by Water Resources Planning Areas (WRPA's) has been deleted to permit inclusion of data for existing (1970) conditions.

26. Comment: The geologic description of the study area should be rewritten for the sake of clarity and improved accuracy.

Response: Concur. Reference paragraphs 2.04 through 2.06.

27. Comment: The figure of the region should show physiographic features.

Response: Concur. Reference Figure 1.

28. Comment: The hydrology write-up should be edited for the sake of clarity.

Response: Concur. Reference paragraphs 2.07 through 2.10.

29. Comment: Water withdrawal data in narrative reference should agree with data in Table 3.

Response: Concur. Reference is made to paragraph 2.30.

30. Comment: The discussion of the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity should state that: "Cumulative beneficial effects of the overall proposed action will provide material contribution in this country's efforts towards achieving an acceptable Balance-of-Payments Program."

Response: Program impacts on national economy are indicated in revised paragraph 7.01.

31. Comment: The eastern diamondback rattlesnake should be added to the listing of poisonous snakes.

Response: Concur. Reference paragraph 2.15.

32. Comment: Reference to current conditions should specify the year 1970.

Response: Concur. Reference paragraph 2.30.

33. Comment: Tabular data summarizing the composition of the recommended framework program would be more meaningful if some indication of existing conditions were provided as a basis for comparison.

Response: Concur. Reference is made to revised Table 1.

34. Comment: The nomenclature used in the discussion of botanical resources is not very descriptive.

Response: Concur. Reference is made to revised paragraph 2.13.

35. Comment: The description of economic development would be more understandable if all economic activities were described in terms of the same base year.

Response: Concur. See revised paragraphs 2.26 and 2.28.

36. Comment: Environmental quality consideration in land use plans should have equal footing with economic and other considerations to comply with National Environmental Policy Act.

Response: Concur. Environmental quality has been given equal consideration with other factors. Statements implying otherwise have been corrected. Reference paragraph 3.01.

37. Comment: Discussion of the environmental impacts of the framework program should include quantification of impacts, where possible; impacts of future agricultural development on water quality should be discussed; and methods of minimizing environmental degradation from navigation projects should be identified.

Response: Discussion of the environmental impact of the proposed framework program has been rewritten and expanded to better explain the program components and impacts. Reference is made to revised paragraphs 4.01 through 4.27.

38. Comment: Alternatives must be evaluated on the basis of environmental, social, technical, and economic consideration rather than economics

alone; alternative plans and impacts should be described in sufficient detail to indicate the tradeoffs involved; a tabular presentation of costs, acreages, etc., would be useful in comparing alternative plans.

Response: Concur. Reference is made to revised paragraphs 6.01 through 6.07, and Table 4.

39. Comment: Discussion of the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, should discuss the tradeoffs involved in the conversion of land and water to other uses. For example, the conversion of bottomland hardwoods to agricultural land will produce economic benefits and will affect local social conditions, etc., but the loss of the bottomland hardwoods will have a negative long-term impact on biological productivity through the loss of aquatic and terrestrial wildlife habitat and loss of timber production.

Response: Concur. Reference is made to revised paragraph 7.01.

40. Comment: Clearing of bottom-land hardwoods for increased agricultural production, construction of reservoirs, channelization of streams, drainage programs, etc., should be considered irreversible commitments of resources.

Response: Concur. Reference paragraphs 8.02 through 8.05.

41. Comment: Adverse impacts associated with reservoir construction include the loss of natural streams ecosystems.

Response: Concur. Reference paragraph 4.09.

Department of Commerce

42. Comment: The discussion of alternatives to the proposed action should include further identification of the Regional Development Program and how the National Development Program was modified by admixtures of environmental and regional development considerations to produce the recommended framework program. No indication, however, is given of the relative proportions of this mix. We suggest that the statement fully describe the potential impact of future developments on the fragile estuarine ecosystems that inevitably will be affected by modification of the amount and timing of freshwater flows out of the basin. In addition, Section 5, "Adverse Environmental Effects," should be expanded to discuss all the adverse environmental impacts of the recommended program components with special emphasis given to effects on fish and wildlife. Table 1 should be modified to provide more detail on the recommended program composition.

Response: Concur. Reference is made to paragraphs 6.01 through 6.07 and Table 4. Section 4, "Environmental Impact of the Proposed Framework Program," as rewritten and expanded provides additional information related to the program components and their effects on the environment. Paragraph 4.07 as rewritten clarifies program components related to coastal and estuarine aspects. In addition, several paragraphs in this section provide discussions relating to many aspects of fish and wildlife. Section 5 as rewritten provides additional information relating to the adverse environmental impacts of the various recommended program

components, including fish and wildlife; and Table 1 has been modified to provide additional data pertaining to program components.

Department of the Interior

43. Comment: Table 1 of the proposed draft EIS presents data by WRPA's without previously explaining to the reader what Water Resource Planning Areas are; it shows water supplies in m.g.d. for only municipal and fish and wildlife purposes. This is not consistent with Table 88, Plan Formulation Appendix, which shows that the plan includes water supplies for municipal, industrial, thermoelectric, and agriculture (including irrigation). We suggest that Table 1 be expanded to include these data to be more representative of a framework plan. We suggest a cross reference to the Main Report and the Plan Formulation Appendix.

Response: Concur. Reference is made to Table 1 (revised) and paragraph 1.06 (added).

44. Comment: We suggest the following: About 35,000 square miles, or 34 percent of the region, consists of alluvial plain (delta) of the Mississippi River. Historically, more than 26,000 square miles of the alluvial plain have been covered by flood waters. Flood control was recognized by the early settlers as early as 1727, and continued development of levees and control works have been constructed to make the valley more suitable for human habitat.

Response: Concur. Continuous flood control is essential to the well-being of the region. The suggested addition is contained in paragraph 2.02.

45. Comment: The water quality discussion should include ranges of p.p.m. to describe moderately hard, soft, and good quality.

Response: Concur. Reference paragraph 2.09.

46. Comment: Fresh ground water generally is not available offshore except in the marginal delta area.

Response: Paragraph 2.10 clarified.

47. Comment: The fact that ground water discharges into streams almost all the time is not brought out strongly enough; there should be more elaboration of the severity and impact of tornadoes, hurricanes, and tropical storms.

Response: Paragraphs 2.07 and 2.10 revised as necessary to emphasize these matters.

48. Comment: We suggest adding the following paragraph to . . . Zoologic Resources - "The Mississippi flyway is one of the most important flyways in the United States for migratory birds, and the coastal and estuarine region of Louisiana provides one of the most important wintering areas in that flyway for waterfowl and other migratory bird species."

Response: Concur. Reference paragraph 2.19.

49. Comment: Discussion of present level of economic development should bring out the national importance of mineral production in the area.

Response: Concur. Reference is made to paragraph 2.21.

50. Comment: Delete recreation as a land use for permanent pasture and pastured cropland.

Response: Concur. Reference Table 2.

51. Comment: Categorical tabulation of water withdrawals for 1970 should be retitled "Summary of Present Water Withdrawals, Lower Mississippi Region."

Response: Concur. Reference Table 3.

52. Comment: In discussing the relationship of the framework program to land use plans, the connotation that food and fiber needs are of a higher priority than other needs should be eliminated.

Response: Connotation eliminated in revised paragraph 3.01.

53. Comment: Reference to maximum site development for recreation should be changed to optimum site development.

Response: Concur. Reference paragraph 3.02.

54. Comment: Further discussion is needed to explain how municipal and industrial consumptive use of water could encourage higher prices or produce other environmental impacts attributed to this use, especially when there are sufficient water supplies to provide a ten- or twenty-fold increase in current requirements.

Response: The environmental impacts of municipal and industrial water use should have been discussed in terms of total withdrawal rather than consumptive use. The framework program measures such as reservoirs, pumping stations, distribution systems, etc., are scaled to meet total withdrawal requirements, and it is the environmental impact of those measures that must be examined. Reference is made to paragraphs 4.07 through 4.10.

55. Comment: . . . the drainage program proposed in the framework plan has a very definite impact on the environment . . . we suggest including a section on drainage . . .

Response: Concur. Reference paragraph 4.14 through 4.16.

56. Comment: The discussion of zoologic resources lacks an adequate discussion of the fish and wildlife resources which contribute hunting and fishing opportunities in the region, including upland game populations, migratory waterfowl, and freshwater fish. Consideration should also be given to discussing rare and endangered species in the area.

Response: Discussion of fish and wildlife resources which contribute to hunting and fishing opportunities has been added. Reference paragraphs 2.17 through 2.20.

57. Comment: It is stated that "Long-term cumulative effects of this alternative (environmental quality) would include presentation of greater portions of the natural environment than with the other objectives (National Income, Regional Development), but strict adherence to such philosophy would generate unacceptable impacts in the economic sphere of man's total existence. The foregoing assumption is not factual and is unacceptable to those persons involved in preserving a part of the quality environment in the basin. How the region may react to higher costs to preserve a part of the environment is not ascertainable at this time.

Response: Long-term cumulative effects of the Environmental Quality program, as compared to alternative programs, would include preservation of greater portions of the natural environment, with correspondingly lesser portions exposed to economic development activities, including those activities required for food and fiber production. Reference paragraph 6.07.

58. Comment: Generalized references to mineral resources in the statement are adequate . . .

Response: None required.

59. Comment: The framework program is designed to improve standards of living by retaining productive use of water and related areas as well as improving those susceptible to management.

Response: Reference paragraph 3a of Summary.

60. Comment: Various man-made projects may be required to meet future demands on the resources.

Response: Concur. Reference paragraph 3b of the Summary.

61. Comment: A maximized plan based without consideration for funds and rejecting all of the stated alternatives can hardly be regarded as a realistic planning document. Further, the "study" is actually a development plan without actual studies to determine effects on the environment. The environmental costs are likely to be high.

Response: Plan formulation studies included full consideration of funding constraints. They further included full and impartial consideration of identifiable needs for conservation, preservation, and enhancement of the natural environment. The recommended framework program is considered realistic in all respects.

62. Comment: The natural environment area appears to be so small as to suggest the environment will become completely man-made.

Response: The recommended framework program includes public investments for the conservation, preservation, or enhancement of approximately 1.3 million acres of land (reference Table 1) associated with

wilderness areas, wetlands, botanical systems, ecological systems, bottomland hardwood forests, and other significant areas of the natural environment. The proposed investments, together with natural and other deterents (topography, location, ownership) to environmental changes are expected to maintain the existing status of about 10 million acres, which are mostly forested and which amount to a little over half of the total forests predicted to remain in the region in the year 2020.

63. Comment: Various and productive biota based on natural flooding will be lost over most of the area.

Response: Interpreted to mean that plant and animal life will be adversely affected by the construction of levees, channels, reservoirs, and related flood control measures summarized in Table 1. Reference is made to paragraphs 4.11 through 4.13, which summarize environmental impacts of the proposed flood control works.

64. Comment: The estuarine situation appearing to be left unimpaired by development, but will be affected by loss of fresh water and added pollution.

Response: The recommended framework program includes plans directed to maintenance of the existing productive capacity of the coastal and estuarine zone of the region. Provisions are made for diverting additional fresh water into the coastal and estuarine area for salinity control, shoreline erosion control, and water level management. Furthermore, the program includes plans to control water quality to the maximum practicable extent throughout the region. Reference Table 1.

65. Comment: An important element in the plan would be identification of large flood plain areas where urban development should not be undertaken.

Response: The recommended framework program includes plans for flood plain management on 11.8 million acres of upstream watersheds (Table 1). It further includes plans for Floodplain Information Reports necessary to proper flood plain management in all urban and built-up areas. Reference paragraph 4.23.

66. Comment: Adverse impacts of reservoir construction include loss of farmland as well as timberland. There is a gain of habitat for some kinds of fish and a loss for others. Terrestrial wildlife loss is complete.

Response: Concur. Reference is made to paragraph 4.09.

67. Comment: With demands on resources being exceeded by the year 2000, food and fiber, transportation, urban and built-up needs (whatever those are) and land required for reservoirs, flood control, etc., the plan envisions only short term conventional use. What then?

Response: Land areas in the Lower Mississippi Region are classed as cropland; permanent pasture; pastured cropland; forest land (including pastured forests); transportation, urban and built-up lands (including residential, commercial, and industrial lands, parks, streets, and highways, airports, etc.); mineral lands, recreation lands (including camping and picnicking sites, etc.); fish and wildlife lands (including wildlife and waterfowl management areas, other public areas such as Federal and State forests, etc., and privately owned lands providing wildlife habitat

and hunting opportunities, etc.); environmental quality lands (including open and green space in urban areas, wetlands, etc.); and other miscellaneous lands. Competition for land among these categories is expected to increase continuously as a result of future population growth and increasing demands for food and fiber, minerals, industrial products, recreational sites, and hunting and fishing activities. The combined land needs, excluding those for recreation, fish and wildlife, and environmental quality, and generally ignoring multiple-use concepts (except for pastured forestland) are expected to exceed the land resource base between the year 1980 and 2000. Improved management and increased multiple-use of the land resource are envisioned and taken into account in the framework program. Moreover, the framework program offers flood control, drainage, irrigation, land treatment, and related water resource developments, not only to maintain and improve agricultural yields, but also to reduce the competition for land by reducing the agricultural land requirements. Reference is made to paragraph 4.24.

68. Comment: The discussion of irreversible and irretrievable commitments of resources should include a reference to loss of soil which is irreplaceable.

Response: Irreplaceable soil losses are of course a matter of concern. The framework program includes provisions for sediment and erosion control throughout the region and for land building in the coastal and estuarine area. Any significant soil losses that might be involved in implementing the framework program will have to be determined in connection with specific project proposals in the future. Reference paragraph 8.01.

69. Comment: The geology discussion should mention that the region includes one of the highest seismic-risk areas in the United States, and that this is a major item for consideration in design of all projects.

Response: Concur. Reference paragraph 2.03.

70. Comment: Very little, if any, of the region was reached by glaciers; the region was affected by changes in climate, runoff, etc., resulting from continental glaciation in the Upper Mississippi and Ohio River regions.

Response: Concur. Reference paragraph 2.04.

71. Comment: In discussing the environmental impact of land management plans, it would be appropriate to suggest avoiding flooding of key sources of sand, gravel, and clay, especially near major consuming areas.

Response: Flooding is interpreted to mean the inundation of lands by reservoir impoundments. Such flooding could have adverse economic impact if key sources of sand, gravel, clay, or other valuable mineral deposits are affected. Reference paragraph 4.09.

72. Comment: . . . the EIS lacks clear definition of the goals to be achieved and the constraints to be observed in meeting these goals. A discussion of the criteria used in design of the general framework program might be helpful in this regard.

Response: These matters are discussed in detail in the Main Report and Plan Formulation Appendix. They are not considered relevant or appropriate topics for discussion in the Environmental Impact Statement.

Department of Health, Education and Welfare

73. No comments received.

Department of Housing and Urban Development

74. Comment: Discussions of "Study Description and Framework for Development" should inciude more information relative to the public involvement program.

Response: Discussion of study coordination includes information on public involvement. Reference paragraphs 9.01 through 9.03.

75. Comment: Discussion of the environmental setting without the framework program, should include a discussion of energy or mineral resources.

Response: Concur. See paragraph 2.21.

76. Comment: Continued study and research are needed to better understand the long-range impacts of land use changes, in relation to restoring quality to the total environment.

Response: Concur. Throughout the study and in the Conclusions and Recommendations section of the Main Report and Plan Formulation Appendix the need for additional studies, additional data, and research in the environmental resources areas has been recognized and expressed.

77. Comment: Construction of projects recommended in the framework program will affect the biosphere or environment and the EIS should address the subject.

Response: Concur. Throughout the EIS when beneficial and adverse construction impacts for various components of the recommended framework programs were discussed, the components of the environment or biosphere affected were defined as completely as possible, as shown in paragraphs 4.06 through 4.27.

78. Comment: The EIS should recognize that despite present and future flood control preventive and protective works and flood plain management information programs, major damages and personal hardships still occur in the region as a result of flooding.

Response: Concur. Paragraph 4.23 of the draft EIS provides this information.

79. Comment: Regretfully, in the present situation none of the dominant ways of understanding the wildlife and all natural features of the low lying areas of the Lower Mississippi Region entails total respect for their intergrity or inherent value. . . the relationship is always determined by the relation of animals and plant life to man, and this continued effect can become one-sidely destructive.

Response: Concur. Man's dominion over plant and animal life is unlikely to change. However, better stewardship over these resources can and is being achieved. As stated in paragraph 4.24, the framework program includes measures to provide land not only to satisfy needs for food and fiber, transportation, and urban and built-up purposes, but also to provide for satisfaction of needs for recreation, fish and wildlife, and environmental quality. The program includes explicit provisions for acquisition, fee, or easement of 3.1 million acres of land for recreational uses, fish and wildlife, and environmental purposes.

80. Comment: The recent energy shortage is a powerful incentive for change. Therefore, another alternative plan to be considered would be one that directs itself to slow growth where basic standards of living need not change but styles of living would change.

Response: Slow regional growth, based on historical trends, is an ingredient in each of formulated alternatives except the Regional Development Program which envisions regional growth at a rate equal to the National average. Changes in styles of living can be an effective hedge against energy shortages, as evidenced by the recent lowering of speed limits on the Nation's highways. However, such changes would be most meaningful and effective when approached on a national scale. They were not evaluated on a regional basis.

81. Comment: Coordinate the proposed action with the Bootheel Regional Planning Commission, Missouri.

Response: A copy of the proposed draft EIS was forwarded to the Commission.

82. Comment: The Department of Housing and Urban Development has participated in the Lower Mississippi Region Comprehensive Study by providing inputs relative to urban land use, economic development, recreation, municipal water use, and flood plain management. We concur in basic findings and recommendations in the study.

Response: No action required.

83. Comment: With respect to urban growth and development, substantial additional planning of a specific nature will be required within each urban area to solve problems peculiar to that area. Such efforts will involve; (a) Land use planning and zoning, (b) Regulation of platting and subdivision of land, (c) Improvement of administration of regulatory codes and ordinances such as Housing Codes, Building Codes, Plumbing and Electrical Codes, and Fire Prevention Codes, (d) Development of functional plans for improvement of water and sanitary sewerage

systems, storm drainage, and solid waste disposal, (e) Formulation of plans for development or redevelopment of urban areas subject to critical flood hazards, and (f) Development of plans and policies for construction of streets and community facilities.

Response: Concur. Urban planning of this detail has not been overlooked, but is beyond the scope of the framework study. The draft EIS addresses urban growth and development in general terms in paragraphs 4.04, 4.05, 4.06, 4.22, 4.23, and 4.24.

Environmental Protection Agency

84. Comment: Certain portions of the first paragraph of the summary should be rewritten for clarity.

Response: Concur. See response to Comment 1.

85. Comment: Suggest that tabular data on composition of framework program be clarified.

Response: Concur. See response to Comments 2 and 13.

86. Comment: Ice age glaciers did not extend into the project study area. . . subsequent weathering is not the sole reason for low-land development. . .

Response: Concur. See paragraph 2.04 of revised draft EIS.

87. Comment: The discussion of surface water quality of the Mississippi River should include mention of the heavy industrial and municipal waste in sections around Baton Rouge and New Orleans.

Response: Concur. See paragraph 2.09.

88. Comment: The discussion of ground water quality should include the water quality problems related to oilfield operations.

Response: Available information does not provide for detailed discussions of ground water pollution related to oilfield operations. See paragraph 2.10.

89. Comment: The air quality discussions should include areas where problems do exist, such as Baton Rouge and New Orleans.

Response: Concur. Reference paragraph 2.12.

90. Comment: The discussion of botanical and zoological resources should include mention of endangered or threatened species in the project area, their relative abundance, habitat requirements, and present status.

Response: Concur. Reference paragraphs 2.17.

91. Comment: An expanded discussion of the alternatives considered should be included in the draft statement. For instance, the Environmental Quality alternative mentions that both economic and natural environmental factors were considered, but does not discuss these factors. In order to provide adequate evaluation of each alternative, this information should be included.

Response: Concur. Paragraphs 6.01 through 6.07 expanded and Table 4 added to provide additional detail on alternatives and to give an indication of the trade-offs involved.

Federal Power Commission

92. No comments received.

Department of Transportation

93. Comment: There will be no significant adverse effects to the existing or planned air transportation system as a result of this study.

Response: No response required.

94. Comment: A discussion of the effects on highways that may result from implementation of components comprising the framework program should be included in the draft EIS.

Response: While not investigated in the study, relocation of some highway facilities and increased or decreased use of others may result from implementation of the framework program. Reference is made to paragraphs 4.19 and 4.20.

Department of Labor

95. No comments received.

State of Arkansas

96. Comment: . . . since the study contains no recommendations for specific projects and no detailed information for authorization of projects, we (Arkansas Department of Planning) have no comments at this time.

Response: None required.

State of Illinois

97. No comments received.

State of Kentucky

98. Comment: Limited specific information concerning the program is contained that may be reviewed . . . A specific ommission is the failure to give adequate consideration to transportation developments and impacts, with the specific exception of water transportation on the Mississippi River itself. The draft environmental impact statement is felt to be inadequate in its consideration of transportation from this viewpoint.

Response: Available information does not provide for detailed discussions of ground water pollution related to oilfield operations. See paragraph 2.10.

89. Comment: The air quality discussions should include areas where problems do exist, such as Baton Rouge and New Orleans.

Response: Concur. Reference paragraph 2.12.

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Response: Concur. Paragraphs 6.01 through 6.07 expanded and Table 4 added to provide additional detail on alternatives and to give an indication of the trade-offs involved.

Federal Power Commission

92. No comments received.

Department of Transportation

93. Comment: There will be no significant adverse effects to the existing or planned air transportation system as a result of this study.

Response: Transportation developments and impacts other than those related to waterborne commerce were not a major item of investigation or study. Consideration was given to future requirements for streets, highways, railroads, airports, and related transportation developments, but only in terms of broad general appraisals of land needs through the year 2020.

99. Comment: The consideration of water transportation of the Mississippi does not reflect possible alternate plans and the potential impact, such as proposals for the development of the Tombigbee Waterway, which could divert much of the commercial traffic currently projected for the Mississippi, thereby reducing the demand and need for substantial improvement in the Mississippi waterway.

Response: Proposals for the development of the Tombigbee Waterway were considered. The commercial traffic and the related demands and needs for improvements currently projected for the Mississippi are based in part on assumed conditions of a completed and operational Tombigbee Waterway.

100. Comment: Consideration of both alternative transportation modes and alternative transportation plans should be considered.

Response: A determination of the intermodal distributions of existing and future commerce of the region would reflect the ideal situation. However, a comparative rate analysis of all transportation modes was not within the scope of the study. Therefore, it was assumed that future rate structures will be such that water transportation will maintain at least its present proportion of the total commerce now moving in the region. As indicated in the response to Comment 99, alternative transportation plans such as the Tombigbee Waterway have been considered.

101. Comment: The Coordinating Committee could be performing a more valuable service if, in addition to its land and water resource planning, it also considered the impact of regionwide development on the air quality.

Response: Construction activities (brush burning during reservoir construction, etc.) required to implement the framework program would have temporary and local impact on the air quality. Such impacts have been generally recognized and will require more detailed investigation and study in connection with specific project proposals in the future.

State of Louisiana

102. Comment: We are pleased to see that the recommended plan includes provisions for preservation of environmental quality, but the overall plan will result in further deterioration of the natural environment due to land use changes and construction of flood control and navigation projects.

Response: The recommended program includes measures that are needed and apparently feasible at this time. Future justification of specific project proposals will be based on detailed studies and investigation of project impacts, taking into account the relative social, economic, and environmental impacts - both beneficial and adverse.

103. Comment: We are not sure of the exact meaning of all the headings in Table 1.

Response: Table 1 revised.

104. Comment: What is the reason for the low acreages under the heading "Water Surface Area - Natural Environment" for the WRPA's in Louisiana?

Response: The framework program includes provisions for future public investments to protect scenic rivers and streams, and lakes. The water surface areas in Table 1 are estimates of the areas involving such investments. The estimates for Louisiana are relatively less than those for other areas of the region because the State of Louisiana has already taken significant steps toward protecting its scenic rivers and streams.

105. Comment: Are the needs for additional surface acreages of recreation waters in WRPA's 5 and 6 in the Louisiana portions of these WRPA's?

Response: Needs for additional surface acreages of recreation waters in WRPA's (water resource planning area) 5 and 6 include needs in both the Louisiana and Arkansas portions of the WRPA's.

106. Comment: Why is there a need for additional water surface acres of recreation waters in WRPA 8 which adjoins WRPA 10 and the Atchafalaya Basin?

Response: Study projections for WRPA 8 for the year 2020 indicate a gross need for 180,000 acres of recreation water bodies between 40 and 500 acres in size. Approximately 22,000 acres of the gross need can be met by available resources suitably located in WRPA 8, and another 80,000 acres of the need can be met by inter-WRPA commuting to areas such as the Atchafalaya Basin in WRPA 10. The remaining need could be met by new reservoir construction at sites appropriately located with regard to population concentrations.

107. Comment: An interpretation of the tabular data for water supply for fish and wildlife is somewhat difficult since fish and wildlife are currently using almost all of the streams of the region.

Response: Concur. Table 1 revised for clarity.

108. Comment: The various drainage, levee, and navigation projects are so extensive that specific comments are not provided; however, if all the construction outlined in Table 1 is accomplished, massive effects on the environment will be incurred; thus needs for individual projects should be evaluated in greater detail.

Response: Reference is made to response to Comment 102.

109. Comment: While it is probable that the region will produce an increased share of the world's food and fiber needs, the effects of such an undertaking on the natural environment and quality of life should be closely examined. Feeding the world is certainly a humanitarian cause; however, methods of accomplishing this goal without excessive damages to fish and wildlife resources and environmental contamination with dangerous chemicals should be explored. Also, a distinction should be made between expansion of agriculture for the humanitarian purpose of satisfying the food needs of impoverished nations and the expansion of agriculture for profit resulting from a favorable balance of trade and for political uses of food supplies. Worldwide population control, technical assistance to foreign countries, and increased efficiency in American farming could all help reduce the acreage demands for farmland in the United States. Destruction of bottomland hardwoods and

construction of levees and drainage canals for conversion of lands to agriculture should not be considered the only means for increasing production.

Response: The probability that the region will produce an increased share of the world's food and fiber needs has been recognized, but that probability did not govern the future land use requirements estimated for the framework Study. The estimates did take into account expected increases in efficiency in American farming; and formulated programs not only considered flood control and drainage measures for increasing agricultural production, but also considered measures for increased watershed management, land treatment and management, irrigation, and sediment and erosion control. Reference Table 1.

110. Comment: We are certainly not in a position to forecast future navigation needs, but a nearly fivefold increase as outlined by year 2020 seems staggering. If present pollution, saltwater intrusion land loss, and marsh destruction problems associated with navigation projects increase at the same rate, major damages for sport and commercial fishing, and for trapping and sport hunting in the marsh, can be expected.

Response: The fivefold increase in navigation needs does not dictate a fivefold increase in construction of navigation facilities within the region. The framework program recommends that the existing system of navigation channels be improved and expanded from about 3,400 to 3,800 miles, with small additions to navigation locks and ports. The effects of navigation construction projects on the various components of the environment are discussed in paragraphs 4.17, 4.18, and 5.06.

111. Comment: The draft EIS gives inadequate attention to the benefits of proper land use management, particularly in the area of avoidance of high flood risk areas for development. Proper site selection and development in corridors might reduce the needs for structural measures.

Response: Discussion of the environmental impacts of the framework program includes discussion of land management plans. Reference is made to paragraphs 4.22 and 4.23.

112. Comment: Croaker should be added to the list of important saltwater commercial fish . . . and mention should be made of the importance of catfish, buffalo, freshwater drum, and crawfish as freshwater commercial species. . . .

Response: Concur. See paragraphs 2.13 through 2.16.

113. Comment: The draft EIS was distributed to 15 State agencies other than the Department of Public Works and a request made to these agencies to review and provide their comments on the EIS. As of 28 October 1974, we have received two replies - the Louisiana Commission on Intergovernmental Relations commented that the EIS was adequate and the Office of State Planning had no comments. We must compliment the overall involved effort of Federal, State, and local persons to collect, assemble, and produce the LMRCS. This has been a tremendous undertaking and a successful effort under the direction of the MRC, we are pleased with the EIS and find it to be most comprehensive.

Response: No response required.

114. Comment: The State Clearinghouse has reviewed your draft EIS for the LMRCS in respect to agency impact and responsibility. It is our opinion that the agencies from which you have solicited comments are adequate. We do not wish to add further to your list.

Response: No response required.

115. Comment: This agency has long recognized that the cumulative commitments of water and land resources do have a definite impact on water quality, quantity and base stream flows. Therefore, we recommend that the cumulative impact of projects affecting land and water resources be considered in the environmental assessment of each project as well as the specific impact.

Response: Concur. The assessment of environmental conditions with and without specific projects will be required for future authorization studies. Such assessments will provide a basis for consideration of cumulative impacts of projects.

State of Missouri

116. Comment: The Division of State Planning and Analysis, as the designated State Clearinghouse, has coordinated a review of the referred draft EIS with various concerned or affected State agencies pursuant to Section 102(2) (e) of the National Environmental Policy Act. Inclosed please find comments received. None of the other State agencies involved in the review had comments or recommendations to offer at this time. We appreciate the opportunity to review the statement and anticipate receiving the final environmental impact statement when prepared.

Response: No response required.

117. Comment: In reference to water quality comments, it should be noted that in the year 2020 there will be the need to provide advanced treatment for almost three times as much wastes as will be given secondary treatment in 1980.

Response: Concur. Reference paragraph 4.03.

118. Comment: The loss of mineral resources needs to be looked at in greater detail in the EIS. Although there are sections on botanical, zoologic, and archeologic resources, no specific data on mineral resources are included.

Response: Concur. Omissions corrected in Sections 4 and 5 of the revised draft EIS.

119. Comment: Recognizing that the framework plan does not address itself to specific projects, the Department of Natural Resources will conduct a review of further project proposals for the area as they are presented to us.

Response: No response required.

120. Comment: Both the Bootheel's A-95 PNRS Committee and the Bootheel Regional Planning Commission have reviewed and approved the draft Environmental Impact Statement for the Lower Mississippi Region Comprehensive Study.

Response: No response required.

State of Mississippi

121. Comment: The Mississippi Park Commission is vitally interested in sound planning practices and policies that affect the quality of life

in the region and particularly within the State of Mississippi. After review of the proposed Draft Environmental Impact Statement, LMRCS, the Mississippi Park Commission wishes to endorse in principal the general framework program as suggested in the draft EIS. Thank you for this opportunity for review and we are looking forward to review of more specific programs and projects as they develop.

Response: No response required.

State of Tennessee

122. Comment: As the designated State Clearinghouse for Federal grant programs under OMB Circular A-95 guidelines, we have reviewed the above referenced proposal, dated September, 1974. The draft statement is quite generalized in scope in that it concerns a broad fifty-year framework program with no specific recommendations or project proposals. The stated intent of the study is to ... "outline a recommended framework program for this region in terms of the probable nature, extent, timing, and costs of measures for satisfaction of foreseeable needs, and the solution of identified problems."

Response: No response required.

123. Comment: The EIS should address the ground transportation requirements, notably highways.

Response: Concur. Reference paragraphs 4.19, 4.20, and 5.06.

124. Comment: Enlargement of channels plus new channels and port facilities included in the plan affecting Tennessee's navigable waterways should be coordinated with DOT's Bureau of Industrial Marine and Watercraft Transportation.

Response: Concur. Specific projects for future channel or port additions or alterations affecting Tennessee rivers or streams will receive proper coordination with responsible agencies.

125. Comment: We suggest that much land is best suited for fish and wildlife and should often receive top priority in land use planning for that purpose.

Response: Concur. Provisions are made to use certain lands primarily for fish and wildlife purposes. Reference Table 1, and paragraphs 3.01 and 3.03.

126. Comment: Since the West Tennessee portion of the region is sparse in available water areas, project components of the recommended framework program should be designed to provide improvements to this resource requirement. There should be provided a more detailed explanation of how industrial waste discharges will continue to degrade Tennessee's water quality.

Response: Water quality is a regional problem and not necessarily a problem associated with Tennessee waters. Paragraph 6.06 has been rewritten to provide more detailed information and hopefully clarity.

127. Comment: All State agencies reserve their right to comment on the recommended elements of the plan and specific project proposals until such time as they are identified and proposed for implementation.

Response: No response required.

Citizen Groups (Arkansas Ecology Center)

128. Comment: The "Responsible Office" is identified only as the "Lower Mississippi Region Comprehensive Study Coordinating Committee"; The Corps and the Mississippi River Commission are nowhere identified with this document.

Response: All study participants have been identified. Reference paragraph 1.05.

129. Comment: Are the needs for food and fiber production actually "higher priority" than the needs for a stable environment to survive in? The framework plan conceived by this study proposes that 305,000 acres - one half of 1 percent of the total basin area - be dedicated to "environmental quality purposes." That exploitation to protection ratio of 200:1 illustrates the attitude of the framers of this plan, which is that the environment can be "taken care of" by the preservation of a paltry few acres of land rather than by a total plan which would insure the "environmental quality" of 100 percent of the area. Environmental quality cannot be neatly separated from, nor subjugated to "higher priority" (i.e., more profitable) needs.

Response: Human demands and needs for food and fiber and for environmental variety and diversity to fill varied spiritual, psychological, and recreational needs are expanding with no end in sight, while the natural resources available for needs satisfaction are finite, and in many cases, nonrenewable. In this situation, resource allocation on a priority basis is a necessary consideration in formulating plans and programs for the future conservation, development, and use of the water and related land resources. The formulated framework program places high priority on maintaining the environmental quality of the entire region, bearing in mind that man's material needs are generally satisfied before his spiritual or psychological needs. The end result is that framework components provide for the regulated use of 1.3 million acres,

of which 305,000 acres - including botanical, zoological, and ecological systems; sparsely developed shorelines of scenic lakes; and near-wilderness areas - are designated for exclusive use as environmental quality lands. Reference paragraph 3.04.

130. Comment: Exploitive interests have rights; survival interests have bones thrown to them.

Response: The framework program is composed of measures to satisfy all identified needs for conservation of the resources, as well as the identified needs for development and use of the resources. Reference is made to Table 1.

131. Comment: Discussion of the relationship of the framework program to land use plans refers to certain land uses as though environmental quality were only a matter of enjoyment and not a matter of survival just as much as "higher priority needs for food and fiber production."

Response: The importance of maintaining a high quality environment has not been overlooked nor slighted. Environmental quality needs have been recognized and measures directed to satisfaction of these needs have been included in the framework program. Reference paragraph 3.04.

132. Comment: All the navigation development is based on a waterborne traffic load projection for 2020, which is nearly five times that of 1970. Such a doubtful claim must be justified before it can be accepted.

Response: The study methodology for making waterborne traffic load projections is explained in the Navigation Appendix. Justification of the projections is inappropriate subject matter for the draft EIS.

133. Comment: The discussion of environmental impacts associated with land use changes seems to say that forests will be sacrificed for food production, particularly minor tracts of bottomland hardwood forests. It seems obvious that the plan visualizes the final eradication of the bottomland hardwood forest, already desperately depleted to the point that only "minor forests" remain.

Response: Study projections indicate that future land requirements for the production of food and fiber, for transportation and for expansion of urban and built-up areas, will, if met, involve the clearing of substantial amounts of forest land, despite expected technological advances and improved land management techniques. Additional clearing will be involved in implementing certain components (reservoirs, levees, etc.) of the framework program; however, the framework program seeks the protection of all or parts of endangered tracts of the bottom-land hardwood forests. The program measures, together with natural deterrents to development (location, ownership, soil properties, wetness hazards, etc.), are expected to curtail impairment of about 88 percent of the existing bottomland hardwoods. Reference is made to paragraph 4.24.

134. Comment: The alternative of no new dams or ditches, maximum emphasis on flood plain management, silt control, and most effective use of the resource consistent with respect for the environment has not been considered, or probably even conceived of by the Framers.

Response: The alternative described has not been seriously considered; it is essentially the recommended framework program without reservoirs and without flood control and navigation channels. Such an

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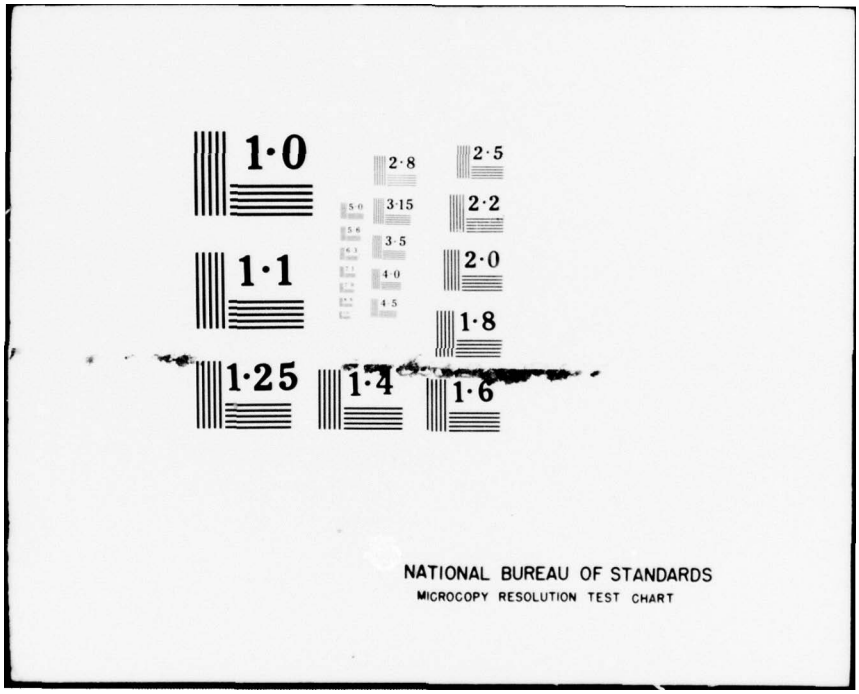
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alternative could, of course, be considered; but it ignores the major problems and needs in the region.

135. Comment: Nowhere in the plan is reflected the philosophy of the Comprehensive Study staff's own "Ad Hoc Environmental Committee Report."

Response: The philosophy of the Environmental Committee is deeply ingrained in the various components of the framework program, which are concerned not only with the physical nature of the resource problems and needs, but also the biological, sociological, and ecological equilibrium of a diversified environment. Measures to preserve and maintain biological, ecological, and other significant components of the natural environment account for more than 17 percent of the total investment costs of the framework program. An additional 13 percent is collectively devoted to water quality maintenance and improvements, sediment and erosion control, and preservation of coastal and estuarine resources and archeological and historical resources. Another 32 percent is devoted to fish and wildlife and recreation aspects. The balance (38 percent) of the total program costs provides for the satisfaction of water supply, flood control, and navigation needs.

LETTERS AND COMMENTS

RECEIVED BY THE

LOWER MISSISSIPPI REGION COMPREHENSIVE STUDY

COORDINATING COMMITTEE

REVISED DRAFT ENVIRONMENTAL IMPACT STATEMENT

APPENDIX A

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
P. O. Box 610
Jackson, Mississippi 39205

October 25, 1974

Mr. Fred H. Bayley III, Executive Secretary
Coordinating Committee
Lower Mississippi Region Comprehensive Study
P. O. Box 80
Vicksburg, Mississippi 39180

Dear Mr. Bayley:

We have reviewed the draft environmental impact statement for the Lower Mississippi Region Comprehensive Study attached to your memorandum of September 6, 1974.

We have tried to be specific and factual with these comments. You will note that suggested re-writes on several sections are included in our comments. These comments consist of marginal changes in a copy of the statement being returned, with additional itemized attached comments.

In response to the request in your memorandum, none of our projects are sufficiently advanced that a discussion of the environmental interrelationships need to be included in the final environmental impact statement.

We appreciate the opportunity to review and comment on this statement.

Sincerely,

W. C. Melvin Acting
W. L. Heard
Member, Coordinating Committee
Lower Mississippi Region Comprehensive Study

Attachment

cc: (without attachment)
Dr. Neil Cook, ERS
Mr. Carl F. Hoover, USFS

Proposed Draft Environmental Statement
Lower Mississippi Region Comprehensive Study

1. Page i, item 3a - It is suggested that this paragraph be rewritten as follows: If implemented in its entirety, the framework program will provide a balanced distribution of the basin's water supply to permit maintenance of economic activity necessary to improve the standard of living of the region's residents. Changes recommended in land use patterns will further provide for outdoor recreation; fish and wildlife utilization; preservation of the environment and cultural and historical features; and permit the needed production of food and fiber. Other program components improve water quality, reduce flood damages, and provide adequate water transportation. These, along with improved services, will help to support and enhance the economic and social well-being of the basin and the nation.

2. Page i, item 3b - It is suggested that this paragraph be rewritten as follows: Commitments of resources and construction activities required to implement the program may impose adverse impacts on the environment. Such impacts will depend upon specific project proposals and can be determined only in the course of future authorization studies for which detailed environmental impact statements will be prepared.

3. Page ii, item 4 - It is suggested that this paragraph be rewritten as follows: The recommended framework program is comprised of a mix of plans balanced between the objectives of National Income and Environmental Quality. Alternatives are likewise based on these objectives and on the further objective of Regional Development, with each objective receiving primary emphasis in one of the alternative programs.

4. Page 2, add paragraph 1.04 as follows: The outputs shown in table 1 are based on broad requirements for resources development. Specific projects for providing the output were not developed since that detail of planning was beyond the scope of the framework study. The estimated total first cost of the recommended framework program is $14.8 billion, which is divided about equally between Federal and non-Federal interests.

5. Page 10, change paragraph entitled "Hydrology" to "Water Resources" and rewrite as follows: The Lower Mississippi Region is water-rich in comparison with other major river basins in the United States. On its surface are examples of nearly every type of water form except glacial lakes and fiords. Surface water sources, dominated by the Mississippi River which pours an average of 328 million acre-feet (an average flow of 453,000 c.f.s.) of water into the Gulf every year, cover nearly five percent of the region's area. Under the region's surface is one of the most extensive and potentially productive ground-water systems in the United States, capable of yielding a volume of 75,000 acre-feet per square mile.

Surface Water Quality

Good quality surface water is generally available on a regional basis, although significant water quality problems do exist in isolated areas. The waters of the Mississippi River main stem are moderately hard, while tributary streams contain soft to moderately hard water of good chemical quality and low mineral content. The most prevalent surface water pollutants are chloride from oil well brine in some rivers and streams, various constituents from municipal and industrial effluents, and natural acidity.

Ground Water Quality

Ground water in the region has a higher, more constant mineral content than surface water, and is generally free of biological contaminants although it does sometimes contain undesirable color and acidity. Saltwater intrusion into fresh ground water is a problem in the region's coastal area. At some locations in these saline areas, fresh water can be skimmed from above saltwater, and fresh artesian water can be found at varying depths from wells drilled offshore.

6. Page 15 Change title "Botanical Resources" to "Botanical-Zoological Resources" and rewrite to read: Throughout most of the region, soils, moisture conditions, and temperatures are all conductive to the support of a lush vegetation, dense forest lands, and a variety of row and close-seeded crops. Forests cover nearly 30 million acres, or about 45 percent of the region. Oak-gum-cypress forests, located in the Mississippi Delta and along the major and minor tributaries, are the most plentiful type, accounting for about 30 percent of the acreage. Closely associated with this type are elm-ash-cottonwood forests which occur primarily on the better-drained terraces of the floodplains. Oak-hickory and oak-pine forests are predominant on the higher ridges and on the loessial bluffs bordering the alluvial valley. On the rolling terrain of the uplands, the major forest type is loblolly-shortleaf pine, and on the well-drained sandy coastal plains near the Gulf, the most plentiful type is longleaf-slash pine. Most of the coastal area is unforested because of natural environmental limitations and vegetation consists primarily of grasses, rushes, and a few small and medium-sized plants, such as palmetto, French mulberry, switch cane, and sumac.

Crops such as cotton, corn, sorghum, hay, soybeans, sweet clover, sweet potatoes, and pecans are grown at normal seasons throughout the region, as are summer pastures, while oats, winter wheat, ryegrass, and fescue are common in winter pastures. Crops such as sugar cane and winter vegetables occur primarily in the southern portion; and other crops, such as deciduous fruits, rye, barley, wheat, tobacco, and peanuts, are more common in the northern portion of the region. Rice is cultivated extensively in Arkansas and Louisiana, with minor amounts raised elsewhere.

The Lower Mississippi Region contains an abundance of mammal, bird, amphibian, reptile, and aquatic species, as well as extensive numbers of domestic animals, such as livestock and poultry. Its lakes, rivers, creeks, bayous,

and streams contain more than 200 species of freshwater fish. Among these are several commercially important species, such as catfish. Freshwater crayfish (crawfish) are harvested in abundance during early spring by commercial and private interests alike. Bullfrogs (frog legs are a delicacy of the region) are also harvested in large quantities along the coast.

The southern tip of the region is famous for the quality and quantity of its saltwater fishes, as well as its freshwater varieties. Economically important species include pompano, redfish, Spanish mackerel, menhaden, bluefish, flounder, and grouper. In the shellfish and turtle groups, the area leads the nation in the production of shrimp, diamondback terrapins, crabs, and oysters.

7. Page 20, change title from "Present Level of Economic Development" to "Present Level of Economic Development and Existing Land Use" and rewrite as follows: Major industries in the Lower Mississippi Region are agriculture, forestry, mining (petroleum), quarrying, and manufacturing. The combined gross product originating from these industries in 1968 amounted to approximately $8.7 billion (1967 dollars), of which nearly half was from manufacturing. Agriculture and mining each accounted for over $2 billion of their gross product.

The total personal income in the region in 1968 was approximately $15.4 billion, or about $2,447 per capita. Total earnings amounted to $12.3 billion, or $5,550 per worker. Also in 1968, there were $2.1 billion in gross farm marketing receipts, and 2.2 million persons, or 35 percent of the region's population, were employed.

Land use is perhaps the best indicator of the state of development of the land resource. In 1970 the Department of Agriculture classified 43 percent of the land portion of the study area in the categories of cropland and pasture, and an additional 14 percent as pastured forest. There were over 2 million acres occupied by towns and cities. Though not specifically identified in the USDA's Conservation Needs Inventory classification system, land use in 1970 also included 2,021,394 acres of land used primarily for fish and wildlife purposes and an additional 99,000 acres used primarily for recreation purposes. Table 2 gives a breakdown of the 1970 land uses in the region, based on CNI data.

8. Page 24, "Existing Water Use", add the following paragraph:

The region's three million acres of surface water area provide opportunities for swimming, boating, water skiing, and many other recreational activities. They also provide fish and wildlife habitat, and their scenic qualities and other attributes enhance the environmental quality of the study area.

9. Page 29, Suggest section on "Water Quality" be rewritten as follows:

Population growth and associated economic activity are and will continue to place increasing demands on the waste assimilative capacity of the region's water resources. One means of satisfying these demands is increased capital investments in new and improved facilities to increase levels of waste-water treatment.

The framework program deals specifically with the problems of biodegradable organic wastes and bacteria, and with solutions judged technically feasible at this time. It deals only generally with other pollutants such as thermal wastes, nutrients, toxics, dissolved solids, and exotics, for which accurate water quality data are unavailable. The development of such data is recommended and plans are proposed for high levels of treatment for all waste water effluents from municipal and industrial point sources.

The primary requirement of the framework program is that all municipalities attain secondary treatment by 1980, advanced treatment by 2000, and continued advance treatment thereafter. Industries are required to attain equivalent levels of treatment. Where the prescribed levels of treatment fail to provide an effluent whose 5-day BOD can be assimilated by receiving streams without violation of stream standards, the program requires that treatment and assimilation be supplemented by mechanical reaeration. A further requirement of the program is that agricultural organic waste discharges receive treatment consisting of the application of solid wastes to productive cropland at a rate which will provide nutrients that can be fully utilized by the crops. Sediment and erosion control and land management plans included in the program will provide in part for the solution of sedimentation and eutrophication problems, and provisions are made for water withdrawals to ameliorate potential thermal pollution problems associated with expected power development.

The proposed improvements in water quality, in and of themselves, should have no adverse environmental effects. However, the treatment plants and related facilities that will be needed to achieve the improvements will result in a commitment of land resources. There will be short-term construction impacts and long-term aesthetic impacts and sludge disposal problems. There may also be malodorour conditions and health hazards resulting from the improper operation, breakdown, or malfunction of treatment plants.

10. Page 30, Suggest section on "Water Use" be rewritten as follows:

Water withdrawals in the region are expected to increase from 19.8 billion gallons per day (BGD) in 1970 to 85.6 BGD in the year 2020. The framework program provides for 15.2 BGD of this increase through the further development of wells. It provides for an additional 45.6 BGD through increased withdrawals from rivers and streams; 0.3 BGD through the development of reservoir storage; and 4.7 BGD through the development of pumping stations and distribution systems. Similarly, the program provides for reservoir construction to satisfy future needs for recreation and allied purposes. It further provides for increased access and facilities to enhance the utilization of the region's stream fishing resource, increased public education to promote access to fishing ponds, increased diversion of water supplies for propagation of fish and wildlife, and for maintaining the productive capacity of the region's coastal and estuarine zone.

The water use provisions of the program will ensure that water supplies are available when and where needed. They will enhance fishing and other water-oriented recreation opportunities, and will in general help to maintain the standard of living, human health and welfare. However, there are adverse environmental impacts inherent in the proposed program

measures, with the impacts associated with reservoirs being the best known and the most significant. The provision of reservoirs (including flood control impoundments) will result in the inundation of approximately 1.3 million acres of land, which amounts to two percent of the existing land base.

Aside from the sizable commitment of land resources required for reservoir construction, there are numerous other impacts to be considered. Included are construction impacts such as tree removal, noise, fire, and ecological impacts such as the alteration or destruction of ecosystems accompanying the conversion of water in motion to slack water, exposure of mud flats during reservoir operation, ill-conceived land use changes adjacent to and downstream from reservoirs, displacement of people, loss of land tax revenues, and the creation of travel barriers. Other detrimental impacts may include erosion and landslides.

Like reservoirs, the wells, pumping stations, and distribution systems included in the framework program will involve the commitment of land resources, and will involve some of the same adverse environmental impacts. In addition, possible contamination of ground water supplies may occur during and after drilling operations associated with the further development of wells.

11. Add the following section, after section on "Water Use".

Flood Control

Within the framework program, there are 13 major reservoirs on principal reaches of streams and 1,481 small floodwater retarding structures in upstream watersheds. There are also 1,300 miles of levees, 26,300 miles of channels, and 77 pumping plants. These measures together with watershed management on 35.4 million acres, flood plain management on 11.8 million acres, and land treatment and technical assistance to reduce flood runoff on 59.3 million acres, will not only ameliorate flood problems but also enhance the region's capability to meet its food and fiber production requirements, and further enhance the safety and well-being of the people. The total damages that would be prevented by the proposed measures through the year 2020 are estimated at $8 billion.

Adverse environmental impacts associated with flood control reservoirs were discussed in paragraphs 4.08 and 4.09. There are similar impacts associated with the levees and channels required to achieve the flood control proposed in the framework program. The construction of levees would result in impacts such as noise, disturbance of vegetation and soils, temporary ponding of flood runoff on protected lands, alteration of stream hydraulics, and diminution of riverscape aesthetics. It may also involve the displacement of people.

Channel modifications for flood control will alter stream habitat and will be deleterious to fish populations, especially game fish. Channelization usually eliminates the natural cover and disrupts the food supply. It contributes to warming of the water because of the more uniform shallow depths created and the induced absence of stream-side vegetation. In some cases, channelization has been shown to eliminate sport fish in some streams by as much as 95 percent.

12. Page 37, Item 5, "Adverse Environmental Effects Which Cannot Be Avoided", should be rewritten as follows:

Careful and complete environmental assessments followed by prudent planning should minimize the adverse impacts of resource commitments and construction activities required to implement the framework program. Impacts that cannot be avoided will depend upon specific project proposals and will necessarily have to be determined and weighed in light of the prevailing conditions at the time future detailed studies are made.

13. Page 38, Item 6, "Alternatives to the Proposed Action", should be rewritten as follows:

This reconnaissance-type study is one of extremely broad scope. It identifies problem areas requiring more detailed analyses, and suggests a general guide for future plans designed to satisfy various needs. The study has considered federal, state, and local capability for satisfying needs and resolving problems. Although the analysis was multi-objective in nature, it was not based on detailed plan formulation or cost estimates. Alternative means of satisfying needs and resolving problems were selected on the basis of least cost or apparent economic justification to provide the necessary basis for estimating costs. The recommended framework program is only one possible mix of program components, and other planning policies could be adopted that would result in a different configuration of component plans.

Four alternative programs to that recommended were investigated. The recommended program has already been described in detail in item 1, Study Description and Program for Development. It could be described as a hybrid containing the most compatible mix of components from the National Income and Environmental Quality programs.

No Action

The alternative of doing nothing would probably result in a continuation, in many areas of resource use, of current unacceptable trends. A great deal of verbiage need not be expended in eliminating this alternative from serious consideration. Twentieth century man has come to the realization that nature's resources are indeed exhaustible and that indiscriminate utilization of those resources can no longer be tolerated. Without a rational plan for the future, social and environmental costs of continuing current trends, such as indiscriminate clearing of the region's bottomland hardwoods, cannot be afforded.

Regional Development

This program was formulated under the assumption that the region can realistically be expected to grow economically at a rate equal to the national average. Attendant development would almost certainly result in long-term cumulative adverse effects on the natural environment. For example, this alternative promotes a more diversified regional economic base, increased regional income and employment, and improved income distribution and quality of services. The Regional Development Program was not recommended by the Coordinating Committee because the region's land resource base is incapable of supporting such a program.

National Income

This program calls for slightly less economic development for the region than does the Regional Development Program and also contains some measures which preserve significant natural environmental features, but only when those measures do not conflict with attainment of a maximum economic return. The program contains all measures proposed in the Regional Development Program but to a lesser scale.

Environmental Quality

This objective reflects the human concern for preservation and improvement of man's natural surroundings. But recognizing that there is more to life than the outdoors, the Environmental Quality Program contains components which satisfy both economic and natural environmental considerations. However, aesthetic considerations were given top priority at the expense of components which add to the gross national product. Emphasis was placed on advanced waste treatment measures and preservation of environmental areas. Long-term cumulative effects of this program would include preservation of greater portions of the natural environment than with the other programs, but strict adherence to such philosophy would generate unacceptable impacts in the economic sphere of man's total existence. This program was the most expensive, and costs for Environmental Quality components over and above those in the Recommended Program would have to be borne by local interests or governments. These costs are usually much too great to be met by such entities.

14. Page 42, suggest Item 7, "The Relationship Between Local Short-Term Uses of Man's Environment and the Maintenance and Enhancement of Long-Term Productivity", be rewritten as follows:

Considering the time span necessary for evolution and natural geological processes, man's uses of the region's environmental resources are short-termed. However, the recommended framework program utilizes resources in the short-term so as to enhance the long-term productivity of the region in the context of the totality of man's existence. While short-term uses of the region's environmental resources will generate some long-term adverse effects on the environment, there are also numerous long-term beneficial effects to be gained.

Continued agricultural development will enable the region to satisfy its national allocation of food and fiber. Creation of new water surface areas will not only provide flood protection for urban and domestic, agricultural, and other types of important regional property, but will also provide a dependable water supply for industrial, municipal, and agricultural uses and serve as effective recreation sites for the region's population. The channelization of streams and rivers for navigation will provide for improvement in the transport of regional, national, and world products and thus enhance the regional and national economy.

15. Page 44, Item 8, "Irreversible and Irretrievable Commitments of Resources Which Would Be Involved In The Proposed Study Should It Be Implemented", should be rewritten to read:

As presented, the framework program contains no proposals calling for specific action. Resource commitments required to implement specific program components of the framework cannot be defined until further detailed project or action oriented planning has been completed. As regional goals and objectives change, so will the specific mix of program components, since the program is designed as a flexible guide for the future. Therefore, explicit quantification of irreversible or irretrievable commitments of resources beyond those generally identified in section 4 is deferred.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
561 U. S. Courthouse, Nashville, TN 37203

October 16, 1974

Mr. Tom Campbell, President
Mississippi River Commission
Corps of Engineers
P. O. Box 80
Vicksburg, Mississippi 39180

Dear Mr. Campbell:

Subject: Proposed Draft Environmental Impact Statement, Lower Mississippi Region Comprehensive Study

We have reviewed the subject proposed draft environmental statement and offer these comments for your consideration:

1. Table 1, pages 3 to 6: This table would be vastly improved by including a map showing drainage, state boundaries, major cities, and the various WRPA boundaries and numbers. Column headings should be explained; i. e., what are parameters of the "Natural Environment"?

2. Geology, pages 7 to 10: General land use descriptions here would be better if they were split into upland and bottomland components.

3. 2.10 Surface Water Features: Acreage for bayous, swamps, and sloughs should be provided as well as that for lakes and streams. This is important because these areas are the ones susceptible to drainage in this type of plan.

4. Page 12, 2.11 Surface Water Quality: Agricultural chemicals should be included as a prevalent pollutant in streams of the region.

5. Page 13, 2.14 Ground-water Quality: Withdrawal of fresh water from aquifers near the coast at a rate in excess of recharge has led to intrusion of saline waters into what were fresh water sources. Regional plans should recognize that problem and deal with planning to regulate supplies of fresh water and the number of users of that fresh water.

6. Page 15, 2.20 Botanical Resources: It would be helpful if acreages for the forest types were included. The region also contains salt water marshes and estuaries which are botanically and zoologically important. These types of ecosystems are extremely productive and are essential for continuance of marine life. Loss of these resources would be disastrous.

7. Page 21, 2.32 Agricultural activities: To identify where the needs for water resource management exist, agricultural production should be separated by position - bottomland and upland.

8. Page 22, 2.37 Existing Land Use: (a) Species which are more numerous today than prior to European immigration could include introduced species such as the starling. These species should be listed either here or in an appendix for clarity. (b) Land uses would be better displayed by topographic position.

9. Page 27, 3.01 General discussion: Acreages allocated to cropland should be identified by topographic position. Trade offs among land uses should also be displayed. Will cropland acres be increased at the expense of forested land or at the expense of idle lands? Conclusions in this section should be thoroughly documented to show substantiation.

10. Page 32, 4.05 Navigation, last sentence: More detail is needed to indicate where and how environmental degradation will be minimized.

11. Pages 42-43: By emphasizing floodplain zoning the necessity to install reservoirs, channelization measures, levees and floodwalls for flood control will be diminished. Certainly zoning is a viable way of lessening damages to property, lowering costs to taxpayers, and making use of land for its best purpose(s).

A regional impact statement should point to the need to set some environmental benchmarks against which judgements can be made.

We appreciate the opportunity to review and comment on the subject proposed draft environmental impact statement.

Sincerely,

Paul M. Howard

Paul M. Howard
State Conservationist

CC: Kenneth E. Grant, Administrator, SCS (1 copy)
Office of the Coordinator of Environmental Quality Activities (1 copy)
Council on Environmental Quality (5 copies)

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
P. O. Box 2323, Little Rock, Arkansas 72203

September 26, 1974

Mr. Fred H. Bayley III
Executive Secretary
LMRCS Coordinating Committee
P. O. Box 80
Vicksburg, Mississippi 39180

Dear Mr. Bayley:

This will acknowledge receipt of the draft Environmental Impact Statement (EIS) for the Lower Mississippi Region Comprehensive Study, which you submitted to this office for review and comment.

Comments of the Soil Conservation Service in Arkansas will be incorporated with Departmental comments submitted for your consideration by Mr. W. L. Heard, State Conservationist, Mississippi.

We appreciate the opportunity to review and comment on this statement.

Sincerely,

for M. J. Spears
State Conservationist

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
P.O. Box 459, Columbia, Missouri 65201

September 26, 1974

Mr. Fred H. Bayley III
Executive Secretary
Mississippi River Commission
Corps of Engineers
P.O. Box 80
Vicksburg, Mississippi 39180

Dear Mr. Bayley:

We appreciate receiving a copy of a proposed draft environmental impact statement for the Lower Mississippi Region Comprehensive Study. We will refer any comments that we have to Mr. William Heard, the SCS representative for Mississippi.

Sincerely,

John J Walker

ACTING
J. Vernon Martin
State Conservationist

cc: Wm. Heard, State Conservationist, Jackson, Mississippi

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
KISATCHIE NATIONAL FOREST
2500 SHREVEPORT HIGHWAY
PINEVILLE, LOUISIANA 71360

8200
October 16, 1974

Mr. Fred H. Bayley, III
Executive Secretary, Coordinating
Committee, Department of the Army
Mississippi River Commission
Corps of Engineers
Vicksburg, Mississippi 39180

Dear Mr. Bayley:

We have reviewed the Draft Environmental Impact Statement for the Lower Mississippi Region Comprehensive Study and have the following comments:

P.1 " Study Description and Framework for Development"

The management objectives and guides in the Lower Mississippi Region Study could be made clearer if there was a brief narrative stating the objectives for each phase of the program, as well as the table - Framework Program Composition.

P. 27-28 "Relationship of Framework Program To Land Use Plans"

The purpose of the Framework Program should be to set management direction for the land use plans to be developed as a result of this study.

The Recreation, Fish and Wildlife, and Environmental Quality portions in this section should be made more specific and state broad guidelines.

What coordination measures with agencies and concerned individuals would be undertaken to develop a broad comprehensive plan?

Thank you for allowing us to review the Statement.

Sincerely,

William L Hess

WILLIAM L. HESS
Assistant Forest Supervisor
Planning/Evaluation/External Liaison

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
KISATCHIE NATIONAL FOREST
2500 SHREVEPORT HIGHWAY
PINEVILLE, LOUISIANA 71360

8420
December 17, 1974

Mr. Fred H. Bayley, III
Executive Secretary, Coordinating Committee
Department of the Army
Mississippi River Commission
Corps of Engineers
Vicksburg, Mississippi 39180

Dear Mr. Bayley:

We received and have reviewed the Draft Environmental Impact Statement for the Lower Mississippi Region Comprehensive Study and have no comments to make at this time.

Sincerely,

William L. Hess

WILLIAM L. HESS
Assistant Forest Supervisor
Planning/Evaluation/External Liaison

6200-11 (1/69)

DEPARTMENT OF THE ARMY
NEW ORLEANS DISTRICT, CORPS OF ENGINEERS
P. O. BOX 60267
NEW ORLEANS, LOUISIANA 70160

IN REPLY REFER TO
LMNPL-PS

23 October 1974

MEMORANDUM: LMRCS-NOD-PF-75-5
TO: MR. ARNOLD ROBBINS, CHAIRMAN
PLAN FORMULATION COMMITTEE
LOWER MISSISSIPPI REGION COMPREHENSIVE STUDY

Reference is made to memorandum LMRCS-CC-75-6, dated 6 September 1974, requesting comments on the draft EIS for the Lower Mississippi Region Comprehensive Study.

The EIS has been reviewed and the following comments are furnished:

a. Paragraph 3b, third sentence. For clarity, it is suggested that this sentence be replaced by the following two sentences: "Implementation of the framework program will require the construction of navigation channels, reservoirs, levees, and sewage treatment facilities, which meet the demands mentioned above. These projects could have certain adverse effects on fish and wildlife and aesthetic resources."

b. Page 2, last sentence. The last sentence could be reworded to include an explanation of the term "WRPA", as follows: "The composition of the recommended framework program, by Water Resources Planning Areas (WRPA's), is summarized in table 1."

c. Page 7, paragraph 2.02. This paragraph could be clarified as follows: 'The Lower Mississippi Region encompasses the alluvial valley and drainage basin of the lower Mississippi River and includes the central Gulf Coastal Plain. In the north and northwest, portions of the uplands of the Ouachita Mountains and the Ozark Plateau lie within the boundaries of the region (see figure 1). Most of the region comprises lowlands and is characterized by a "belted" topography of aligned low ridges and valleys which can be traced coastwise for long distances, formed as a result of the natural banded outcrop pattern of the underlying geologic strata which are largely Cretaceous and Tertiary in age. Within the region are many natural lakes and smaller streams. Most of these streams are part of the Mississippi River drainage system.'

d. Page 8, Figure 1. It is suggested this figure include the physiographic features discussed in paragraphs 2.02 through 2.06.

e. Page 9, paragraph 2.03. It is suggested the following sentence be added between the sixth and seventh sentences of this paragraph: "Southward, near Baton Rouge, the bluffs along the river consist mainly of the Pleistocene terrace gravels which form a coastwise upland rising perceptibly above the coastal plain lowlands to the south."

f. Page 9 and 10, paragraph 2.04. After the second sentence, this paragraph could be completed as follows: "The remaining area (in excess of 3 and ½ million acres) is an open expanse of land and water. The natural marshes, (land areas covered by marsh-type vegetation) comprise three sections as follows: (a) Active Delta - Mississippi River freshwater marsh comprising about 120,000 acres; (b) Inactive Delta (Sub Delta) - fresh and brackish marshes with a salt marsh belt along Gulf edge - 1.4 million acres; and (c) Cheniere Plain - brackish and freshwater marsh areas containing old beach ridges, topographically prominent along the southwestern Louisiana coast - approximately 860,000 acres."

g. Minor additional comments are contained in copies of pages 6, 7, 9, 10, 13, 24 and 43.

With respect to the request for identification of projects environmentally related to the proposed framework plan, New Orleans District has two projects within this category. One is the "Deep Draft Access to the Ports of New Orleans and Baton Rouge, Louisiana" - navigation project, and the other is the "Grand Isle and Vicinity, Louisiana" - beach erosion project. Both are sufficiently advanced in planning that Environmental Impact Statements on these projects have been prepared. In general, no major conflicts have been noted between detailed environmental data presented in the statements and for these projects the information presented in the draft EIS for the Lower Mississippi Region Comprehensive Study.

1 Incl
as

FREDERIC M. CHATRY
Member
Plan Formulation Committee
Lower Mississippi Region
Comprehensive Study

DEPARTMENT OF THE ARMY
NORTH CENTRAL DIVISION, CORPS OF ENGINEERS
536 SOUTH CLARK STREET
CHICAGO, ILLINOIS 60605

NCDPD-ER

4 November 1974

SUBJECT: Memorandum: LMRCS-CC-75-6
TO: Coordinating Committee Members Lower Mississippi Region Comprehensive Study

LMVPD-P
ATTN: President, Mississippi River Commisssion
P. O. Box 80
Vicksburg, Miss. 39180

No comment.

FOR THE DIVISION ENGINEER:

Edwin V. Weiss

EDWIN V. WEISS
Chief, Planning Division

DISPOSITION FORM

For use of this form, see AR 340-15; the proponent agency is The Adjutant General's Office.

REFERENCE OR OFFICE SYMBOL	SUBJECT
LMVPD-R	Environmental Impact Statement, Lower Mississippi Region Comprehensive Study

TO C/Pol & LR Plng Br FROM C/Env Res Br DATE 1 Nov 74 CMT 1

Chambers/ram/6639

The following comments are furnished for your consideration:

a. Pages 3-6, Table 1. These data would be more meaningful if some indication of existing conditions were provided as a basis for comparison.

b. Page 15, Botanical Resources, para 2.20.

(1) Para 2.20(2). Northern freshwater wetland zones. If this refers to the bottom-land hardwood area, why not say so? The nomenclature used is not very descriptive.

(2) Para 2.20(4). Same as above.

(3) Para 2.20(7), Mountain or Highhill Zone. If this includes the Ouachita Mountains, there are excellent stands of oak-pine, shortleaf pine and loblolly-shortleaf pine. A better description of forest cover would be loblolly-shortleaf pine, oak-pine, and oak-hickory.

c. Pages 20 and 21, para 2.30 through 2.36. Economic activities are based on the use of several different years: 1968, 1970, 1969, and 1960. It would be more understandable if all were based on the same year.

d. Page 27, para 3.01. The content of this para is in direct conflict with NEPA, by putting environmental quality secondary to other factors.

e. Page 29, para 4. Environmental impacts of plan adoption should be quantified, where possible.

f. Page 29, Water Quality. Another major factor affecting future water quality in the region is the extent of future agricultural development which will result in adverse impacts such as increased sedimentation, channelization, pesticides, herbicides, and clearing of forests for agriculture expansion.

g. Page 32, last sentence. The methods of minimizing environmental degredation should be identified.

h. Page 37. Adverse environmental effects which cannot be avoided must be discussed (see ER 1105-2-507, page C-6, subpara g).

i. Page 38, para 6.01, Alternatives, last sentence. Alternatives must be evaluated on the basis of environmental, social, technical, and economic considerations rather than economics alone. Alternative plans and the environmental, social, and economic impacts which can be expected to result from implementation of each plan should be described to indicate the tradeoffs involved. A tabular presentation of costs, acreages of various habitats involved, etc., would be useful in providing such a comparison of alternative plans.

DA FORM 1 FEB 62 2496 REPLACES DD FORM 96, EXISTING SUPPLIES OF WHICH WILL BE ISSUED AND USED UNTIL 1 FEB 63 UNLESS SOONER EXHAUSTED.

LMVPD-R 1 November 1974

SUBJECT: Environmental Impact Statement, Lower Mississippi Region Comprehensive Study

j. Page 42, section 7. This section should discuss the tradeoffs involved in the conversion of lands and waters to other uses. For example, the conversion of bottom-land hardwoods to agricultural land will produce economic benefits and will affect local social conditions, etc. However, the loss of the bottom-land hardwoods will have a negative long-term impact on biological productivity through the loss of aquatic and terrestrial wildlife habitat.

k. Page 44, para 8.02. Clearing of bottom-land hardwoods for increased agricultural production, construction of reservoirs, channelization of streams, drainage programs, etc., should all be considered irreversible and irretrievable commitments of resources.

C. H. HARRIS

1 Incl
1. cy of statement

UNITED STATES DEPARTMENT OF COMMERCE
The Assistant Secretary for Science and Technology
Washington, D.C. 20230

November 29, 1974

Mr. Fred H. Bayley III
Executive Secretary
Coordinating Committee
Mississippi River Commission
Department of the Army
Corps of Engineers
Vicksburg, Mississippi 39180

Dear Mr. Bayley:

The draft environmental impact statement for Lower Mississippi Region Comprehensive Study which accompanied your letter of September 6, 1974, has been received by the Department of Commerce for review and comment.

The statement has been reviewed and the following comments are offered for your consideration.

We recognize that the Comprehensive Basin Plan covers a vast array of water resources planning considerations and, in itself, authorizes or constructs no projects. We further recognize that the system of water resources management that eventually materializes may differ significantly from the planning framework laid down in this study. Nevertheless, the plan, with the status and prestige of the Coordinating Committee behind it, could significantly impact future water resources development in the lower Mississippi Region. Because these impacts will extend to fish and wildlife habitat, they should be discussed in the impact statement in the depth appropriate to the scope of the study.

Impacts on fishery resources are discussed only in the most general, non-quantified terms. We suggest that the statement fully describe the potential impact of future developments on the fragile estuarine ecosystems that inevitably will be affected by modification of the amount and timing of flows out of the basin.

The recommended program is described as a modified "National Development Program" modified by environmental and regional

development considerations. No indication, however, is given of the relative proportions of this mix. In a like manner, there are repeated references to compensation for adverse environmental impacts, particularly on fish and wildlife. However, no indication is given as to what the compensations are, the degree of such compensation anticipated, or how the plan will bring about compensation. Our concern about the adequacy of the consideration of impacts on fisheries habitat (particularly estuarine) is heightened by the implication of low priority given to environmental aspects of the study.

The discussion of the impact on fish is completely inadequate. In Section 3, page 27, "Relationship of Framework Program to Land Use Plans," treatment of fish and wildlife is restricted to one paragraph devoted entirely to wildlife, fish being excluded. In Section 5 on page 37, "Adverse Environmental Effects," the justification for not completing the section is that these effects are adequately treated in Section 4, "Environmental Impact of the Proposed Framework Program." However, Section 4 barely deals with adverse effects on fish. This deficiency should be corrected.

Table 1 gives a planning allocation of water resources community to 1,171 million gallons per day for fish and wildlife. It would be helpful to have some indication of how this figure was derived, what fish and wildlife purposes would be served by this allocation, and whether any part of the allocation is for maintenance of suitable habitat conditions for fishlife in the estuarine zone (regulation of salinity, etc.).

We have the following comments to offer on Appendix J:

Page 5 - The statement "... special barges may well be found in the future at Tulsa, ..." should be changed because LASH & SEABEE type barges have already been to Tulsa.

Page 9 - Change second sentence of the last paragraph to read, "of special importance will be the new LASH & SEABEE barges which combine with the constantly growing fleets of conventional barges and towboats to meet industry's needs for efficient, low cost water transportation".

Page 97 - Reference to mini-ships on this and other pages should be deleted because the operations of these ships have recently been severely curtailed to the point where they are no longer used in liner service but instead are used on a charter basis.

Thank you for giving us an opportunity to provide these comments, which we hope will be of assistance to you. We would appreciate receiving a copy of the final statement.

Sincerely,

Sidney R. Galler
Deputy Assistant Secretary
for Environmental Affairs

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL WEATHER SERVICE Southern Region
819 Taylor Street, Room 10E09
Fort Worth, Texas 76102

September 16, 1974 WFS2x1

President, Mississippi River Commission
U. S. Army Corps of Engineers
P. O. Box 80
Vicksburg, Mississippi 39180

Attention: Fred H. Bayley, III
Executive Secretary
Coordinating Committee, LMRCS

Dear Sir:

Reference is made to LMVPD-P letter dated 6 September 1974, and enclosure.

This office has reviewed the Draft Environmental Impact Statement (EIS) for the Lower Mississippi Region Comprehensive Study.

Our only comment is with respect to item 6, ALTERNATIVES TO THE PROPOSED ACTION. Under Regional Development 6.06, and National Income 6.07, the "Regional Development Program" is identified as being unsuitable and two or three statements are offered in support of this decision. It is recommended that further identification of the "Regional Development Program" be included. A reference source would provide, for those unfamiliar with this plan or who lack documentation presenting its objectives, an avenue to information that would permit a meaningful comparison of Regional Development or the region plan and the "Regional Development Program."

We are forwarding a copy of the reference cover letter and the EIS to the Department of Commerce, Office of the Deputy Assistant for Environmental Affairs, for any statements that may be appropriate regarding activities or projects planned by other agencies of the Department, such as the National Marine Fisheries Service (NOAA) and the Office of Coastal Zone Management (NOAA). All official statements regarding Environmental Impact Statements which involve NOAA components must emanate from the Department of Commerce.

Sincerely,

Glenn L. Audsley
Regional Hydrologist

cc: Dr. Aron, Dir., Office of Ecology and Environmental Conservation, EE, Rockville, Md.

UNITED STATES DEPARTMENT OF COMMERCE
Maritime Administration
Central Region Office
701 Loyola Avenue
New Orleans, La. 70152

September 30, 1974

Mr. Glenn Audsley
National Weather Service
NOAA, Southern Region
819 Taylor Street
Fort Worth, Texas 76102

Dear Mr. Audsley:

Since material contained herein is based in part in Appendix "C" of the LMRCS, we are taking the liberty of forwarding same to you for comments you may wish to submit.

Sincerely,

A. F. BROWN
Port Development Officer

Enclosure:
LMRCS Appendix "O"
Coastal & Estuarine Resources
1974

cc:
Mr. Fred H. Bayley III
Executive Secretary
Coordinating Committee, LMRCS
P. O. Box 80
Vicksburg, Miss. 39180

United States Department of the Interior

GEOLOGICAL SURVEY
Water Resources Division
Tennessee District

A-413 Federal Building
U. S. Courthouse
Nashville, Tennessee 37203

October 22, 1974

Mr. Fred H. Bayley, III
Executive Secretary
Coordinating Committee
Department of the Army
Mississippi River Commission
Corps of Engineers
Vicksburg, Miss. 39180

REFERENCE: Your Memo LMRCS-CC-75-6, draft Environmental Impact Statement (EIS) for the Lower Mississippi Region Comprehensive Study

Dear Mr. Bayley:

The subject statement is too broad and too generalized to warrant specific comments. In this context, the statement lacks clear definition of the goals to be achieved and the constraints to be observed in meeting these goals. A discussion of the criteria used in design of the general framework program might be helpful in this regard.

Sincerely yours,

Stanley Sauer
District Chief

SS:ah

United States Department of the Interior

GEOLOGICAL SURVEY

301 WEST CUMBERLAND AVE.
KNOXVILLE, TENN. 37902

September 17, 1974

Memorandum

To: The President, Mississippi River Commission

From: Robert A. Laurence, USGS, Knoxville, Tennessee

Ref. LMVPD-P

I have reviewed the draft EIS for the Lower Mississippi Comprehensive Study, as requested by Fred H. Bayley III in his memorandum of 6 September 1974. The following comments are offered:

2.02 (Geology). In this section, some mention should be made of the fact that this region includes one of the highest seismic-risk areas in the United States, and that this is a major item for consideration in design of all projects.

2.02 (p. 7, line 16). "Glaciation" is misleading here. Very little, if any, of the region was reached by glaciers; the region was affected by changes in climate, runoff, etc. resulting from continental glaciation in the Upper Mississippi and Ohio River regions.

2.03 (p. 9, line 14). Insert "to" after "Arkansas River."

2.05 (p. 10, lines 11 and 14). Capitalize "Coastal Plain."

2.06 (p. 10, line 21). Delete "m.s.l."

4.07. Under land management, it would be appropriate to suggest avoiding flooding of key sources of sand, gravel and clay, especially near major consuming areas. A major contributor to the high cost of construction will be the extra cost of hauling basic construction materials from distant sources after those near the cities are lost through urbanization, flooding by reservoirs, or inclusion in recreational areas.

Robert A. Laurence
Geologist
Branch of Eastern Mineral Resources

Member, Mineral Resources Subcommittee

Enclosures

2. ENVIRONMENTAL SETTING WITHOUT THE FRAMEWORK PROGRAM

General

2.01 The Lower Mississippi Region encompasses a total of approximately 102,400 square miles, occupying portions of seven States - Arkansas, Illinois, Kentucky, Louisiana, Mississippi, Missouri, and Tennessee. Generally, the region is the drainage area of the Mississippi River below the mouth of the Ohio River, except for portions of the Arkansas, Red, and White Rivers above the backwater limits for the design flood of the Mississippi River and Tributaries Project. Additional areas included are the flood-protected area at Cairo, Illinois, and the Louisiana coastal area between the drainage divides of the Pearl and Sabine Rivers, which drain primarily into the Gulf. The region's boundaries are shown in figure 1.

Geology

2.02 The Lower Mississippi Region and its alluvial valley are located in the Central Gulf Coastal Plains area, except for the Ouachita Mountains and Ozark Plateaus. As a result of its glaciation process and subsequent chemical-physical weathering, the Plains area is an extensive lowland, underlain by unconsolidated sand, gravel, clay, silt, marl, loess, and limestone of both marine and non-marine origin. It is characterized by a belted topography of aligned hills and valleys which can be traced as definite units for long distances and the area is scattered with numerous natural lakes and streams.

2.03 The most sharply defined physiographic area in the region is the alluvial valley of the Mississippi River, a gently sloping and undulating lowland bordering on the river for 600 miles from Cape Girardeau,

Missouri, to the Gulf. The elevation of the valley ranges downward from 320 feet above mean sea level (m.s.l.) in Missouri to mean sea level at the Gulf. The major relief features in the valley are ridge systems which occur in several places throughout the area. The most prominent of these is Crowley's Ridge, which extends southward for 200 miles along the northern part of the valley, separating it into eastern and western lowlands. The maximum elevation of the ridge is 600 feet m.s.l., and its surrounding lowlands range from 100 to 300 feet m.s.l. The entire area of the alluvial valley is enclosed, on the east and west by a wall of bluffs. The eastern bluffs directly along the river bank are predominantly a mantle of wind-blown material (loess) which is subject to severe sheet and gully erosion. The uplands area west of the valley is less distinctive and more gently rolling. It extends southward from the Arkansas River within a few miles of Alexandria, Louisiana. South of Alexandria, the uplands flatten into a vast prairieland which slopes seaward until it merges with the coastal marshes.

2.04 The coastal marshes area (including natural marshlands and associated water bodies) of the alluvial valley stretches from east to west along the Louisiana coast and extends about 50 miles inland from the Gulf. Less than 2 percent of this 4-million acre area is forested, and only about 4 percent is farmlands. The remaining area (in excess of 3 and 1/2 million acres) is an open expanse of half land, half water. This area is in three sections as follows: (a) Delta marsh - Mississippi River freshwater marsh zone comprising about 300,000 acres; (b) Sub-Delta marsh - fresh to brackish water marsh with salt marsh zone along Gulf edge - 2.5 million acres;

(c) Prairie marshes - 750,000 acres - salt brackish and freshwater marsh areas with old beaches.

2.05 Both the Ouachita Mountains and the Ozark Plateaus are located outside the Central Gulf Coastal Plains Province and are therefore quite different topographically from the rest of the region. The Ouachita Mountains area rests on coarse sedimentary rocks, which were highly folded and faulted during the Paleozoic era. The terrain, therefore, is very rugged and elevations are much higher, extending to 2,000 feet m.s.l. or more. Most of the stream valleys are narrow and have steep gradients, but wide terraces and flood plains border the Ouachita River in western Arkansas. Between the mountains and the coastal plain uplands is a shelf called the Athens Piedmont Plateau, which slants from 1,000 feet above sea level near the mountains to 400 feet m.s.l. at the edge of the coastal plain.

2.06 The Ozark Plateaus in Missouri, a maturely dissected rolling upland, developed on gently uplifted rocks ranging in age from pre-Cambrian to Pennsylvanian. The area is characterized by sharply dissected limestone plateaus, with narrow, rolling ridgetops that break sharply to steep side slopes. Valleys are narrow, and have steep gradients, especially in the upper reaches. Local relief ranges from less than 100 feet m.s.l. to several hundred feet.

Hydrology

2.07 The Lower Mississippi Region is water-rich in comparison with other major river basins in the United States. On its surface are examples of nearly every type of water form except glacial lakes

United States Department of the Interior

GEOLOGICAL SURVEY

Water Resources Division
Arkansas District
Room 2301 Federal Office Building
Little Rock, Arkansas 72201

September 16, 1974

Your reference:
LMVPD-P

Mr. Fred H. Bayley III
Executive Secretary
Coordinating Committee
Lower Mississippi Region Comprehensive Study
Post Office Box 80
Vicksburg, Mississippi 39180

Dear Mr. Bayley:

The draft environmental impact statement for the Lower Mississippi Region Comprehensive Study (LMRCS-CC-75-6) has been forwarded to the Director, U.S. Geological Survey, Reston, Va., Mail Stop 101.

All correspondence concerning formal review of draft or final EIS should be sent to:

U.S. Department of the Interior
Assistant Secretary, Program Policy
Washington, D.C.

Sincerely yours,

Elmer P. Mathews
Acting District Chief

United States Department of the Interior
NATIONAL PARK SERVICE
HOT SPRINGS NATIONAL PARK
P. O. BOX 1219
HOT SPRINGS NATIONAL PARK, ARKANSAS 71901

IN REPLY REFER TO:

October 11, 1974

A42

Mr. Fred H. Bayley III
Executive Secretary
Coordinating Committee-LMRCS
Mississippi River Commission
Corps of Engineers
Vicksburg, Mississippi 39180

Dear Mr. Bayley:

As requested in your memorandum of September 6, 1974 referenced LMRCS-CC-75-6, enclosed are rewritten statements or comments relating to specific sections.

We appreciate the opportunity to add our input.

Sincerely,

F. N. Hambly
Acting Superintendent

Enclosure

Preface:

3. Environmental Impacts:

   a. Beginning with the second sentence -- Improve standards of living by retaining productive use of water and related areas as well as improving those susceptible to management. Preserving certain environmental areas and conserving environmental values throughout the comprehensive study area.

   b. Environmental Impacts:

      Various man-made projects which may be required, etc.

4. A maximized plan based without consideration for funds and rejecting all of the stated alternatives can hardly be regarded as a realistic planning document. Further, the "study" is actually a development plan without actual studies to determine effects on the environment. The environmental costs are likely to be high.

Table 1: The natural environment area appears to be so small as to suggest the environment will become completely man-made. Various and productive biota based on natural flooding will be lost over most of the area. The estuarine situation appearing to be left unimpaired by development, but will be affected by loss of fresh water and added pollution.

Section 3.01:

Although the plan statement justifies urban and agricultural needs as opposed to recreational, fish and wildlife and environmental purposes, the ultimate conflict is between urban and agricultural development. An important element in the plan would be identification of large flood plain areas where urban development should not be undertaken.

Section 4.04:

Adverse impacts of reservoir construction includes loss of farmland as well as timberland. There is a gain of habitat for some kinds of fish and loss for others. Terrestrial wildlife loss is complete.

Section 4.08:

Exceptionally well-stated section.

Section 4.09:

With the demands on resources being exceeded by the year 2000, food and fiber, transportation, urban and built-up needs (whatever those are) and land required for reservoirs, flood control, etc., the plan envisions only short term conventional use. What then?

8. Somewhere in this section there should be a reference to loss of soil which is irreplaceable.

Considering the far-reaching environmental impact, the EIS statement is remarkably brief. The development plan outlined has a relatively restricted framework which really does not leave enough room for results of genuine study. What is involved with what is described as "judicious development" of water and land resources should be amplified greatly, for many practices are extremely harmful to the environment while others are beneficial. Certainly an overall plan for the area is better than one for each section, but if the whole benefit is economic or if the plan ignores the conditions imposed by nature, the plan is itself piecemeal. It is hoped the suggestions offered will be useful in the preparation of the final EIS statement.

United States Department of the Interior

BUREAU OF MINES

BUILDING 20, DENVER FEDERAL CENTER

DENVER, COLORADO 80225

Intermountain Field Operation Center

September 25, 1974

Your reference:
LMVPD-P

Memorandum

To: President, Mississippi River Commission, Corps of Engineers, P. O. Box 80, Vicksburg, Miss. 39180

From: Chairman, Mineral Resources Subcommittee

Subject: EIS for the Lower Mississippi Region Comprehensive Study

The subject EIS has been reviewed as requested in your memorandum LMRCS-CC-75-6 dated September 6.

Informative and concise in makeup, the generalized references to mineral resources in the statement are adequate. We have no other comments.

A. E. Ward

United States Department of the Interior
FISH AND WILDLIFE SERVICE
17 EXECUTIVE PARK DRIVE, N. E.
ATLANTA, GEORGIA 30329

NOV 15 1974

President
Mississippi River Commission
Corps of Engineers
P.O. Box 80
Vicksburg, Mississippi 39180

Dear Sir:

In response to the September 6, 1974, memorandum (LMRCS-CC-75-6) from Mr. Fred H. Bayley III, Executive Secretary, Coordinating Committee, LMRCS, the following comments are submitted for your use in finalizing the draft environmental impact statement for the Lower Mississippi Region Comprehensive Study.

2. ENVIRONMENTAL SETTING WITHOUT THE FRAMEWORK PROGRAM

Zoologic Resources, page 16, paragraph 2.22

This section provides a broad, general description of fauna in the study area and complements other sections of the statement in terms of the amount of detail provided. However, it lacks an adequate discussion of the fish and wildlife resources which contribute hunting and fishing opportunities in the region, including upland game populations, migratory waterfowl, and freshwater fish. Consideration should also be given to discussing rare and endangered species in the area. Appendix Q of the Lower Mississippi Region Comprehensive Study report is a good source of this type of information.

6. ALTERNATIVES TO THE PROPOSED ACTION

Environmental Quality, page 40, paragraph 6.08

It is stated that "Long-term cumulative effects of this alternative would include preservation of greater portions of the natural environment than with the other objectives, but strict adherence to such philosphy would generate unacceptable impacts in the economic sphere of man's total existence." The foregoing assumption is not factual and is unacceptable to those persons involved in preserving a part of the quality environment in the basin. How the region may react to higher costs to preserve a part of the environment

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is not ascertainable at this time. There is a growing interest throughout the basin and nation for environmental concerns.

We appreciate the opportunity to provide you with these comments.

Sincerely yours,

Ray R. Vaughn

ACTING Regional Director

United States Department of the Interior
BUREAU OF OUTDOOR RECREATION
SOUTHEAST REGIONAL OFFICE
148 Cain Street
Atlanta, Georgia 30303

IN REPLY REFER TO:

OCT 25 1974

Memorandum

To: Coordinating Committee Member, LMRCS

From: Recreation Study Element Leader, LMRCS

Subject: Review of Draft Environmental Impact Statement, LMRCS

I have reviewed the subject draft and offer the following comments.

We find the draft statement in general to be inadequate in addressing the many facets of environmental issues encompassed by the four formulated programs. However, in that the primary purpose of this study is to be the base document for further detailed authorization reports covering component parts of the framework program and not to be a basis for authorization of specific projects itself, we believe tha the spirit and intent of an environmental impact statement would be best served by a negative declaration. The environmental issues could be addressed in more meaningful fashion when the authorization studies are undertaken.

Should a negative declaration not be possible and should the decision be made to forward the subject document, please correct the following errors:

1. Table 2, page 23 -- Please delete "Recreation as a land use for permanent pasture and pastured cropland."

2. Section 3.01, page 27. Food and fiber production is not a higher priority need as compared to Category A and Category B recreation needs and Program C environmental quality needs.

3. Section 3.02, page 27, 3rd and 4th lines. Please change "maximum" to "optimum."

4. Section 3.02, page 28. The creation of 766,000 acres of new water surface explicitly for recreation purposes would not be possible, at present, using civil works funds. Present restrictions limit recreation costs to



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50 percent of total costs. The construction of this much water surface would not be realistic or affordable using other funding sources such as the Land and Water Conservation Fund.

5. Section 4.11, page 36. Please change "tend to offset the detrimental effects" to "tend to partially offset the detrimental effects." Also, please delete "preclude the use of the land for other needs and," because there are no unmet other needs and even if there were, "preclude" would denote an action too irreversible in nature.

FOR Charles M. Schuler

Charles M. Schuler

cc: Mr. Arnold Robbins
LMRCS, Vicksburg

United States Department of the Interior

OFFICE OF THE SECRETARY
SOUTHWEST REGION
Room 4030, 517 Gold Avenue SW.
Albuquerque, New Mexico 87101

November 14, 1974

Mr. Fred H. Bayley III, Executive Secretary
Coordinating Committee, Lower Mississippi Region Comprehensive Study
Corps of Engineers
P. O. Box 80
Vicksburg, Mississippi 39180

Dear Mr. Bayley:

We have reviewed the proposed draft environmental impact statement for the Lower Mississippi Region Comprehensive Study furnished by your letter of September 6, 1974. We offer the following comments for your consideration in preparation of the final draft statement.

We note that Table 1 presents data by WRPA's without previously explaining to the reader what the Water Resource Planning Areas are. We also note that Table 1 shows water supplies in mgd for only municipal and fish and wildlife purposes. This is not consistent with Table 88, Plan Formulation Appendix, which shows that the plan includes water supplies for municipal, industrial, thermal electric, and agriculture (including irrigation). We suggest that Table 1 be expanded to include these data to be more representative of a framework plan. Table 1 and the accompanying discussion is insufficient to acquaint the reader with the framework plan. We suggest a cross reference to the main report and the plan formulation appendix.

We find the description of the "Environmental Setting Without the Framework Program" inadequate to present the physical aspects of the Lower Mississippi Region. We suggest adding the following to the end of paragraph 2.04.

> "About 35,000 square miles, or 34 percent of the region, consists of alluvial plain (delta) of the Mississippi River. Historically, more than 26,000 square miles of the alluvial plain have been covered by flood waters. Flood control was recognized by the early settlers as early as 1727, and continued development of levees and control works have been constructed to make the valley suitable for human habitation."

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On page 12, paragraph 2.11, there appears the following statement. "The waters of the Mississippi River main stem are moderately hard, while tributary streams contain soft to moderately hard water of good chemical quality and low mineral content." This description of the water quality with regards to dissolved solids is ambiguous and does not convey useful information to the reader as to the conditions that exist. I suggest that we include ranges of p.p.m. to describe moderately hard, soft, and good quality. The same critique can be applied to paragraph 2.13.

Paragraph 2.14 states, "At some locations of these saline areas, fresh water can be skimmed from above saltwater, and fresh artesian water is available at varying depths from wells drilled offshore." Fresh ground water generally is not available offshore except in the marginal delta area. Saltwater should be two words.

Paragraph 2.15, page 13, Interrelationship of Ground and Surface Water, could be clarified. The fact that ground water discharges into streams almost all the time is not brought out strongly enough. Water aquifers is a redundance. We suggest that the last sentence in this paragraph be separated and put into a separate paragraph headed "Storm Problems." Tornadoes, hurricanes, and tropical storms strongly influence the environment of the region and there are programs for hurricane protection and storm evacuation routes. Hence, there should be more elaboration of the severity and impact of these storms.

We suggest adding the following paragraph to Section 2.22, Zoologic Resources.

> "The Mississippi flyway is one of the most important flyways in the United States for migratory birds, and the coastal and estuarine region of Louisiana provides one of the most important wintering areas in that flyway for waterfowl and other migratory bird species."

It is important to protect the wintering areas of these valuable species from degradation.

Page 21. We suggest revising paragraph 2.34 as follows:

> "In 1969 regional mineral production accounted for 34 percent of the nation's natural gas output, 31 percent of the natural gas liquids, and 25 percent of the petroleum. Furthermore, the region contributed lead and bromine, 1/3 of its **salts,** 2/3 of the sulfur. The total mineral production in the region was valued at $4.7 billion (1967 dollars)."

Page 23, Table 2. Please delete recreation as a land use for permanent pasture and pasture cropland.

The heading for Table 3, Page 23, is "Summary of Present and Projected Water Withdrawals by Category, Lower Mississippi Region." The table shows only use in 1970. We suggest that the caption be changed to "Summary of Present Water Withdrawals, Lower Mississippi Region."

Page 22, section 2.37, there appears the following, "These uses, expect for the transportation, urban and built-up category ..." This should be changed to, "These uses, except for the transportation, urban and built-up category ..."

Page 27, section 3.01. There is the connotation that food and fiber needs are of a higher priority. We acknowledge this opinion may be held by some, but believe it is debatable and would suggest changing the first sentence as follows. "... the land resource can serve these purposes without detracting materially from the satisfaction of urban and built-up needs or from the needs of food and fiber production."

Page 27, section 3.02. Please change "maximum" to "optimum" in the third and fourth lines.

Page 31, section 4.04. There appears the following sentence. "Municipal and industrial consumptive use could encourage higher prices and produce construction damages associated with more complex distribution systems which would be detrimental, including erosion, creation of travel barriers, noise, fire, and timber removal." It is not clear how municipal and industrial consumptive use could bring about these impacts when there are sufficient surface waters to provide a ten- or twenty-fold increase in the current requirements. I suggest further discussion to explain how these impacts can occur.

The 400 series, headed, "Environmental Impact of the Proposed Framework Program," includes water quality, water use, navigation, land acquisition, land management, land use changes, and air quality. We believe that the drainage program proposed in the framework plan has a very definite impact on the environment of this region. We suggest including a section on drainage as follows.

> "The alluvial valley of the Lower Mississippi region has a dramatic development history. More than two centuries of effort have gone into building of levees, drainage works, and land clearing. High water tables, overflows, wetness, and poor internal soil drainage are dominant excess water problems on about 33.8 million acres of land. There are approximately 14 million acres of forest land and 2.9 million acres of miscellaneous uses, which is not considered to need drainage although

these lands continue to have a wetness hazard. As shown in table 1, the plan provides for treating 6.5 million acres requiring 43,610 miles of channel improvement. Agricultural drainage will increase the net income from agricultural land because of increased yields from more favorable plant environment, increased operating efficiencies, and shifts in cropping patterns. Also, drainage will bring about more sanitary conditions on farms, improvement of living conditions and economic stabilization of enterprises related to agricultural production. The adverse effects include reducing wetland wildlife habitat areas, inducing additional clearing of forest lands, reducing or destroying stream fishery resources through channel improvements and increasing of streamflow turbidity. These adverse effects could be minimized by including specific plans to maintain water levels in selected low areas, avoiding construction on streams with good fishery resources, installation of vegetative plantings on new construction areas, and agreements with land owners to refrain from clearing additional forest lands."

We appreciate the opportunity to review this environmental impact statement in draft form and are available to discuss any questions you may have regarding these comments.

Sincerely,

K. B. Schroeder
Southwest Planning Officer

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
OUTER CONTINENTAL SHELF OFFICE
SUITE 3200 THE PLAZA TOWER
1001 HOWARD AVENUE
NEW ORLEANS, LA 70113

IN REPLY REFER TO
1120 (300)

September 16, 1974

Major General Francis P. Koisch
President, Mississippi River Commission
Corps of Engineers
Post Office Box 80
Vicksburg, Mississippi 39180

Dear General Koisch:

We have received and reviewed the draft Environmental Impact Statement of the Lower Mississippi Region Comprehensive Study. Inasmuch as the draft was not designed to address any specific plan, and with the broad generalities treated, it did not appear appropriate for our agency to comment on the technical data, rationale, etc., at this stage of the planning.

However, our office does maintain strong parochial interest in the coastal zone of the Gulf States. Therefore, we are very interested in any specific projects that may have an influence on coastal resources.

Thank you for the opportunity to review the draft. We would welcome the chance to review any future plans that you may have for the coastal zone.

Sincerely yours,

John Hauer

Manager

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
JACKSON AREA OFFICE
101-C, 3RD. FLOOR JACKSON MALL, 300 WOODROW WILSON AVE., WEST
JACKSON, MISSISSIPPI 39213

REGION IV
Peachtree-Seventh Building
50 Seventh Street, N.E.
Atlanta, Georgia 30323

October 7, 1974

IN REPLY REFER TO:

4.5PP

Mr. Fred H. Bayley, III
Executive Secretary
Lower Mississippi Region Comprehensive
Study Coordinating Committee
U. S. Army Corps of Engineers
P. O. Box 80
Vicksburg, Mississippi 39180

Dear Mr. Bayley:

Subject: Lower Mississippi Region Comprehensive Study Proposed Draft Environmental Impact Statement

In response to Memorandum LMRCS-CC-75-6, we would like to offer the following comments on the above Draft Environmental Impact Statement:

1. The Department of Housing and Urban Development has participated in the Lower Mississippi Region Comprehensive Study by providing inputs relative to urban land use, economic development, recreation, municipal water use, and flood plain management. We concur in basic findings and recommendations in the study.

2. With respect to urban growth and development, substantial additional planning of a specific nature will be required within each urban area to solve problems peculiar to that area. Such efforts will involve (a) Land use planning and zoning, (b) Regulation of platting and subdivision of land, (c) Improvement of administration of regulatory codes and ordinances such as Housing Codes, Building Codes, Plumbing and Electrical Codes, and Fire Prevention Codes, (d) Development of functional plans for improvement of water and sanitary sewerage systems, storm drainage, and solid waste disposal, (e) Formulation of plans for development or redevelopment of urban areas subject to critical flood hazard, and, (f) Development of plans and policies for construction of streets and community facilities.

We trust that these comments will assist the coordinating committee in finalizing the above Environmental Impact Statement.

Sincerely,

O. A. Wells, Jr.
Director of Operations

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
AREA OFFICE
210 NORTH 12TH. STREET, ST. LOUIS, MISSOURI 63101

AREA OFFICES
Kansas City, Kansas
Omaha, Nebraska
St. Louis, Missouri

REGION VII
REGIONAL OFFICE
KANSAS CITY, MISSOURI

November 26, 1974

IN REPLY REFER TO:
7.3PP

Mr. Fred H. Bayley III
Executive Secretary
Coordinating Committee
Corps of Engineers
Post Office Box 80
Vicksburg, Mississippi 39180

Dear Mr. Bayley:

Reference is made to your Memorandum LMRCS-CC-75-6, requesting comments on the Draft Environmental Statement for Lower Mississippi Region Comprehensive Study. Your memorandum and Draft Environmental Statement have been forwarded to this HUD Area Office for review and comment.

We have several suggestions and, as recommended in your memorandum, will present our comments with the structural outline of your Draft Statement.

The Lower Mississippi Region Comprehensive Study is perhaps the first substantial conscious effort to outline an orderly guide for existing land needs and future land needs. Regretfully, in the past too many capital expenditures have been constructed as single purpose projects, rather than as components of a preconceived plan which recognizes and guides the patterns of growth. Hopefully, this study will promote a wide understanding of the physical and ecological setting for the Lower Mississippi Region, so that those who live and invest in the Region can preserve the quality of the environment as the Region grows and changes.

We feel that your Draft Statement gives proper consideration for major short range environmental factors including the quality of human environment as related to land treatment measures. It was encouraging to see that, generally, your evaluations do look beyond selected elements of the environment and judge physical development on the merits within the broad system of measures planned. Because of this, it was early recognized that trade-offs

must occur if desired gains are to be achieved, and it appears that such trade-offs are reasonable and practical from the short term viewpoint.

1. Study Description and Framework for Development

1.01 - If a major objective of the Study is to satisfy the needs and desires of people, then citizen involvement in the planning and control process should be discussed. Citizen concern has been most evident at the local level, especially in the rural areas. Initially, people are demanding that public officials conserve natural resources and protect the environment. The citizens must be informed about the direction and substance of the Study's impact (physically, socially, economically) and a channel for citizen input into the planning process should be outlined.

There is no doubt that in the years ahead, complex development and environmental challenges along the Lower Mississippi River will occur. Therefore, we recommend that every effort be made to expand public information and citizen participation programs. Eventually, the time must come when the average individual recognizes that he can actively participate in solving one or more of the problems which he sees along this major drainage and transportation route. Thus, the individual recognition would create that sense of dedication to improvements which not only solve problems but helps to prevent the growth of new ones.

2. Environmental Setting Without the Framework Program

2.30 - If the framework program is designed to provide for the orderly economic and environmental management of the water and land resources of the Lower Mississippi Region, then energy resources should also be discussed. The projected increase in the Region's residents and industrial users will require not only more land, water and natural resources, but increasing amounts of energy.

3

3. Relationship of Framework Program to Land Use Plans

3.04 - Hopefully, continued study and research will be spent on the fabric of interrelations among all living things in and along the Lower Mississippi River drainage areas, both qualitatively and quantitively. In the years ahead, there will be an increasing need to understand these interactions more reliably, more implicitly, and for deeper reasons. To deal with and respect this valuable lowland area, and all the lands along the Mississippi River, it will not be enough to predict which way things will change; there will be a definite need to know how much change and for what reasons. It is about interactions and their mechanisms where more knowledge and understanding must be gained so as to restore quality to the total environment and to better understand the longer range impacts. It would appear that from past experiences, dealing with disasterous floods, water quality and ecological impacts, that we should eventually begin to conform to nature's principles of respect and stability.

4. Environmental Impact of the Proposed Framework Program

4.05 - If we are determined to change the landscape by both direct and indirect consequences of project construction throughout the Lower Mississippi Region, then there is no doubt that there will eventually be a highly simplified biosphere in which only certain natural elements will survive under controlled conditions. Therefore, if we hold the destiny of the biosphere, then the Study should be required to specify what matrix of living forms are to be derived. The Environmental Statement and Study must begin to discuss and reflect this in some form.

4.08 - We recognize that the Comprehensive Study does not make specific project proposals. However, the Draft Statement should recognize that, despite the installation of preventive and protective works and the adoption of other public programs, flood disasters still create extensive personal hardships and economic distress. Lack of flood plain management

programs, uniformity of local flood plain regulations, and land use plans will present potential major problems in terms of the gradual reduction in the effectiveness of flood control works.

4.09 - Regretfully, in the present situation, none of the dominant ways of understanding the wildlife and all natural features of the low lying areas of the Lower Mississippi Region entails total respect for their integrity or inherent value. As expressed throughout Statement 4.09, the relationship is always determined by the relation of animals and plant life to man, and this continued effect can become one-sidedly destructive.

6. Alternatives to the Proposed Action

6.01 - The recent energy shortage is a powerful incentive for change. Therefore, another alternative plan to be considered would be one that directs itself to slow growth where basic standards of living need not change but styles of living would change. There could be an earnest desire to respect and enjoy differences rather than seek to make over land forms in our own institutional and departmental image or relapse into an indifferent relativism. A new way of looking at the landscape could be a part of a deeper and broader change from the prizing of conquest and mastery to the prizing of restraint and generosity.

9. Coordination with Others

9.01 - We do suggest that you coordinate the proposed action with the Bootheel Regional Planning Commission. The Commission is located at Malden Airport, Drawer 397, Malden, Missouri 63863. The Executive Director is Mr. Philip Shelton. This Regional Planning Commission is actively participating with Federal and State programs and has assembled extensive physical and social data of the Missouri portion of your project. Your Draft Statement and Plan would be most critical and beneficial to their regional land use planning program.

5

This Regional Planning Commission is presently working with local communities so a more uniform land use implementation process can be developed. One of its major objectives is to encourage all local governments to adopt and enforce land use measures that will constrict the development of land which is exposed to flood damage and guide future construction, where practical, away from locations which are threatened by Mississippi River flood hazards. Uncontrolled development of adjacent lands is potentially dangerous, especially when the rate of development is expected to increase along the Mississippi River.

We feel that your Comprehensive Study will provide the communities in the Lower Mississippi Region with a necessary guideline so they will be able to intelligently develop and implement land use and water conservation management programs. However, it should be more convincingly emphasized throughout the Study and Draft Statement that, if the activities of man modify the ecological system by changing the quantity of any part of the system in this rich alluvial valley, it is likely that the change will have direct effects on numerous organisms, including man.

We appreciate the opportunity to comment upon your Draft Statement and we look forward to receiving a copy of your final report when it becomes available.

Sincerely,

Elmo Turner
Area Director

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VI
1600 PATTERSON
DALLAS, TEXAS 75201

October 24, 1974

President, Mississippi River Commission
Corps of Engineers
P. O. Box 80
Vicksburg, Mississippi 39180

Dear Sir:

We have reviewed the Preliminary Draft Environmental Impact Statement, Lower Mississippi Region Comprehensive Study and offer the following comments for your consideration in preparing the draft statement:

I. Summary

1. The proposed draft statement is a reconnaissance study which contains no recommendations for specific projects. It does provide a broad-scaled analysis of resource problems and needs by outlining a recommended framework program. The first sentence (item 3a) states, "If implemented, the framework program will provide for the orderly economic and environmental management of the water and land resources of the Lower Mississippi Region." However, it is not clear how one would "implement" a framework program in an area encompassing a geographical region as large as the Lower Mississippi Valley. It would appear that the only "implementation" possible would be specific project proposals guided by the problems identified and broad solutions proposed in the framework study.

II. Study Description and Framework for Development

The recommended framework program (table 1) needs further explanation. For instance, ten planning areas are listed but no information concerning their locations is provided. We suggest that the draft statement include a map delineating the specific location of each planning area.

III. Environmental Setting

Geology

In paragraph 2.02, a statement is made concerning glaciation of the Central Gulf Coastal Plains area. However,

it should be noted that the ice age glaciers did not extend into the project study area. Also, subsequent weathering is not the sole reason for lowland development or for the area being underlain by the rocks indicated.

Hydrology

The proposed draft, in briefly discussing the Mississippi River, does not mention the heavy industrial and municipal discharges that occur along its course. We suggest that the draft statement discuss the effects such discharges have on the present water quality in heavily industrialized sections such as Baton Rouge and New Orleans. Future degradation of existing water quality in these areas could result from expanded industrialization, therefore requiring an accurate assessment of existing water quality conditions.

Ground Water Quality

The discussion of groundwater pollution from oil wells could include: brine disposal, migration of salt water zones due to heavy ground water pumping, improper well construction or plugging of abandoned wells, and dumping of industrial wastes.

Air Quality

According to the pre-draft statement, the study area generally has good air quality with certain urban areas exhibiting "occasional problems of a minor nature." However, it should be noted that air pollutants in Baton Rouge and New Orleans often exceed National Ambient Air Quality Standards.

Botanical and Zoological Resources

These sections should contain a brief discussion of threatened and endangered species occurring in the project area, their relative abundance, habitat requirements, and present status.

IV. Alternatives

An expanded discussion of the alternatives considered should be included in the draft statement. For instance, the Environmental Quality alternative mentions that both economic and natural environmental factors were considered, but does not discuss these factors. In order to evaluate adequately each alternative, this information should be included.

We appreciate the opportunity to review the Proposed Draft Environmental Impact Statement. If there are any questions concerning our comments, please contact us.

Sincerely yours,

J. Paul Comola
Member
Lower Mississippi Region
Comprehensive Study

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

SOUTHERN REGION
P. O. BOX 20636
ATLANTA, GEORGIA 30320

October 2, 1974

President, Mississippi River Commission
Corps of Engineers
P. O. Box 80
Vicksburg, Mississippi 39180

Dear Sir:

We have reviewed the proposed draft environmental impact statement, Lower Mississippi Region Comprehensive Study, prepared by the Lower Mississippi Region Comprehensive Study Coordinating Committee, with respect to potential environmental impact for which this agency has expertise.

Our review of the data presented indicates there will be no significant adverse effects to the existing or planned air transportation system as a result of this study.

Sincerely,

BENNY C. FRAZIER

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
REGION SIX
FORT WORTH, TEXAS 76102
819 Taylor Street

October 4, 1974

IN REPLY REFER TO
06-00.8

President, Mississippi River Commission
Corps of Engineers
Attention: LMVPD-P
Post Office Box 80
Vicksburg, Mississippi 39180

Dear Sir:

We have reviewed at regional and division office levels, your draft environmental impact statement for the Lower Mississippi Region Comprehensive Study which was provided by letter dated September 6, 1974.

We have no comments to make regarding the statement.

Sincerely yours,

J. W. White
Regional Administrator

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

MAILING ADDRESS
COMMANDER (mep)
SECOND COAST GUARD DISTRICT
FEDERAL BLDG
1520 MARKET ST
ST. LOUIS, MO 63103

.5922/eis

21 NOV 1974

.President, Mississippi River Commission
Corps of Engineers
P. O. Box 80
Vicksburg, MS 39180

Gentlemen:

We have reviewed the Proposed Draft Environmental Impact Statement for the Lower Mississippi Region Comprehensive Study, and find that we have no comments to offer. We would appreciate receiving a copy of the final statement to keep informed about your study.

Thank you for the opportunity to review your statement.

Sincerely,

J. W. LEADBETTER
Captain, U. S. Coast Guard
Chief, Marine Safety Division
By direction of the District Commander

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
REGION FOUR
KENTUCKY DIVISION
P.O. Box 536
FRANKFORT, KENTUCKY

October 23, 1974
Re: 4-21.P

Mr. Fred H. Bayley, III
Chief, Planning Division
Mississippi River Commission
P.O. Box 80
Vicksburg, Mississippi 39180

Re: LMVPD-P

Dear Mr. Bayley:

Subject: Proposed Draft Environmental Impact Statement for the Lower Mississippi Region Comprehensive Study

We have completed our review of the proposed draft environmental impace statement (DEIS) for the Lower Mississippi Region Comprehensive Study which you sent to us on September 17. Because of the general nature of the DEIS, we have no specific comments to make on the statement itself and, without a copy of the Comprehensive Study, we find it difficult to determine how this proposed study will affect transportation systems in Kentucky. When you release the draft for our review, we would appreciate your including more specific information concerning the proposed programs if it is possible. At that time we will be better able to give you more specific comments on the draft statement and your proposed programs.

Sincerely yours,

For: Robert E. Johnson
Division Engineer

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
4004 Hillsboro Road, Suite 236
Nashville, Tennessee 37215
October 2, 1974

President, Mississippi River Commission
Corps of Engineers
P. O. Box 80
Vicksburg, Mississippi 39180

Dear Sir:

We have received Mr. Fred H. Bayley's memorandum transmitting a copy of the Draft Environmental Impact Statement for the Lower Mississippi Region Comprehensive Study.

In reviewing the subject statement for the study, which is concerned with future water and land resources conservation, development and use, we found relatively little discussion of the environmental impact of the proposed framework program on land transportation, particularly highways and highway systems, even though the impacts on navigation and land use changes were discussed in some detail.

Although we realize that the study does not make specific project proposals, we believe that a discussion of the effects on highways that may result from the implementation of the program components comprising the framework should be included in the Draft Statement. Inclusion of such a discussion, we believe, would insure the incorporation of adequate input data relative to highways into future studies and subsequent impact statements dealing with specific project proposals.

Thank you for affording us the opportunity to review the Draft EIS. If you feel that we can be of any help in the development of your program for the Lower Mississippi Region, please do not hesitate to call on us.

Very truly yours,

Ira D. Degges
Acting Division Engineer

STATE OF ARKANSAS
DEPARTMENT OF PLANNING
400 TRAIN STATION SQUARE • VICTORY AT MARKHAM
LITTLE ROCK 72201

DALE BUMPERS
GOVERNOR

CHARLES T. CROW
DIRECTOR

November 8, 1974

Mr. Arnold V. Robbins
Chairman, Plan Formulation Committee
Lower Mississippi Regions Comprehensive Study
Corps of Engineers
P. O. Box 80
Vicksburg, Mississippi 39180

Re: Proposed Draft E.I.S. on the
Lower Mississippi Region
Comprehensive Study

Dear Mr. Robbins:

The above mentioned document was submitted for review and comment to interested State Agencies.

We have enclosed the comments of the Department of Planning and the Arkansas Water Resources Research Center, University of Arkansas, for your information.

The State Clearinghouse, on behalf of the reviewing agencies, wishes to thank you for your cooperation. If we can be of further assistance, please let us know.

Sincerely,

Bert Wakeley
Office of State Planning Coordination

BW/mr/fk

Enclosures

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WAYNE GAIRHAN
TRUMANN
JOHN LUCE
FORT SMITH

ARKANSAS

DEPARTMENT OF COMMERCE
DIVISION OF SOIL AND WATER RESOURCES
1200 WESTPARK DRIVE, ROOM 308
LITTLE ROCK, ARKANSAS 72204

NORMAN F. WILLIAMS
ACTING DIRECTOR OF COMMERCE

JOHN P. SAXTON
DIRECTOR
(501) 371-1611

November 5, 1974

MEMORANDUM

TO: Armand DeLaurell, Director, State Planning & Development Clearinghouse

FROM: John P. Saxton, Chairman, Technical Review Committee

RE: Draft EIS for LMRCS

As of this date we have not received any comments which are of a derogatory nature. Enclosed please find copies of comments which we have received concerning this report.

We recommend these comments, along with a letter stating that the report has received favorable review and comments and satisfies the NEPA guidelines, be sent to the President of the Mississippi River Commission as soon as possible.

JPS:ADF:cc

Enclosures

325 Administration Building
(501) 575-4404
Fayetteville, Arkansas 72701

UNIVERSITY OF ARKANSAS · Arkansas Water Resources Research Center

September 25, 1974

MEMORANDUM

TO: John P. Saxton, Chairman, Technical Review Committee

FROM: R. E. Babcock, Director REB

RE: Draft Environmental Impact Statement for the Lower Mississippi Regions Comprehensive Study

Thank you for allowing us to review a copy of the above mentioned report.

We have no comments.

REB:vd

RECEIVED
SEP 20 1974
SOIL AND WATER
CONSERVATION COMMISSION

TO		INITL
	SAXTON	
	[illegible]	
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	UNG	
	Marshall	
	CHAPIN	
	SPEARINGEN	
	FERGUSON	
	WHITE	
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	NYHART	

STATE OF ARKANSAS
DEPARTMENT OF PLANNING
400 TRAIN STATION SQUARE • VICTORY AT MARKHAM
LITTLE ROCK 72201

DALE BUMPERS
GOVERNOR

CHARLES T. CROW
DIRECTOR

MEMORANDUM

TO: State Planning and Development Clearinghouse

FROM: Charles T. Crow

SUBJECT: Proposed Draft Environmental Impact Statement on the Lower Mississippi Region Comprehensive Study.

DATE: October 25, 1974

The above cited application submitted by the Lower Mississippi Region Comprehensive Study Coordinating Committee is a broad-scaled analysis of water resource and water resource related problems and needs in the Lower Mississippi Region. The study encompasses approximately 102,400 square miles, occupying portions of seven states -- Arkansas, Illinois, Kentucky, Louisiana, Mississippi, Missouri, and Tennessee.

The Arkansas Department of Planning has reviewed the application and since the study contains no recommendations for specific projects and no detailed information for authorization of projects, we have no comments at this time.

CTC/mrt

RECEIVED
OCT 31 1974
SOIL AND WATER
CONSERVATION COMMISSION

TO		
	SAXTON	
	MOTT	
	BRYNIARSKI	
✓	FORTENBERRY	AF
	YOUNG	
✓	Cantrell	
	CHAPIN	
	SWEARINGEN	
	FERGUSON	
	WHITE	
	STEPHENS	
	NYITRAI	

THOMAS O. HARRIS
SECRETARY

WENDELL H. FORD
GOVERNOR

COMMONWEALTH OF KENTUCKY
DEPARTMENT FOR NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION
OFFICE OF THE SECRETARY
FRANKFORT, KENTUCKY 40601
TELEPHONE (502) 564-3350

October 30, 1974

President
Mississippi River Commission
P. O. Box 80
Vicksburg, Mississippi 39180

SUBJECT: Draft Environmental Impact Statement 74-25
Lower Mississippi Region Comprehensive Study

Dear Sir:

The Kentucky Environmental Review Agencies have reviewed the above mentioned impact statement. The Department of Transportation and the Division of Air Pollution have submitted the following comments.

The draft environmental impact statement is too general. Little program-specific information is contained that may be reviewed, neither project related information nor planning work program information. A specific omission is the failure to give adequate consideration to transportation developments and impacts, with the specific exception of water transportation on the Mississippi River itself. The draft environmental impact statement is felt to be inadequate in its consideration of transportation from this viewpoint. The consideration of water transportation of the Mississippi does not reflect possible alternate plans and their potential impact, such as proposals for the development of the Tombigbee Waterway which could divert much of the commercial traffic currently projected for the Mississippi, thereby reducing the demand for and need for substantial improvement in the Mississippi waterway. Apparently this is a general and long range program and consideration of both alternative transportation modes and alternative transportation plans should be considered.

A failure to incorporate a map and/or indentifiable narrative description indicating the study area, (note the blank page 8, figure 1, reference to the "Boundaries of the Region"), makes

it impossible to assess the area being discussed and its relationship to other regional development.

The Division of Air Pollution feels that the Coordinating Committee, which is composed of ten (10) federal agencies and seven (7) states, looking at this region as a whole will obtain far greater results in land planning than separate states or agencies looking solely at their area of domain. The Committee could be performing a more valuable service if, in addition to its land and water resources planning, it also considered the impact of regional wide development on the air quality. Furthermore, the possibility of including a planner with expertise in air pollution from each state involved might be considered.

Aside from the above mentioned comments, the draft environmental impact statement was felt to be adequate.

Sincerely,

Thomas O. Harris
SECRETARY

TOH:DM:dch

REGION FOUR
KENTUCKY DIVISION
P.O. Box 536
FRANKFORT, KENTUCKY

October 23, 1974
Re: 4-21.P

Mr. Fred H. Bayley, III
Chief, Planning Division
Mississippi River Commission
P.O. Box 80
Vicksburg, Mississippi 39180

Re: LMVPD-P

Dear Mr. Bayley:

Subject: Proposed Draft Environmental Impact Statement for the Lower Mississippi Region Comprehensive Study

We have completed our review of the proposed draft environmental impact statement (DEIS) for the Lower Mississippi Region Comprehensive Study which you sent to us on September 17. Because of the general nature of the DEIS, we have no specific comments to make on the statement itself and, without a copy of the Comprehensive Study, we find it difficult to determine how this proposed study will affect transportation systems in Kentucky. When you release the draft for our review, we would appreciate your including more specific information concerning the proposed programs if it is possible. At that time we will be better able to give you more specific comments on the draft statement and your proposed programs.

Sincerely yours,

s/ J. A. CARNEY

For: Robert E. Johnson
Division Engineer

STATE OF LOUISIANA
STREAM CONTROL COMMISSION
P. O. DRAWER FC
UNIVERSITY STATION
BATON ROUGE, LOUISIANA 70803

October 25, 1974

President, Mississippi River Commission
Corps of Engineers
Post Office Box 80
Vicksburg, Mississippi 39180

SUBJECT: LMUPD - P

Please accept the enclosed letter dated October 24, 1974, in lieu of our letter dated October 23, 1974, above subject.

This is to delete the word "not" in the second line of the third paragraph.

Very truly yours,

R. A. Lafleur

Robert A. Lafleur
Executive Secretary

fbr

Enclosure

STATE OF LOUISIANA
STREAM CONTROL COMMISSION
P. O. DRAWER FC
UNIVERSITY STATION
BATON ROUGE, LOUISIANA 70803

October 24, 1974

President, Mississippi River Commission
Corps of Engineers
Post Office Box 80
Vicksburg, Mississippi 39180

SUBJECT: LMUPD-P

We have carefully reviewed the Draft Environmental Impact Statement, Lower Mississippi Region Comprehensive Study and appreciate the fact that the scope of the study dictates its general format.

It is noted that the "statement" prescribes that: "Impacts of specific projects which may be developed in future studies will be discussed in separate detailed environmental statements prepared at that time. However, cumulative commitments of water and land resources in general may have short-term or long-term effects, and these should be recoginized and considered early in the planning process."

This agency has bng recognized that the cumulative commitments of water and land resources do have a definite impact on water quality, quantity and base stream flows. As the most downstream state im the lower Mississippi Region our water environment will experience the cumulative effects of each project in the Region. Therefore, we strongly recommend that the cumulative impact of projects affecting land and water resources be considered in the environmental assessment of each project as well as the specific impact.

Thanking you for the opportunity to comment on this statement, I am

Yours very truly,

Robert A. Lafleur
Executive Secretary

fbr
cc: Mr. Daniel V. Cresap, Chief Engineer
State of Louisiana
Department of Public Works
Post Office Box 44155, Capitol Station
Baton Rouge, Louisiana 70804

STATE OF LOUISIANA
STREAM CONTROL COMMISSION
P. O. DRAWER FC
UNIVERSITY STATION
BATON ROUGE, LOUISIANA 70803

October 23, 1974

President, Mississippi River Commission
Corps of Engineers
Post Office Box 80
Vicksburg, Mississippi 39180

Subject: LMUPD-P

We have carefully reviewed the Draft Environmental Impact Statement, Lower Mississippi Region Comprehensive Study and appreciate the fact that the scope of the study dictates its general format.

It is noted that the "statement" prescribes that: "Impacts of specific projects which may be developed in future studies will be discussed in separate detailed environmental statements prepared at that time. However, cumulative commitments of water and land resources in general may have short-term or long-term effects, and these should be recognized and considered early in the planning process."

This agency has long recognized that the cumulative commitments of water and land resources do not have a definite impact on water quality, quantity and base stream flows. As the most downstream state in the lower Mississippi Region our water environment will experience the cumulative effects of each project in the Region. Therefore, we strongly recommend that the cumulative impact of projects affecting land and water resources be considered in the environmental assessment of each project as well as the specific impact.

Thanking you for the opoortunity to comment on this statement, I am

Yours very truly,

Robert A. Lafleur
Executive Secretary

fbr
cc: Mr. Daniel V. Cresap, Chief Engineer
State of Louisiana
Department of Public Works
Post Office Box 44155, Capitol Station
Baton Rouge, Louisiana 70804

ROY AGUILLARD
DIRECTOR

State of Louisiana

DEPARTMENT OF PUBLIC WORKS
P. O. BOX 44155, CAPITOL STATION
BATON ROUGE, LOUISIANA 70804

BOARD OF PUBLIC WORKS
GEORGE CHANEY, CHAIRMA
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RICHARD P. GIBSON
ROLAND CARTER

October 28, 1974

Major General F. P. Koisch, President
Mississippi River Commission
P. O. Box 80
Vicksburg, Mississippi 39180

Dear General Koisch:

This letter is in response to the request from your office for distribution to state agencies and for review and comments on the draft Environmental Impact Statement (EIS) for the Lower Mississippi Region Comprehensive Study. For your reference attached is a copy of the memorandum addressed to state agencies for review and comment of the draft statement and also a copy of the news release which was issued on September 13, 1974.

The draft EIS was distributed to 15 state agencies other than the Department of Public Works. These agencies were requested to return their comments either to the Office of the President, Mississippi River Commission, or to the Department of Public Works. As of this date, we have received only two letters in answer to the request for review and comments. The Louisiana Commission on Intergovernmental Relations commented that the agency distribution of the EIS was adequate. The Office of State Planning stated that they had no specific comments at the present time. These two letters are attached for your use and reference.

Regarding comments from the Louisiana Department of Public Works, we must compliment the overall involved effort of federal, state, and local persons to collect, assemble, and produce information in the form of the Lower Mississippi Region Comprehensive Study. This has been a tremendous undertaking and a successful effort under the direction of the Mississippi River Commission. The Mississippi River Commission staff who had principal responsibility have certainly done an excellent job. We are pleased with the EIS and find it to be most comprehensive.

Should you have further need for assistance from the Department of Public Works on this EIS, please advise.

Sincerely,

Roy Aguillard

ROY AGUILLARD
Director

GRD/pal

State of Louisiana
DEPARTMENT OF PUBLIC WORKS
P. O. BOX 44155, CAPITOL STATION
BATON ROUGE, LOUISIANA 70804

OY AGUILLARD
DIRECTOR

BOARD OF PUBLIC WORKS
GEORGE CHANEY, CHAIRMAN
EMMETT A. EYMARD
P. P. VERRETT, SR.
RICHARD P. GIBSON
ROLAND CARTER

September 13, 1974

TO: STATE AGENCIES (See Attached List)

FROM: Daniel V. Crecap, Chief Engineer

SUBJECT: Environmental Impact Statement--Lower Mississippi Region Comprehensive Study

The draft Environmental Impact Statement (EIS) for the Lower Mississippi Region Comprehensive Study has been completed. Enclosed is a copy of the draft EIS for your review and comments and a copy of a news release concerning the draft EIS and public participation.

Any agencies desiring to comment should indicate whether any of their projects not identified in the draft EIS are sufficiently advanced in planning and related environmentally to the proposed action so that a discussion of such environmental interrelationships could be included as a part of the final EIS. You are invited to submit comments to the Department of Public Works, address provided above. However, if you wish, you may provide your comments directly to the President, Mississippi River Commission, Corps of Engineers, P. O. Box 80, Vicksburg, Mississippi 39180. If you choose to submit comments directly to the Mississippi River Commission, please provide DPW with a copy. All comments received in our offices will be combined and submitted to the Mississippi River Commission at the conclusion of the comment period. Comments are requested to be furnished to the Mississippi River Commission no later than October 25, 1974.

Please feel free to contact this office if you have questions or need additional information. It is always a pleasure to work with other state agencies in this type of endeavor.

GRD/pal

Attachments

Mr. Stanley Passman, Executive Director
Department of Commerce & Industry
P. O. Box 44185, Capitol Station
Baton Rouge, Louisiana 70804

Mr. Raymond T. Sutton, Commissioner
Department of Conservation
P. O. Box 44275, Capitol Station
Baton Rouge, Louisiana 70804

Mr. Donald J. Whittinghill, Director
Joint Legislative Committee on Environmental Quality
P. O. Box 44033, Capitol Station
Baton Rouge, Louisiana 70804

Mr. Clint Pray, Chairman
Governor's Council on Environmental Quality
3101 37th Street
Suite 201
Metairie, Louisiana 70001

Mr. James E. Mixon, State Forester
Louisiana Forestry Commission
P. O. Box 15239, Broadview Station
Baton Rouge, Louisiana 70815

Mr. W. T. Taylor, Jr., Director
Department of Highways
P. O. Box 44245, Capitol Station
Baton Rouge, Louisiana 70804

Mr. Leon R. Tarver, Jr., Executive Director
Louisiana Commission on Intergovernmental Relations
P. O. Box 44455, Capitol Station
Baton Rouge, Louisiana 70804

Mr. Jay R. Broussard, Director
Department of Art, Historical and Cultural Preservation
Old State Capitol
Baton Rouge, Louisiana 70801

Mr. C. J. Bonnecarrere, Executive Secretary
State Mineral Board
P. O. Box 2827
Baton Rouge, Louisiana 70821

Mr. Gilbert C. Lagasse, Director
State Parks & Recreation Commission
P. O. Drawer 1111
Baton Rouge, Louisiana 70821

Mr. Patrick W. Ryan, Executive Director
State Planning Office
P. O. Box 44425, Capitol Station
Baton Rouge, Louisiana 70804

Mr. Robert Lafleur, Executive Secretary
Louisiana Stream Control Commission
P. O. Drawer FC
Baton Rouge, Louisiana 70803

Mr. Charley S. Staples, Executive Director
Soil and Water Conservation Committee
P. O. Drawer CS
Baton Rouge, Louisiana 70803

Mr. Robert Murray, Environmental Coordinator
Wildlife & Fisheries Commission
P. O. Box 44093, Capitol Station
Baton Rouge, Louisiana 70804

Dr. Ramson K. Vidrine, M. D.
Louisiana State Board of Health
P. O. Box 60630
New Orleans, Louisiana 70160

STATE OF LOUISIANA

COMMISSION ON INTERGOVERNMENTAL RELATIONS

EDWIN EDWARDS
GOVERNOR
SENATOR MICHAEL H O'KEEFE
CHAIRMAN
LEON TARVER
EXECUTIVE DIRECTOR

September 23, 1974

P O BOX 44455
BATON ROUGE, LOUISIANA 70804
389-5664

Mr. Daniel V. Cresap
Chief Engineer
Department of Public Works
P.O. Box 44155
Capitol Station
Baton Rouge, Louisiana 70804

Dear Mr. Cresap:

The State Clearinghouse has reviewed your Draft Environmental Impact Statement for the Lower Mississippi Region Comprehension Study in respect to agency impact and responsibility.

It is our opinion that the agencies from which you have solicited comments is adequate. We do not wish to add further to your list.

If any additional assistance is necessary please feel free to contact this office.

Sincerely yours,

Regis Allison
State Clearinghouse Director

RA:vh

HOUSE COMMITTEE
J. RICHARD BREAUX
ROBERT FREEMAN
T. W. HUMPHRIES
ALPHONSE JACKSON, JR
RICHARD THOMPSON

GOVERNOR'S COMMITTEE
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EDWARD STAGG

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EDGAR G. MOUTON
DONALD W. WILLIAMSON

OFFICE OF STATE PLANNING
OFFICE OF THE GOVERNOR

EDWIN EDWARDS
GOVERNOR

September 19, 1974

Mr. Daniel V. Cresap, Chief Engineer
State of Louisiana
Department of Public Works
P. O. Box 44155, Capitol Station
Baton Rouge, Louisiana 70804

RE: Environmental Impact Statement - Lower Mississippi Region Comprehensive Study

Dear Mr. Cresap:

We have received the material listed above and have made a preliminary review. At the present time we have no specific comments. Should we wish to comment more at a later date we will get in touch with you.

Thank you for keeping us informed.

Sincerely,

George P. Gullett

George P. Gullett
Environmental Planner

RECEIVED
SEP 23 1974
DEPARTMENT OF PUBLIC WORKS
BATON ROUGE, LA

PATRICK W. RYAN
EXECUTIVE DIRECTOR

PAUL R. MAYER, JR.
ASSISTANT DIRECTOR

P. O. BOX 44425
CAPITOL STATION
BATON ROUGE 70804

State of Louisiana

WILD LIFE AND FISHERIES COMMISSION
400 ROYAL STREET
NEW ORLEANS 70130

J. BURTON ANGELLE
DIRECTOR

EDWIN EDWARDS
GOVERNOR

September 24, 1974

Mr. Fred H. Bayley, III
Executive Secretary, Coordinating Committee
Lower Mississippi Region Comprehensive Study
United States Corps of Engineers
P. O. Box 80
Vicksburg, Mississippi 39180

Dear Mr. Bayley:

Personnel of the Louisiana Wild Life and Fisheries Commission have reviewed the Proposed Draft Environmental Impact Statement, Lower Mississippi Region Comprehensive Study. Circulation of the final report for the Lower Mississippi Region Comprehensive Study prior to issuing the Draft EIS would have allowed a more thorough understanding of the effects of the various proposals in the comprehensive plan. The Draft EIS contains insufficient information to make any substantive comments on specific components of the plan, however, we would like to comment on the apparent philosophy followed in developing the comprehensive plan and suggest several minor changes in the Draft EIS.

Long-range planning is certainly needed to alleviate many of the present conflicts regarding resource uses. Far too often, such planning has been directed wholely at development of industry, agriculture, and related services. We are pleased to see that the recommended plan (page 28) includes provisions for preservation of environmental quality, but the overall plan will result in further deterioration of the natural environment due to land use changes and construction of flood control and navigation projects as outlined in Table 1(pages 3-6).

We are not sure of the exact meaning of all the headings in Table 1. What is the reasoning for the low acreages under the heading "Water Surface Area - Natural Environment" for the WRPA's in Louisiana? Are the needs for additional surface

acreages of recreation waters in WRPA's 5 & 6 in the Louisiana portions of these WRPA's? Why is there a need for additional surface acres of recreation waters in WRPA 8 which adjoins WRPA 10 and the Atchafalaya Basin? An interpretation of the Water Supply for Fish and Wildlife column is somewhat difficult since fish and wildlife are currently using the entire stream flow of the Region except in areas of extreme pollution. Withdrawals specifically for fish and wildlife and water needs to maintain current productivity are different entities. The various drainage, levee and navigation projects are so extensive that we cannot comment on specifics, but the construction of all works outlined in Table 1 would result in massive alterations of the environment, and the needs for individual projects should be evaluated in greater detail.

While it is probable that the region will produce an increased share of the world's food and fiber needs (page 27), the effects of such an undertaking on the natural environment and quality of life should be closely examined. Feeding the world is certainly a humanitarian cause, however, methods of accomplishing this goal without excessive damages to fish and wildlife resources and environmental contamination with dangerous chemicals should be explored. Also, a distinction should be made between expansion of agriculture for the humanitarian purpose of satisfying the food needs of impoverished nations and the expansion of agriculture for profit resulting from a favorable balance of trade and for political uses of food supplies. Worldwide population control, technical assistance to foreign countries, and increased efficiency in American farming could all help reduce the acreage demands for farmland in the United States. Destruction of bottomland hardwoods and construction of levees and drainage canals for conversion of lands to agriculture should not be considered the only means for increasing production.

We are certainly not in a position to forecast future navigation needs, but a nearly five fold increase as outlined by the year 2020 (page 31 & 32) seems staggering. If present pollution,salt water intrusion, land loss and marsh destruction problems associated with navigation projects increase at the same rate, major damages for sport and commercial fishing, fur trapping and sport hunting in the marsh can be expected.

The Draft EIS gives inadequate attention to the benefits of proper land use management, particularly in the area of avoidance of high flood risk areas for development (page 34). Proper site selection and development in corridors might reduce the needs for structural measures.

Several changes are needed in the text of the proposed Draft Seatrout. Croaker should be added to the list of important saltwater commercial fish (page 17, section 2.23),

and mention should be made of the importance of catfish, buffalo, freshwater drum and crawfish as freshwater commercial species. Domestic grasses, mostly of imported origin, are generally used in summer pastures rather than native grasses (page 16, section 2.21). Please check Grass, Yearbook of Agriculture (USDA, 1948) as a reference on this subject. Among common imported grasses are bermuda grass, dallis grass, Johnson grass, Sudan grass, weeping lovegrass, and bahia.

Thank you for the chance to comment on this Draft EIS.

Sincerely yours,

J. Burton Angelle

J. Burton Angelle
Director

JBA:MW/ibm

cc: Dan Cresap

Christopher S. Bond
Governor

State of Missouri
OFFICE OF ADMINISTRATION
Division of State Planning and Analysis
Box 809
Jefferson City, Missouri 65101

State of Missouri
OFFICE OF ADMINISTRATION
Jefferson City 65101

Robert L. James
Commissioner

Bill R. Cramer, Director
Division of State Planning and Analysis

October 29, 1974

Major General Francis P. Koish
President
Lower Mississippi River Basin Commission
Corps of Engineers
P. O. Box 80
Vicksburg, Mississippi 39180

Dear Major General Koish:

Subject: Proposed Draft Environmental Impact Statement on Lower Mississippi Region Comprehensive Study OA 74100006

The Division of State Planning and Analysis, as the designated State Clearinghouse, has coordinated a review of the above referred draft environmental impact statement with various concerned or affected state agencies pursuant to Section 102(2)(c) of the National Environmental Policy Act.

Enclosed please find the comments received. None of the other state agencies involved in the review had comments or recommendations to offer at this time.

We appreciate the opportunity to review the statement and anticipate receiving the final environmental impact statement when prepared.

Sincerely,

Terry L. Rehma
A-95 Coordinator

TLR:dk

Enclosure

M I S S O U R I
CHRISTOPHER S. BOND
GOVERNOR

DEPARTMENT OF
Natural Resources
JAMES L. WILSON
DIRECTOR

P.O. Box 176 Jefferson City, Missouri 65101 314-751-3332

October 18, 1974

Mr. Terry Rehma
A-95 Coordinator
Office of Administration
Division of Planning and Analysis
P. O. Box 809, State Capitol Building
Jefferson City, Missouri 65101

Re: A-95 Review #74100006 - Lower Mississippi Region Comprehensive Study Coordinating Committee - Draft EIS

Dear Mr. Rehma:

The Missouri DNR has reviewed the above noted environmental impact statement.

In reference to water quality comments (pp. 29, 30), it should be noted that in the year 2020 there will be the need to provide advanced treatment for almost three times as much waste as will be given secondary treatment in 1980.

The loss of mineral resources needs to be looked at in greater detail in the EIS. Although there are sections on botanical, zoologic and archaeologic resources, no specific data on mineral resources are included. Land acquisition and land management programs could cause loss of mineral resources and should be closely evaluated.

The impact of potential energy resources such as oil and gas in certain areas of the Lower Mississippi, particularly Louisiana, should be mentioned in the Draft EIS.

Recognizing that the framework plan does not propose any specific projects and the Draft EIS does not address itself to specific projects, the DNR will conduct a review of further project proposals for the area as they are presented to us.

The opportunity to comment is sincerely appreciated.

Sincerely,

DEPARMENT OF NATURAL RESOURCES

James L. Wilson
Director

JLW:cws

cc: Majr. Gen. Francis P. Koish
President
Lower Mississippi River Basin Commission



Bootheel Regional Planning Commission
& Economic Development Council

P.O. Box 397 Telephone 314 276-2242 Malden, Missouri 63863

PAT LEA, CHAIRMAN
PHILIP SHELTON, DIRECTOR

January 2, 1975

Mr. Thomas R. Campbell
Department of the Army
Mississippi River Commission
Corps of Engineers
Vicksburg, Mississippi 39180

Re: Draft Environmental Impact Statement
Lower Miss. Region Compr. Study

Dear Mr. Campbell:

Both the Bootheel's A-95 PNRS Committee and the Bootheel Regional Planning Commission have reviewed and approved the draft Environmental Impact Statement for the Lower Mississippi Region Comprehensive Study.

A copy of this letter must be attached to the federal funding agency's application as evidence that you have complied with the requirements of the Office of Management and Budget Circular A-95 (Revised) and the State Clearinghouse's Project Notification and Review System.

We wish to extend our appreciation to your office for complying with Mr. Turner's request and providing the Bootheel Regional Planning Commission with an opportunity to review this document.

If you have any questions concerning these comments, please contact me.

Sincerely,

Ronald C. Versak
Planning Director

RCV:gw

cc: Mr. Terry Rehma
Mr. Philip Shelton

"Be Reasonable"

MISSISSIPPI PARK COMMISSION

717 ROBERT E. LEE BLDG. / JACKSON, MISSISSIPPI 39201 / PHONE (601) 354-6321



November 5, 1974

President, Mississippi River Commission
U. S. Corps of Engineers
P. O. Box 80
Vicksburg, Mississippi 39180

Reply to: LMVPD-P
Re: Memorandum LMRCS-CC-75-6

Dear Sir:

The Mississippi Park Commission is vitally interested in sound planning practices and policies that affect the quality of life in the region and particularly within the State of Mississippi.

After review of the Proposed Draft Environmental Impact Statement, Lower Mississippi Region Comprehensive Study, the Mississippi Park Commission wishes to endorse in principal, the general framework program as suggested in the draft EIS.

Thank you for this opportunity for review and we are looking forward to review of more specific programs and projects as they develop.

Sincerely yours,

William M. Barnett
Executive Director

WMB:bg

STATE OF TENNESSEE
OFFICE OF URBAN AND FEDERAL AFFAIRS
SUITE 1312
ANDREW JACKSON STATE OFFICE BUILDING
NASHVILLE 37219

JAMES A. PAYNE
DIRECTOR

615-741-2714

October 25, 1974

President, Mississippi River Commission
Post Office Box 80
Vicksburg, Mississippi 39180

RE: Proposed Draft EIS, Lower Mississippi Region Comprehensive Study

Dear Mr. President:

As the designated State Clearinghouse for Federal grant programs under OMB Circular A-95 guidelines, we have reviewed the above referenced proposal, dated September, 1974.

The draft statement is quite generalized in scope in that it concerns a broad fifty-year framework program with no specific recommendations or project proposals. The stated intent of the study is to ..."outline a recommended framework program for this region in terms of the probable nature, extent, timing, and costs of measures for satisfaction of foreseeable needs, and the solution of identified problems."

LAND USE CONSIDERATIONS (TRANSPORTATION, FISH and WILDLIFE):

In their comments, the Tennessee Department of Transportation noted that ground transportation requirements (highways) are not considered in the proposal, although the program will address land use plans. The transportation element must be considered in the overall scope of the land use plan. The Department of Transportation's functional elements will continue to cooperate with the Corps of Engineers regarding highway project proposals for this area to insure coordination with plan requirements.

Reference is made in the proposal to water transportation. Enlargement of channels plus new and expanded port facilities are stated to be included in the plan. Recommendations affecting Tennessee's navigable waterways should be coordinated with DOT's Bureau of Industrial Marine and Watercraft Transportation.

The recommended land use plan reports on page 27, "provisions for insuring that lands are made available for recreation, fish and wildlife, and for environmental quality purposes insofar as multiple-use of the land resource can serve these purposes without detracting materially from the satisfaction of urban and built-up needs or from the higher priority needs for food and fiber production." We suggest that much land is best suited for fish and wildlife and should often receive top priority in land use planning for that purpose.

We concur with the principles of land use measures of the fish and wildlife plan, as reported on page 28, that would include, "easements and fee purchases designed to increase primary use wildlife lands more than 1.4 million acres by the year 2020." The plan also reports "provisions to promote access to 25 million acres of secondary wildlife lands".

WATER RESOURCE CONSIDERATIONS:

Since the West Tennessee portion of the region is sparse in water areas, it is recommended that projects be designed that would minimize sacrifice of existing water resources, both in quantity and quality, and provide for alternatives to alleviate inland water needs. Your attention is called to page 39, paragraph 6.05 entitled "No Action". It is requested by our Division of Water Quality Control that the U. S. Army Corps of Engineers substantiate the statement, "...with the expectation of ... continued degradation of the region's waters by industrial waste discharges," as it refers to the State of Tennessee.

All State agencies reserve their right to comment on the recommended elements of the plan and specific project proposals until such time as they are identified and proposed for implementation.

We appreciate the early opportunity to review this proposal and look forward to commenting further at a later time. If our office, as the State Clearinghouse, can be of further assistance, please do not hesitate to contact us.

Sincerely,

Stephen H. Norris

Stephen H. Norris
Grant Review Coordinator

SHN: mn

Statement of the Arkansas Ecology Center
on the Proposed Draft Environmental Impact Statement,
Lower Mississippi Region Comprehensive Study
prepared by Thomas Foti, Research Coordinator
November 7, 1974

The Arkansas Ecology Center has reviewed the "Proposed Draft Environmental Impact Statement, Lower Mississippi Region Comprehensive Study" and we are horrified by the implications contained in this document which is the result of a number of years of study by a large, well-financed, multi-disciplinary team of experts representing various levels of government within the Lower Mississippi River Basin, a study which, in its preliminary stages, was much ballyhooed at a series of public meetings held throughout the basin. Now the Draft Environmental Impact Statement (DEIS) on the project is prepared and it seems that none of the early promise of the study has been realized.

The "Responsible Office" is identified only as the "Lower Mississippi Region Comprehensive Study Coordinating Committee"; The Corps and the Mississippi River Commission are nowhere identified with the document. However, although these interests are not identified and although the assertion is repeatedly made that the report "contains no recommendations for specific projects", it is obvious that this study will indeed be used to justify and excuse Corps of Engineers, SCS and similar projects in the future. The scope of these projects is astounding and the lack of environmental concern is truly a reason to be "horrified".

The whole, entire purpose of this document is to help justify Corps of Engineers and similar projects. Any concessions it makes to the environment are lip-service, nothing more. It has in no way complied with either the letter or the spirit of the NEPA. Its attitude toward the enviroment is well-expressed in section 3.01: "The recommended land use plan contains provisions for insuring that lands are made available for recreation, fish and wildlife, and for environmental quality purposes insofar as multiple-use of the land resource can serve these purposes without detracting materially from the satisfaction of urban and built-up needs or from the higher priority needs for food and fiber production". Are the needs for food and fiber production actually "higher priority" than the need for a stable environment to survive in? The framework plan conceived by this study proposes that 305,000 acres - one-half of one percent of the total basin area - be dedicated to "environmental quality purposes". That exploitation to protection ratio of 200:1 illustrates the attitude of the framers of this plan which is that the environment can be "taken care of" by the preservation of a paltry few acres of land rather than by a total plan which would insure the "environmental quality" of 100% of the area. Environmental quality cannot be neatly separated from, nor subjugated to, "higher priority" (i.e., more profitable) needs.

Another quote (section 4.08): "The limitation of use and development of (flood plains) would help preserve the rich natural diversity of plant and animal life ..... However, the long established urban and agricultural activities in the rich alluvial valley, unlike any other in the world, must be assured every right to continue to grow and prosper". Exploitive interests have rights; survival interests have bones thrown to them.

Among the features of this "framework plan" are 13 new flood-control dams, 26,331 more miles of flood-control ditches, 43,610 more miles of drainage ditches, 1417 more miles of navigation ditches, all this to occur by 2020. The bones thrown to survivalists include a claimed 12 million acres of floodplain management, 35 million acres of watershed management and 59 million acres of land treated to reduce sediment and erosion from runoff, all of course subject to the "rights" of agriculture to "grow and prosper". It is not likely that any of these desirable features will actually be implemented

if the constraints in the previously quoted passages are actually imposed. In fact, section 4.07 states that this land management program will actually result in more clearing, more intensive agriculture and higher stream loads of chemicals.

The framework plan further includes 1.5 million more acres for fish and wildlife, in addition to the 2.0 million acres available today. This additional availability will be accomplished by easements and fee purchases, supposedly.

Section 3.04: "The recommended plan for environmental quality includes measures to preserve land areas with aesthetic qualities or other attributes worthy of preservation for the enjoyment of future generations". As though environmental quality were only a matter of enjoyment and not a matter of survival just as much as "higher priority needs for food and fiber production".

All the navigation development is based on a waterborne traffic load projection for 2020 which is nearly five times that of 1970. How can such a claim be justified? Such a doubtful claim must be justified before it can be accepted.

Section 4.09 is difficult to interpret but seems to say that forests will be sacrificed to food production (highest priority needs), particularly "minor tracts of bottom-land hardwood forests", but all other needs will be met:

Section 4.09 says in full: "High priority land uses to provide for satisfaction of food and fiber, transportation, and urban and built-up needs will exceed the region's land resources base before year 2000. The framework program is designed to satisfy as many as possible of these needs, but at the same time it provides for the short-term satisfaction of all needs for recreation, fish and wildlife, and environmental quality purposes except for minor tracts of bottom-land hardwood forests. The short-term allocation of lands to satisfy highest priority needs for food production and open land related activities will cause a widening disparity between forest availability and forest needs. In addition, the need for reservoirs, levees, and other flood protection measures to insure agricultural production require other regional land use changes."

These "other regional land use changes" are left to the imagination, but it seems obvious that the plan visualizes the final eradication of the bottomland hardwood forest, already desperately depleted to the point that only "minor tracts" remain. This conclusion is reinforced by the plan's projection of only 2,900 acres of "Natural Environment" in all of Southeast Arkansas and Northeast Louisiana and only 25,000 acres in all of East Mississippi. These planning areas were chosen as examples because they are almost exclusively bottom-land. Each does, however, include some upland, so if a significant portion of each of these is actually upland "Natural Environment" then the situation in the bottomlands might even be worse than it seems, if such a thing is possible.

Section 5, titled "Adverse Environmental Effects" is amazing. In 63 words, it says there will be some adverse effects, but that they have already been stated and won't be repeated again. Looking back through the report confirms that an occasional sentence was indeed devoted to adverse effects but that's all.

The Framers supposedly considered five alternative plans including the recommended plan, a "no action" plan, a plan with much greater economic development (the "Regional Development" Plan), a plan with somewhat greater economic development (the "National Income" Plan) and a plan with somewhat less emphasis on economic development (the "Environmental Quality" Plan). It is doubtful that any of these alternatives were actually considered during the planning process but were simply chosen to have two plans having more economic emphasis and two having more environmental emphasis so the recommended plan would look like a "middle of the road" plan. In reality, the recommended plan shows as much unconcern for the environment as the Framers apparently thought they could get away with. In fact, the "No Action" plan is not "no action" but rather assumes that all current and proposed projects will be completed

without any overriding plan. Therefore instead of a "no action" plan, it is a "no plan" action. The alternative of no new dams or ditches, maximum emphasis on floodplain management, silt control, and most effective use of the resource consistent with respect for the environment has not been considered, or probably even conceived of by the Framers. Even the discussion of the "Environmental Quality" plan begins with this promise:

"Recognizing that there is more to life than the outdoors, formulation of this objective included both economic and natural environmental considerations but nature was given top priority".

Nowhere in the plan is reflected the philosophy of the Comprehensive Study staff's own "Ad Hoc Environmental Committee Report" which was presented in 1971. That report said in part:

"Realizing that further environmental degradation will inevitably result from land clearing, and because these lands offer high quality wildlife habitat, the Committee recommends that the remaining delta woodlands be maintained intact".

The committee recommended that most floodway lands be dedicated for recreation and wildlife purposes and that in particular a land use plan be prepared for the Mississippi River Batture Lands. It also recognized that "Terrestrial pollution entering the estuarine areas induce excessive stresses on the most vital portion of the life cycle of both sport and marine fishes and invertebrates", and recommended that these resources be given special consideration.

It recommended that ....

"... complete prohibition of actions which destroy clean air, clean water, pleasing landscape, and diversity should be recognized as a legitimate planning alternative".

Also: "Planners should ... reserve options for future generations".

And finally:

"The most important contribution this Committee can make is to insist on the necessity of providing for broad planning efforts early in the project planning, requiring a select cross-section of disciplines to study not only the physical nature of the problem but also the biological, sociological and ecological equilibrium of a truly diversified environment".

The failure of the DEIS to reflect the philosophy of the ad hoc environmental committee is, it seems, the greatest tragedy of the LMRCS. It represents an opportunity foregone, an opportunity to accurately analyze present and future land-use problems and needs and to analyze these needs without prejudice, without preconceptions that any needs have priority over other needs, an opportunity to develop sorely-needed information on the interactions between projects and, instead of accepting sociological and ecological degradation as the price of meeting the needs for food and fiber production, to instead develop the framework for a program which would lead to the "sociological and ecological equilibrium of a diversified environment".