

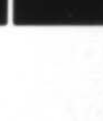
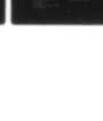
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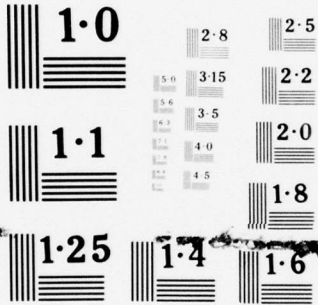
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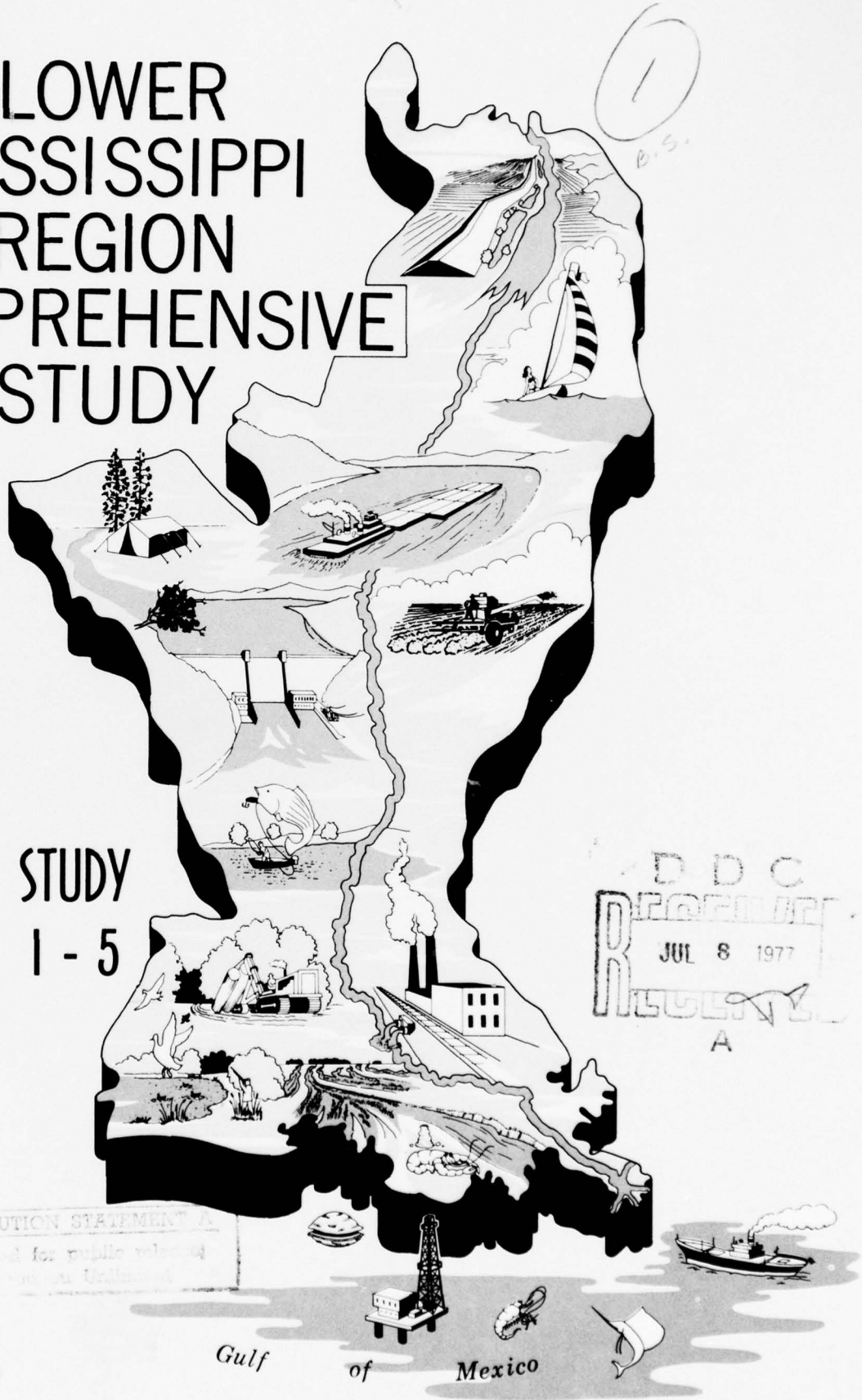


NATIONAL BUREAU OF STANDARDS
MICROCOPY RESOLUTION TEST CHART

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LOWER MISSISSIPPI REGION COMPREHENSIVE STUDY

PLAN OF STUDY ANNEXES 1 - 5



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⑥ LOWER MISSISSIPPI REGION COMPREHENSIVE STUDY
Plan of Study. Annexes 1-5.

LIST OF ANNEXES

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TITLE



Contents:

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- 1. ORGANIZATION CHART;
- 2. LIST OF COMMITTEES;
- 3. LIST OF POSSIBLE MEASURES TO SATISFY DEMANDS;
- 4. ESTIMATED STUDY COST; and
- 5. DIRECTORY,

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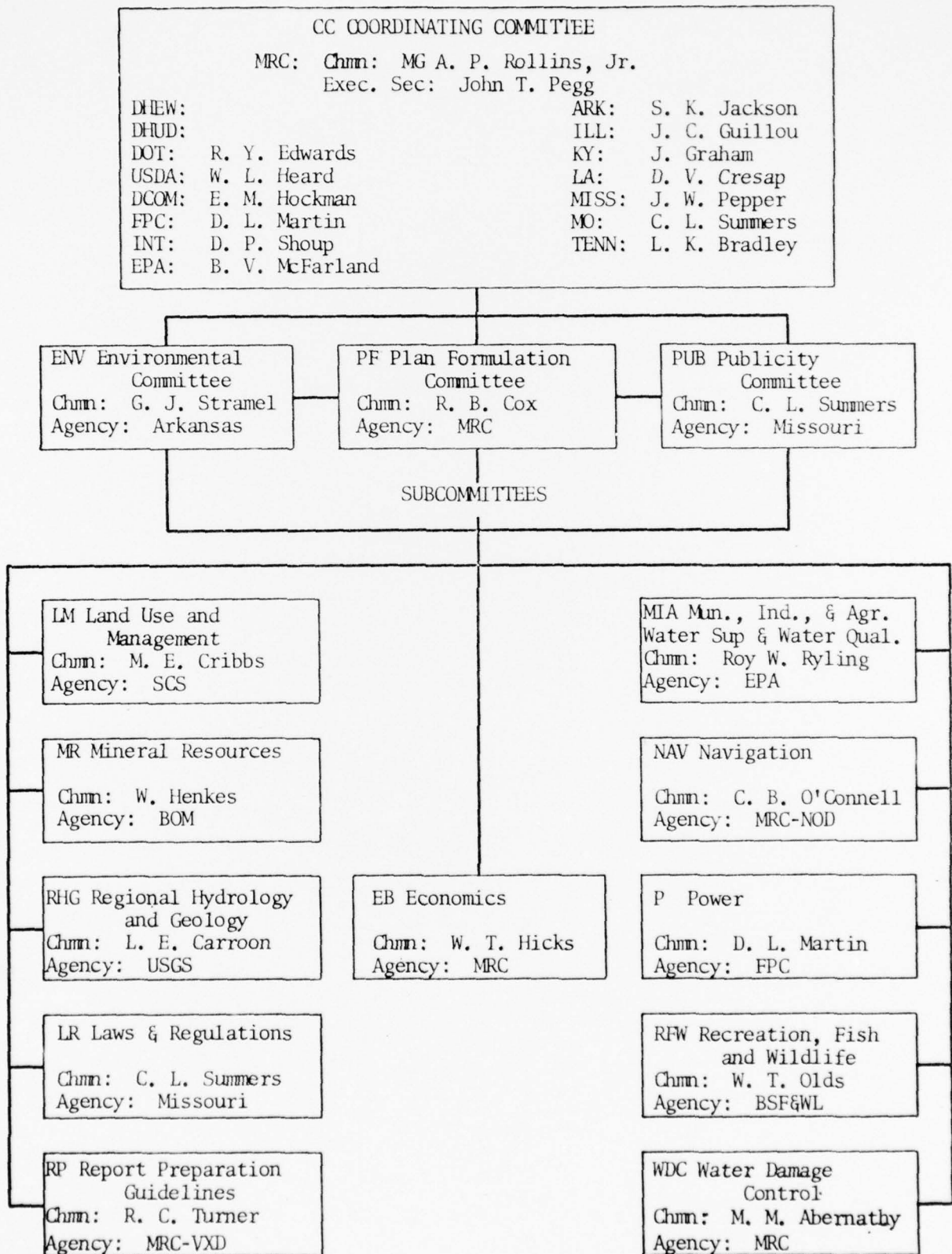
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LOWER MISSISSIPPI REGION
COMPREHENSIVE STUDY

ORGANIZATION CHART

ANNEX NO. 1

LOWER MISSISSIPPI REGION COMPREHENSIVE STUDY
ORGANIZATION CHART



LOWER MISSISSIPPI REGION

COMPREHENSIVE STUDY

LIST OF COMMITTEES

ANNEX NO. 2

LOWER MISSISSIPPI REGION COMPREHENSIVE STUDY

SUBCOMMITTEE AND STUDY ELEMENT

Agency	Members
EB Economics - (a. Economic Base)	
Mississippi River Commission - Lead	W. T. Hicks
	Alt: H. R. Gardner
Memphis District - MRC	C. H. Lewandoski
Vicksburg District - MRC	W. B. Hobgood
New Orleans District - MRC	E. K. Johnson
Economic Research Service	M. B. Allen
Department of Commerce (OBE)	H. L. DeGraff
Forest Service	E. I. Swenson
Bureau of Outdoor Recreation	G. G. Davidson
Southwestern Power Administration	A. J. Hickerson
Water Quality Office	R. W. Ryling
Dept. of Housing & Urban Development	R. Hawkins
Department of Labor	J. Strickland
Department of Transportation	Jack Hartke
Arkansas	W. A. Heffelfinger
Illinois	J. C. Guillou
Kentucky	J. Graham
Louisiana	D. V. Cresap
	J. C. Webb
Mississippi	B. F. Smith
Missouri	Andrew Loebel
Tennessee	Bob Dean
	Kenneth Ackley
RHG Regional Hydrology & Geology - (b. Climate, Meteorology, and Hydrology; c. Geology and Ground Water)	
U. S. Geological Survey - Lead	L. E. Carroon
	Alt: M. D. Hale
Mississippi River Commission	E. A. Graves
Memphis District - MRC	E. F. Rubenstein
Vicksburg District - MRC	Roy O. Smith
New Orleans District - MRC	P. A. Becnel, Jr.
Soil Conservation Service	
	J. Jenkins
Department of Commerce (NOAA)	J. P. McCallister
Forest Service	E. I. Swensen
Water Quality Office	R. W. Ryling
Arkansas	R. G. Andrews (b)
	N. F. Williams (c)
Illinois	J. C. Guillou
Kentucky	J. Graham
Louisiana	E. T. Taylor (b and c)
	L. W. Hough (c)
Mississippi	J. W. Pepper (b and c)
Missouri	W. C. Hayes
Tennessee	L. K. Bradley

LOWER MISSISSIPPI REGION COMPREHENSIVE STUDY

SUBCOMMITTEE AND STUDY ELEMENT

Agency	Members
WDC Water Damage Control - (d and e. Flood Problems; i. Land Drainage; o. Coastal and Estuarine; and v. Inventory of Facilities)	
Mississippi River Commission - Lead	M. M. Abernathy
	Alt: T. R. Campbell
Memphis District - MRC	D. W. Wolfe
Vicksburg District - MRC	V. C. Ahlrich
New Orleans District - MRC	R. A. Buissor, Jr.
Soil Conservation Service	J. Langston
Department of Commerce (NOAA)	J. P. McCallister
Forest Service	E. I. Swensen
U. S. Geological Survey	M. D. Hale
Dept. of Housing & Urban Development	C. Emmons
Bureau of Outdoor Recreation	G. G. Davidson
Arkansas	R. G. Andrews
Illinois	J. C. Guillou
Kentucky	J. Graham
Louisiana	T. C. Morgan
Mississippi	A. Ensminger (o)
	Newman Bolls (d and e)
	Joe F. Mooney, Jr. (d and e)
	J. W. Pepper (f) (i)
Missouri	W. A. Lee
	L. Norbury (d and e)
Tennessee	James W. Pinkerton
MR Mineral Resources - (g. Related Mineral Resources)	
Bureau of Mines - Lead	W. C. Henkes
	Alt: H. C. Stewart
Mississippi River Commission	A. T. Stone
Arkansas	N. F. Williams
Illinois	J. C. Guillou
Kentucky	J. Graham
Louisiana	L. W. Hough
	A. Ensminger
Mississippi	W. H. Moore
Missouri	W. C. Hayes
Tennessee	Robert Hershey

LOWER MISSISSIPPI REGION COMPREHENSIVE STUDY

SUBCOMMITTEE AND STUDY ELEMENT

Agency	Members
MIA Municipal, Industrial, and Agricultural Water Supply and Water Quality - (h. Irrigation; k. Municipal, Rural Domestic, and Industrial Water Supply; l. Water Quality and Pollution; m. Health Aspects)	
Environmental Protection Agency - Lead	Roy W. Ryling
	Alt: W. Greene
Mississippi River Commission	C. H. Harris
Memphis District - MRC	S. T. Christian
Vicksburg District - MRC	St. C. Thompson
New Orleans District - MRC	J. F. Roy
Soil Conservation Service	R. H. Wells
	J. Jenkins
	B. T. Kuntz
Economic Research Service	
Dept. of Health, Education, & Welfare	M. D. Hale
U. S. Geological Survey	P. E. McKee
Federal Power Commission	C. Emmons
Dept. of Housing & Urban Development	K. L. Kollar
Bureau of Domestic Commerce	
Dept. of Transportation	
Bureau of Outdoor Recreation	G. G. Davidson
Bureau of Sport Fisheries & Wildlife	R. E. Eichhorn
Arkansas	A. Bryniarski (h)
	G. Kellogg (k and m)
	L. L. Cockman, Jr. (l)
Illinois	J. C. Guillou
Kentucky	J. Graham
Louisiana	E. J. Taylor (h, k, and l)
	R. Lafleur (l)
	J. E. Trygg (m)
Mississippi	J. W. Pepper (h and l)
	Glenn Wood, Jr. (l)
	J. D. Brown (m)
Missouri	W. A. Lee; L. F. Garber (m)
	L. Norbury (h)
	R. S. Miller (k)
	E. Lightfoot (l)
Tennessee	John M. Wilson
	James Church
NAV Navigation (j.)	
Mississippi River Commission (NOD) - Lead	C. B. O'Connell
Memphis District - MRC	N. D. Caldwell
Vicksburg District - MRC	W. B. Hobgood

LOWER MISSISSIPPI REGION COMPREHENSIVE STUDY

SUBCOMMITTEE AND STUDY ELEMENT

Agency	Members
NAV Navigation--continued	
Mississippi River Commission	H. R. Gardner
Department of Commerce	A. F. Brown
Department of Transportation	
Bureau of Outdoor Recreation	P. D. Adams
Arkansas	C. Olsson
Illinois	J. C. Guillou
Kentucky	J. Graham
Louisiana	A. R. Theis
Mississippi	J. W. Pepper
Missouri	C. L. Summers
Tennessee	
RFW Recreation and Fish & Wildlife - (n. Recreation; p. Aesthetic and Cultural Values; and q. Fish and Wildlife)	
Bureau of Sport Fisheries & Wildlife - Lead	W. T. Olds
	Alt: R. E. Eichhorn
Mississippi River Commission	C. H. Harris
Economic Research Service	B. T. Kuntz
Forest Service	E. I. Swensen
Dept. of Health, Education, & Welfare	
Bureau of Outdoor Recreation	G. G. Davidson
National Park Service	V. W. Flickinger
Federal Power Commission	
Water Quality Office	R. E. Austin
Dept. of Housing & Urban Development	
Soil Conservation Service	M. E. Cribbs
National Marine Fisheries Service (NOAA)	E. L. Arnold
	Alt: R. L. Schuler
Department of Transportation	
Arkansas	B. K. Bush (n)
	H. Alexander (p)
	Richard W. Broach
Illinois	J. C. Guillou
Kentucky	J. Graham
Louisiana	P. Ryan (n)
	D. W. Wills (p and q)
Mississippi	S. E. Medlin (n)
	Hugh Tatum (n)
	B. J. Cross (q)
	Alt: B. O. Freeman
Missouri	R. L. Dundeson
	W. H. Dieffenback (q)
Tennessee	Walter Criley

LOWER MISSISSIPPI REGION COMPREHENSIVE STUDY

SUBCOMMITTEE AND STUDY ELEMENT

Agency	Members
P Power (r. Power)	
Federal Power Commission - Lead	D. L. Martin
Mississippi River Commission	Alt: G. Townsend
Southwestern Power Administration	E. H. Ardahl
Arkansas	A. J. Hickerson
Illinois	S. K. Jackson
Kentucky	J. C. Guillou
Louisiana	J. Graham
Mississippi	D. Cresap
Missouri	J. Pepper
Tennessee	C. L. Summers
	L. K. Bradley
LM Land Use and Management - (f. Related Land Use and Management, and s. Sediment and Erosion)	
Soil Conservation Service - Lead	M. E. Cribbs
Mississippi River Commission	H. R. Gardner
Economic Research Service	M. B. Allen
Bureau of Sport Fisheries and Wildlife	R. E. Eichhorn
Bureau of Outdoor Recreation	Alt: W. T. Olds
Water Quality Office	G. G. Davidson
Forest Service	C. H. Hembree
Dept. of Housing & Urban Development	E. I. Swensen
Arkansas	D. Singletary
Illinois	R. G. Andrews
Kentucky	
Louisiana	W. P. Beedle (f and s)
Mississippi	D. W. Wills (f)
	Clarence H. Morgan (f)
Missouri	J. W. Pepper (s)
Tennessee	E. Glaser
	Jack S. Cuning
LR Laws and Regulations - (u. Legal and Institutional Environments)	
Missouri - Lead	C. L. Summers
Mississippi River Commission	T. R. Campbell
Soil Conservation Service	M. E. Cribbs
Office of Regional Solicitor, USDI	S. E. Taylor
Arkansas	J. F. Gibson, Jr.
Illinois	J. C. Guillou
Kentucky	J. Graham
Louisiana	H. J. Belanger
Mississippi	J. W. Pepper
Missouri	C. L. Summers
Tennessee	L. K. Bradley

LOWER MISSISSIPPI REGION COMPREHENSIVE STUDY

SUBCOMMITTEE AND STUDY ELEMENT

Agency	Members
PF Plan Formulation (t.)	
Mississippi River Commission - Lead	R. B. Cox
	Alt: T. R. Campbell
Work Unit WRPA 23	D. W. Wolfe
Work Unit WRPA 4567	V. C. Ahlrich
Work Unit WRPA 890	F. M. Chatry
Soil Conservation Service	M. E. Cribbs
Dept. of Housing & Urban Development	W. R. Yerkes
Economic Research Service	M. B. Allen
Forest Service	E. I. Swensen
U. S. Geological Survey	M. D. Hale
Bureau of Outdoor Recreation	G. G. Davidson
Bureau of Sport Fisheries and Wildlife	R. E. Eichhorn
National Park Service	V. W. Flickinger
Southwestern Power	A. J. Hickerson
Water Quality Office	R. W. Ryling
Department of Commerce	H. DeGraff
Department of Interior	K. Schroeder
Arkansas	S. K. Jackson
Illinois	J. C. Guillou
Kentucky	Jewell Graham
Louisiana	J. W. Pepper
Missouri	C. L. Summers
Tennessee	L. K. Bradley
	Kenneth Ackley

RP Report Preparation (w.)

Mississippi River Commission - Lead	R. C. Turner
Soil Conservation Service	M. E. Cribbs
U. S. Geological Survey	M. D. Hale
National Park Service	V. W. Flickinger
Water Quality Office	R. W. Ryling

LOWER MISSISSIPPI REGION COMPREHENSIVE STUDY

AD HOC COMMITTEES

<u>Agency</u>	<u>Members</u>
ENV Environmental	
Arkansas - Lead	G. J. Stramel
Mississippi River Commission	C. H. Harris
Department of Agriculture	M. E. Cribbs
Department of Interior	Paul D. Adams
Department of Transportation	
Illinois	John Carlisle
Kentucky	Herman D. Regan, Jr.
Louisiana	Gus Stacy III
Mississippi	Jack Pepper
Missouri	Bill Dieffenback
Tennessee	David Eberling
PUB Publicity	
Missouri - Lead	C. L. Summers
Dept. of Housing & Urban Development	Clyde Emmons
Louisiana	C. V. Cresap

LOWER MISSISSIPPI REGION COMPREHENSIVE STUDY

PLAN FORMULATION WORK GROUPS

Agency	Members
WRPA 1	
Plan Formulation Committee (membership listed on page 2-6).	
WRPA 2	
Mississippi River Commission, MD - Lead	D. W. Wolfe
Soil Conservation Service	M. E. Cribbs, Miss.
	J. H. Johnson, Ark.
	J. J. Walker, Mo.
Economic Research Service	M. B. Allen
Forest Service	E. I. Swensen
	Alt: L. B. Long
U. S. Geological Survey	L. E. Carroon
Bureau of Outdoor Recreation	G. G. Davidson
Bureau of Sport Fisheries & Wildlife	R. E. Eichhorn
National Park Service	V. W. Flickinger
Southwestern Power Administration	A. J. Hickerson
Water Quality Office	K. Kirkpatrick
	Alt: C. H. Hembree
Arkansas	R. G. Andrews
Missouri	Cliff Summers
WRPA 3	
Mississippi River Commission, MD - Lead	D. W. Wolfe
Soil Conservation Service	M. E. Cribbs, Miss.
	Charles Patton, Tenn.
Economic Research Service	M. B. Allen
Forest Service	E. I. Swensen
	Alt: L. B. Long
U. S. Geological Survey	L. E. Carroon
Bureau of Outdoor Recreation	G. G. Davidson
Bureau of Sport Fisheries & Wildlife	R. E. Eichhorn
National Park Service	V. W. Flickinger
Southwestern Power Administration	A. J. Hickerson
Water Quality Office	K. Kirkpatrick
	Alt: C. H. Hembree
Illinois	L. M. Pipkin
Kentucky	Jewell Graham
Mississippi	J. W. Pepper
Tennessee	K. A. Ackley

LOWER MISSISSIPPI REGION COMPREHENSIVE STUDY

PLAN FORMULATION WORK GROUPS

Agency	Members
WRPA 4 and 7	
Mississippi River Commission, VXD - Lead	V. C. Ahlrich
Soil Conservation Service	M. E. Cribbs
Forest Service	E. I. Swensen
Economic Research Service	M. B. Allen
U. S. Geological Survey	L. E. Carroon
Bureau of Outdoor Recreation	G. G. Davidson
Bureau of Sport Fisheries and Wildlife	R. E. Eichhorn
National Park Service	V. W. Flickinger
Water Quality Office	K. Kirkpatrick
	Alt: C. H. Hembree
Southwestern Power Administration	A. J. Hickerson
Mississippi	J. W. Pepper
WRPA 5 and 6	
Mississippi River Commission, VXD - Lead	V. C. Ahlrich
Soil Conservation Service	M. E. Cribbs
Forest Service	E. I. Swensen
Economic Research Service	M. B. Allen
U. S. Geological Survey	L. E. Carroon
Bureau of Outdoor Recreation	G. G. Davidson
Bureau of Sport Fisheries and Wildlife	R. E. Eichhorn
National Park Service	V. W. Flickinger
Southwestern Power Administration	A. J. Hickerson
Water Quality Office	K. Kirkpatrick
	Alt: C. H. Hembree
Arkansas	S. K. Jackson
Louisiana	A. R. Theis
	Alt: T. C. Morgan
WRPA 8	
Mississippi River Commission, NOD - Lead	F. M. Chatry
Economic Research Service	M. B. Allen
Bureau of Outdoor Recreation	G. G. Davidson
Bureau of Sport Fisheries & Wildlife	R. E. Eichhorn
U. S. Geological Survey	M. D. Hale
National Park Service	V. W. Flickinger
Southwestern Power Administration	A. J. Hickerson
Water Quality Office	K. Kirkpatrick
Forest Service	E. I. Swensen
Soil Conservation Service	M. E. Cribbs
Louisiana	A. R. Theis
Mississippi	J. W. Pepper

LOWER MISSISSIPPI REGION COMPREHENSIVE STUDY

PLAN FORMULATION WORK GROUPS

<u>Agency</u>	<u>Members</u>
WRPA 9 and 10	
Mississippi River Commission, NOD - Lead	F. M. Chatry
Economic Research Service	M. B. Allen
Bureau of Outdoor Recreation	G. G. Davidson
Bureau of Sport Fisheries & Wildlife	R. E. Eichhorn
	Alt: W. T. Olds
U. S. Geological Survey	Rex R. Meyer
National Park Service	V. W. Flickinger
Southwestern Power Administration	A. J. Hickerson
Water Quality Office	K. Kirkpatrick
Forest Service	E. I. Swensen
Soil Conservation Service	M. E. Cribbs
Louisiana	A. R. Theis

LOWER MISSISSIPPI REGION
COMPREHENSIVE STUDY

LIST OF POSSIBLE MEASURES TO SATISFY DEMANDS

ANNEX NO. 3

PLAN FORMULATION

POSSIBLE MEASURES TO SATISFY WATER RESOURCE DEMANDS

<u>DEMAND</u>	<u>MEASURES</u>
Municipal and Industrial Water Supply & Irrigation	Well (MGD) River intake Lake intake Storage (1000 Ac-Ft) Treatment plant (MGD) Diversion, interbasin (MGD) Diversion, intrabasin (MGD) Tunnel pipeline (miles) Pumping station (number & C.F.S. capacity) Aqueduct (miles)
Power Cooling	Cooling tower River intake Lake intake Estuarine intake Ocean intake Non-condensing facilities
Hydroelectric	Conventional storage (Ac-Ft) Pumped storage (Ac-Ft)
Navigation	Channel improvement (miles) Harbor improvement Diversion of cargo (tonnage) Rehabilitation of locks Removal of obstructions Offshore facilities Navigation aids Breakwater & jetty construction (No.) Recreational harbors (No.) Dikes (miles)
Water Oriented Recreation (Recreation-days)	Expand existing sites (1000 Ac) Provide facilities at existing undeveloped water bodies New reservoirs a. Surface area (1000 Ac) b. Storage (1000 Ac-Ft)

Possible Measures to Satisfy Water Resource Demands

<u>DEMAND</u>	<u>MEASURES</u>
Water Oriented Recreation (cont'd)	Change in design load of facilities Navigation improvement Beach erosion control Access Hiking trails (miles) Shoreline (miles)
Fishing	Open existing reservoirs New res. surf. area 1000 acres Maintain exist. habitat quality Meet W. Q. standards Land acquisition (1000 Ac) Provide access Install fishways (No.) Trout stocking
Wildlife	Small game stocking Wildlife habitat (1000 Ac) Wildlife access Increased management
Liquid Waste Disposal	Secondary treatment 85% Secondary treatment 90% Adv. waste treatment 95% Low flow augmentation (C.F.S.) Nutrient control Stormwater discharge control Thermo discharge control Acid mine drainage control Septic tank control Separate combined sewers Research
Flood Control	<u>Upstream</u> Flood plain management (1000 Ac) Storage (1000 Ac-Ft) Channels (miles) Watershed management <u>Mainstem</u> Flood plain management (1000 Ac) Storage (1000 Ac-Ft) Levees & floodwalls (miles) Channels (miles) Pumping plants (No. & C.F.S.) Bank stabilization (miles) Dikes (No.)

Possible Measures to Satisfy Water Resource Demands

<u>DEMAND</u>	<u>MEASURES</u>
Drainage	Watershed management Channel improvement (miles)
Erosion	Land treatment (1000 Ac) Bank stabilization a. Revetment (miles) b. Dikes (No.)
Health Aspects	Insect control Legal measures
Visual and Cultural Environment	Lands: Purchase - Fee simple (1000 Ac) Leases (1000 Ac) Easements (1000 Ac) Deed restrictions Zoning (1000 Ac) Tax incentive - subsidy Impoundments: Augment low flows (C.F.S.) Provide dilution flows (C.F.S.) Require higher waste-treatment standards (secondary or primary) Require adequate waste-disposal facilities Provide recreational facilities Provide wildlife facilities Require flood plain management (1000 Ac) Require reforestation programs (1000 Ac) Require watershed management programs
Legal	Water quality Zoning Control Interstate agreements Constitutional amendments International pacts Legislation Education Institutional constraints
Shore Protection	Sand fill (1000 Ac) Groins (No.) Seawall & Revetment (miles) Dunes Zoning Building codes Evacuation

LOWER MISSISSIPPI REGION
COMPREHENSIVE STUDY

ESTIMATED STUDY COST

ANNEX NO. 4

TABLE 1 - ESTIMATES OF COST FOR MAJOR ELEMENTS BY AGENCY

LOWER MISSISSIPPI REGION
FEDERAL AND NON-FEDERAL

(In \$1,000)

Study elements	Total cost	Fiscal year costs			
		1970	1971	1972	1973
1. Preliminary planning	70.0	66.0	4.0		
2. Public relations activities	39.0	7.0	9.0	14.0	9.0
3. Study management	304.5	29.5	101.0	96.0	78.0
4. Studies and investigations (as applicable)	(2931.5)	(397.5)	(1056.0)	(1011.5)	(466.5)
a. Economic base	265.5	40.0	99.5	94.0	32.0
b. Climate, meteorology, and hydrology	187.0	27.0	87.0	60.0	13.0
c. Geology and groundwater	83.0	7.0	42.0	30.0	4.0
d. and e. Flood problems	406.5	26.0	180.5	153.0	47.0
f. Related land use and management	211.5	35.5	104.0	55.0	17.0
g. Related mineral resources	15.0	4.0	7.0	4.0	
h. Irrigation	40.0	4.0	12.0	24.0	
i. Land drainage	25.0	2.0	9.0	14.0	
j. Navigation	91.0	6.0	33.0	42.0	10.0
k. Municipal and industrial water supply	183.0	67.5	63.5	45.0	7.0
l. Water quality and pollution	174.5	54.5	67.0	45.0	8.0
m. Health aspects	48.0	9.0	16.0	19.0	4.0
n. Recreation	112.0	4.0	48.0	45.0	15.0
o. Coastal and estuarine	53.0	21.0	18.0	11.0	3.0
p. Aesthetic and cultural values	79.5	12.5	37.0	19.0	11.0
q. Fish and wildlife	199.0	50.0	102.0	36.0	11.0
r. Power	16.0	1.5	7.0	5.0	2.5
s. Sediment and erosion	73.0	18.0	33.0	18.0	4.0
t. Plan formulation	371.5	7.5	69.5	178.5	116.0
u. Legal and institutional	21.5	.5	3.0	10.0	8.0
v. Inventory of facilities	15.0		5.0	10.0	
w. Report preparation guidelines	261.0		13.0	94.0	154.0
5. Printing	51.0		2.5	14.0	34.5
6. Contingencies	149.0		42.5	59.5	47.0
Total - Federal	3545.0	500.0	1215.0	1195.0	635.0
Non-Federal States <u>/1</u>	324.5	36.5	125.0	104.0	59.0
Total Federal & Non-Federal	3869.5	536.5	1340.0	1299.0	694.0

/1 State costs are lump sum and are not distributed to study elements.

TABLE 2 - ESTIMATES OF COST FOR MAJOR ELEMENTS BY AGENCY

LOWER MISSISSIPPI REGION
DEPARTMENT OF AGRICULTURE (Federal)

(In \$1,000)

Study elements	Total cost	Fiscal year costs			
		1970	1971	1972	1973
1. Preliminary planning	19.0	17.0	2.0		
2. Public relations activities	4.0		1.0	2.0	1.0
3. Study management	71.0	10.0	22.0	20.0	19.0
4. Studies and investigations (as applicable)	(664.0)	(87.0)	(278.0)	(190.0)	(109.0)
a. Economic base	58.0	12.0	28.0	8.0	10.0
b. Climate, meteorology, and hydrology	14.0	2.0	7.0	5.0	
c. Geology and groundwater					
d. and e. Flood problems	133.0	20.0	71.0	30.0	12.0
f. Related land use and management	155.0	24.0	73.0	41.0	17.0
g. Related mineral resources					
h. Irrigation	38.0	4.0	11.0	23.0	
i. Land drainage	25.0	2.0	9.0	14.0	
j. Navigation	4.0			4.0	
k. Municipal and industrial water supply	6.0		3.0	3.0	
l. Water quality and pollution	11.0		4.0	7.0	
m. Health aspects					
n. Recreation	19.0	2.0	10.0	7.0	
o. Coastal and estuarine	2.0		2.0		
p. Aesthetic and cultural values	13.0		8.0	5.0	
q. Fish and wildlife	13.0	3.0	7.0	3.0	
r. Power					
s. Sediment and erosion	60.0	18.0	27.0	11.0	4.0
t. Plan formulation	66.0		16.0	21.0	29.0
u. Legal and institutional	2.0			1.0	1.0
v. Inventory of facilities					
w. Report preparation guidelines	45.0		2.0	7.0	36.0
5. Printing					
6. Contingencies	25.0		11.0	6.0	8.0
Total	783.0	114.0	314.0	218.0	137.0
Source of Funds:					
Direct appropriation	669.0		314.0	218.0	137.0
Transfer from Army	114.0	114.0			
Transfer from					
Total	783.0	114.0	314.0	218.0	137.0

TABLE 2 - ESTIMATES OF COST FOR MAJOR ELEMENTS BY AGENCY

LOWER MISSISSIPPI REGION
DEPARTMENT OF AGRICULTURE (Federal)

(In \$1,000)

Study elements	Total cost	Fiscal year costs			
		1970	1971	1972	1973
1. Preliminary planning	13.0	13.0			
2. Public relations activities	4.0		1.0	2.0	1.0
3. Study management	39.0	5.0	11.0	11.0	12.0
4. Studies and investigations (as applicable)	(395.0)	(59.0)	(186.0)	(93.0)	(57.0)
a. Economic base	5.0	1.0	4.0		
b. Climate, meteorology, and hydrology	10.0	2.0	5.0	3.0	
c. Geology and groundwater					
d. and e. Flood problems	107.0	17.0	57.0	23.0	10.0
f. Related land use and management	88.0	16.0	46.0	18.0	8.0
g. Related mineral resources					
h. Irrigation	17.0	1.0	8.0	8.0	
i. Land drainage	15.0	2.0	6.0	7.0	
j. Navigation					
k. Municipal and industrial water supply	6.0		3.0	3.0	
l. Water quality and pollution	7.0		4.0	3.0	
m. Health aspects					
n. Recreation	10.0	2.0	6.0	2.0	
o. Coastal and estuarine	2.0		2.0		
p. Aesthetic and cultural values	10.0		6.0	4.0	
q. Fish and wildlife	10.0	2.0	6.0	2.0	
r. Power					
s. Sediment and erosion	47.0	16.0	23.0	6.0	2.0
t. Plan formulation	35.0		10.0	11.0	14.0
u. Legal and institutional	2.0			1.0	1.0
v. Inventory of facilities					
w. Report preparation guidelines	24.0			2.0	22.0
5. Printing					
6. Contingencies	24.0		11.0	6.0	7.0
Total	475.0	77.0	209.0	112.0	77.0
Source of Funds:					
Direct appropriation	398.0		209.0	112.0	77.0
Transfer from Army	77.0	77.0			
Transfer from					
Total	475.0	77.0	209.0	112.0	77.0

TABLE 2 - ESTIMATES OF COST FOR MAJOR ELEMENTS BY AGENCY

LOWER MISSISSIPPI REGION
Forest Service (Federal)
DEPARTMENT OF AGRICULTURE (Federal)

(In \$1,000)

Study elements	Total cost	Fiscal year costs			
		1970	1971	1972	1973
1. Preliminary planning	4.0	2.0	2.0		
2. Public relations activities					
3. Study management	22.0	3.0	8.0	7.0	4.0
4. Studies and investigations (as applicable)	(93.0)	(11.0)	(29.0)	(29.0)	(24.0)
a. Economic base	21.0	3.0	6.0	6.0	6.0
b. Climate, meteorology, and hydrology	4.0		2.0	2.0	
c. Geology and groundwater					
d. and e. Flood problems	9.0	1.0	4.0	2.0	2.0
f. Related land use and management	24.0	4.0	9.0	8.0	3.0
g. Related mineral resources					
h. Irrigation					
i. Land drainage					
j. Navigation					
k. Municipal and industrial water supply					
l. Water quality and pollution					
m. Health aspects					
n. Recreation	3.0		2.0	1.0	
o. Coastal and estuarine					
p. Aesthetic and cultural values	3.0		2.0	1.0	
q. Fish and wildlife	3.0	1.0	1.0	1.0	
r. Power					
s. Sediment and erosion	10.0	2.0	3.0	3.0	2.0
t. Plan formulation	5.0			2.0	3.0
u. Legal and institutional					
v. Inventory of facilities					
w. Report preparation guidelines	11.0			3.0	8.0
5. Printing					
6. Contingencies					
Total	119.0	16.0	39.0	36.0	28.0
Source of Funds:					
Direct appropriation	103.0		39.0	36.0	28.0
Transfer from Army	16.0	16.0			
Transfer from					
Total	119.0	16.0	39.0	36.0	28.0

TABLE 2 - ESTIMATES OF COST FOR MAJOR ELEMENTS BY AGENCY

LOWER MISSISSIPPI REGION
Economic Research Service (Federal)
DEPARTMENT OF AGRICULTURE

(In \$1,000)

Study elements	Total cost	Fiscal year costs			
		1970	1971	1972	1975
1. Preliminary planning	2.0	2.0			
2. Public relations activities					
3. Study management	10.0	2.0	3.0	2.0	3.0
4. Studies and investigations (as applicable)	(176.0)	(17.0)	(63.0)	(68.0)	(28.0)
a. Economic base	32.0	8.0	18.0	2.0	4.0
b. Climate, meteorology, and hydrology					
c. Geology and groundwater					
d. and e. Flood problems	17.0	2.0	10.0	5.0	
f. Related land use and management	43.0	4.0	18.0	15.0	6.0
g. Related mineral resources					
h. Irrigation	21.0	3.0	3.0	15.0	
i. Land drainage	10.0		3.0	7.0	
j. Navigation	4.0			4.0	
k. Municipal and industrial water supply					
l. Water quality and pollution	4.0			4.0	
m. Health aspects					
n. Recreation	6.0		2.0	4.0	
o. Coastal and estuarine					
p. Aesthetic and cultural values					
q. Fish and wildlife					
r. Power					
s. Sediment and erosion	3.0		1.0	2.0	
t. Plan formulation	26.0		6.0	8.0	12.0
u. Legal and institutional					
v. Inventory of facilities					
w. Report preparation guidelines	10.0		2.0	2.0	6.0
5. Printing					
6. Contingencies	1.0				1.0
Total	189.0	21.0	66.0	70.0	32.0
Source of Funds:					
Direct appropriation	168.0		66.0	70.0	32.0
Transfer from Army	21.0	21.0			
Transfer from					
Total	189.0	21.0	66.0	70.0	32.0

TABLE 2 - ESTIMATES OF COST FOR MAJOR ELEMENTS BY AGENCY

LOWER MISSISSIPPI REGION
MISSISSIPPI RIVER COMMISSION (Federal)

(In \$1,000)

Study elements	Total cost	Fiscal year costs			
		1970	1971	1972	1973
1. Preliminary planning	35.5	33.5	2.0		
2. Public relations activities	17.0	1.0	2.0	7.0	7.0
3. Study management	186.0	9.0	65.0	64.0	48.0
4. Studies and investigations (as applicable)	(1367.5)	(195.5)	(414.0)	(520.0)	(248.0)
a. Economic base	107.5	9.5	38.0	44.0	16.0
b. Climate, meteorology, and hydrology	152.0	23.0	68.0	48.0	13.0
c. Geology and groundwater	13.0		5.0	8.0	
d. and e. Flood problems	252.0	4.0	97.0	116.0	35.0
f. Related land use and management					
g. Related mineral resources					
h. Irrigation	2.0		1.0	1.0	
i. Land drainage					
j. Navigation	80.0	3.0	31.0	36.0	10.0
k. Municipal and industrial water supply	90.0	50.0	23.0	13.0	4.0
l. Water quality and pollution	76.0	45.0	19.0	9.0	3.0
m. Health aspects	2.0		1.0	1.0	
n. Recreation	17.0		7.0	7.0	3.0
o. Coastal and estuarine	48.0	21.0	14.0	10.0	3.0
p. Aesthetic and cultural values	14.0		3.0	7.0	4.0
q. Fish and wildlife	116.0	38.0	62.0	13.0	3.0
r. Power	2.0			2.0	
s. Sediment and erosion	13.0		6.0	7.0	
t. Plan formulation	232.0	2.0	20.0	140.0	70.0
u. Legal and institutional	14.0		2.0	8.0	4.0
v. Inventory of facilities	15.0		5.0	10.0	
w. Report preparation guidelines	122.0		2.0	40.0	80.0
5. Printing	37.0		1.0	6.0	30.0
6. Contingencies	85.0		20.0	40.0	25.0
Total	1728.0	239.0	494.0	637.0	358.0
Source of Funds:					
Direct appropriation	1728.0	239.0	494.0	637.0	358.0
Transfer from					
Transfer from					
Total	1728.0	239.0	494.0	637.0	358.0

TABLE 2 - ESTIMATES OF COST FOR MAJOR ELEMENTS BY AGENCY

LOWER MISSISSIPPI REGION
DEPARTMENT OF COMMERCE (Federal)

(In \$1,000)

Study elements	Total cost	Fiscal year costs			
		1970	1971	1972	1973
1. Preliminary planning					
2. Public relations activities					
3. Study management	11.0	4.0	3.0	2.0	2.0
4. Studies and investigations (as applicable)	138.0	36.0	27.0	60.0	15.0
a. Economic base	58.0	15.0	5.0	32.0	6.0
b. Climate, meteorology, and hydrology	5.0	1.0	2.0	2.0	
c. Geology and groundwater					
d. and e. Flood problems	6.5	1.0	2.5	3.0	
f. Related land use and management					
g. Related mineral resources					
h. Irrigation					
i. Land drainage					
j. Navigation	7.0	3.0	2.0	2.0	
k. Municipal and industrial water supply	32.5	11.0	5.5	14.0	2.0
l. Water quality and pollution					
m. Health aspects					
n. Recreation					
o. Coastal and estuarine					
p. Aesthetic and cultural values					
q. Fish and wildlife	26.0	5.0	10.0	5.0	6.0
r. Power					
s. Sediment and erosion					
t. Plan formulation					
u. Legal and institutional					
v. Inventory of facilities					
w. Report preparation guidelines	3.0			2.0	1.0
5. Printing					
6. Contingencies	1.0				1.0
Total	150.0	40.0	30.0	62.0	18.0
Source of Funds:					
Direct appropriation	80.0			62.0	18.0
Transfer from Army	70.0	40.0	30.0		
Transfer from					
Total	150.0	40.0	30.0	62.0	18.0

TABLE 2 - ESTIMATES OF COST FOR MAJOR ELEMENTS BY AGENCY

LOWER MISSISSIPPI REGION
 BUREAU OF DOMESTIC COMMERCE (Federal)
 DEPARTMENT OF COMMERCE

(In \$1,000)

Study elements	Total cost	Fiscal year costs			
		1970	1971	1972	1973
1. Preliminary planning					
2. Public relations activities					
3. Study management					
4. Studies and investigations (as applicable)	(32.5)	(11.0)	(5.5)	(14.0)	(2.0)
a. Economic base					
b. Climate, meteorology, and hydrology					
c. Geology and groundwater					
d. and e. Flood problems					
f. Related land use and management					
g. Related mineral resources					
h. Irrigation					
i. Land drainage					
j. Navigation					
k. Municipal and industrial water supply	32.5	11.0	5.5	14.0	2.0
l. Water quality and pollution					
m. Health aspects					
n. Recreation					
o. Coastal and estuarine					
p. Aesthetic and cultural values					
q. Fish and wildlife					
r. Power					
s. Sediment and erosion					
t. Plan formulation					
u. Legal and institutional					
v. Inventory of facilities					
w. Report preparation guidelines					
5. Printing					
6. Contingencies					
Total	32.5	11.0	5.5	14.0	2.0
Source of Funds:					
Direct appropriation	16.0			14.0	2.0
Transfer from Army	16.5	11.0	5.5		
Transfer from					
Total	32.5	11.0	5.5	14.0	2.0

TABLE 2 - ESTIMATES OF COST FOR MAJOR ELEMENTS BY AGENCY

LOWER MISSISSIPPI REGION
 NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (Federal)
 DEPARTMENT OF COMMERCE

(In \$1,000)

Study elements	Total cost	Fiscal year costs			
		1970	1971	1972	1973
1. Preliminary planning					
2. Public relations activities					
3. Study management	4.0	1.0	1.0	1.0	1.0
4. Studies and investigations (as applicable)	(13.5)	(2.0)	(4.5)	(6.0)	(1.0)
a. Economic base					
b. Climate, meteorology, and hydrology	5.0	1.0	2.0	2.0	
c. Geology and groundwater					
d. and e. Flood problems	6.5	1.0	2.5	3.0	
f. Related land use and management					
g. Related mineral resources					
h. Irrigation					
i. Land drainage					
j. Navigation					
k. Municipal and industrial water supply					
l. Water quality and pollution					
m. Health aspects					
n. Recreation					
o. Coastal and estuarine					
p. Aesthetic and cultural values					
q. Fish and wildlife					
r. Power					
s. Sediment and erosion					
t. Plan formulation					
u. Legal and institutional					
v. Inventory of facilities					
w. Report preparation guidelines	2.0			1.0	1.0
5. Printing					
6. Contingencies					
Total	17.5	3.0	5.5	7.0	2.0
Source of Funds:					
Direct appropriation	9.0			7.0	2.0
Transfer from Army	8.5	3.0	5.5		
Transfer from					
Total	17.5	3.0	5.5	7.0	2.0

TABLE 2 - ESTIMATES OF COST FOR MAJOR ELEMENTS BY AGENCY

LOWER MISSISSIPPI REGION
OFFICE OF BUSINESS ECONOMICS (Federal)
DEPARTMENT OF COMMERCE

(In \$1,000)

Study elements	Total cost	Fiscal year costs			
		1970	1971	1972	1973
1. Preliminary planning					
2. Public relations activities					
3. Study management					
4. Studies and investigations (as applicable)	(58.0)	(15.0)	(5.0)	(32.0)	(6.0)
a. Economic base	58.0	15.0	5.0	32.0	6.0
b. Climate, meteorology, and hydrology					
c. Geology and groundwater					
d. and e. Flood problems					
f. Related land use and management					
g. Related mineral resources					
h. Irrigation					
i. Land drainage					
j. Navigation					
k. Municipal and industrial water supply					
l. Water quality and pollution					
m. Health aspects					
n. Recreation					
o. Coastal and estuarine					
p. Aesthetic and cultural values					
q. Fish and wildlife					
r. Power					
s. Sediment and erosion					
t. Plan formulation					
u. Legal and institutional					
v. Inventory of facilities					
w. Report preparation guidelines					
5. Printing					
6. Contingencies					
Total	58.0	15.0	5.0	32.0	6.0
Source of Funds:					
Direct appropriation	38.0			32.0	6.0
Transfer from Army	20.0	15.0	5.0		
Transfer from					
Total	58.0	15.0	5.0	32.0	6.0

TABLE 2 - ESTIMATES OF COST FOR MAJOR ELEMENTS BY AGENCY

LOWER MISSISSIPPI REGION
MARITIME ADMINISTRATION (Federal)
DEPARTMENT OF COMMERCE

(In \$1,000)

Study elements	Total cost	Fiscal year costs			
		1970	1971	1972	1973
1. Preliminary planning					
2. Public relations activities					
3. Study management	7.0	3.0	2.0	1.0	1.0
4. Studies and investigations (as applicable)	(8.0)	(3.0)	(2.0)	(3.0)	
a. Economic base					
b. Climate, meteorology, and hydrology					
c. Geology and groundwater					
d. and e. Flood problems					
f. Related land use and management					
g. Related mineral resources					
h. Irrigation					
i. Land drainage					
j. Navigation	7.0	3.0	2.0	2.0	
k. Municipal and industrial water supply					
l. Water quality and pollution					
m. Health aspects					
n. Recreation					
o. Coastal and estuarine					
p. Aesthetic and cultural values					
q. Fish and wildlife					
r. Power					
s. Sediment and erosion					
t. Plan formulation					
u. Legal and institutional					
v. Inventory of facilities					
w. Report preparation guidelines	1.0			1.0	
5. Printing					
6. Contingencies	1.0				1.0
Total	16.0	6.0	4.0	4.0	2.0
Source of Funds:					
Direct appropriation	6.0			4.0	2.0
Transfer from CE	10.0	6.0	4.0		
Transfer from					
Total	16.0	6.0	4.0	4.0	2.0

TABLE 2 - ESTIMATES OF COST FOR MAJOR ELEMENTS BY AGENCY

LOWER MISSISSIPPI REGION
NATIONAL MARINE FISHERIES SERVICE, NOAA (Federal)
DEPARTMENT OF COMMERCE

(In \$1,000)

Study elements	Total cost	Fiscal year costs			
		1970	1971	1972	1973
1. Preliminary planning					
2. Public relations activities					
3. Study management					
4. Studies and investigations (as applicable)	(26.0)	(5.0)	(10.0)	(5.0)	(6.0)
a. Economic base					
b. Climate, meteorology, and hydrology					
c. Geology and groundwater					
d. and e. Flood problems					
f. Related land use and management					
g. Related mineral resources					
h. Irrigation					
i. Land drainage					
j. Navigation					
k. Municipal and industrial water supply					
l. Water quality and pollution					
m. Health aspects					
n. Recreation					
o. Coastal and estuarine					
p. Aesthetic and cultural values					
q. Fish and wildlife	26.0	5.0	10.0	5.0	6.0
r. Power					
s. Sediment and erosion					
t. Plan formulation					
u. Legal and institutional					
v. Inventory of facilities					
w. Report preparation guidelines					
5. Printing					
6. Contingencies					
Total	26.0	5.0	10.0	5.0	6.0
Source of Funds:					
Direct appropriation	11.0			5.0	6.0
Transfer from Army	15.0	5.0	10.0		
Transfer from					
Total	26.0	5.0	10.0	5.0	6.0

TABLE 2 - ESTIMATES OF COST FOR MAJOR ELEMENTS BY AGENCY

LOWER MISSISSIPPI REGION
DEPARTMENT OF INTERIOR (Federal)

(In \$1,000)

Study elements	Total cost	Fiscal year costs			
		1970	1971	1972	1973
1. Preliminary planning	8.0	8.0			
2. Public relations activities					
3. Study management	11.0	3.0	2.0	4.0	2.0
4. Studies and investigations (as applicable)	(341.0)	(36.0)	(143.0)	(108.0)	(54.0)
a. Economic base	10.5	2.0	7.5	1.0	
b. Climate, meteorology, and hydrology					
c. Geology and groundwater	70.0	7.0	37.0	22.0	4.0
d. and e. Flood problems	5.0	1.0	2.0	2.0	
f. Related land use and management	3.5	0.5	2.0	1.0	
g. Related mineral resources	15.0	4.0	7.0	4.0	
h. Irrigation					
i. Land drainage					
j. Navigation					
k. Municipal and industrial water supply	3.5	0.5	2.0	1.0	
l. Water quality and pollution	5.5	0.5	2.0	3.0	
m. Health aspects					
n. Recreation	71.0	2.0	27.0	30.0	12.0
o. Coastal and estuarine	3.0		2.0	1.0	
p. Aesthetic and cultural values	52.5	12.5	26.0	7.0	7.0
q. Fish and wildlife	27.5	1.5	13.0	11.0	2.0
r. Power	7.0	1.5	4.5	1.0	
s. Sediment and erosion					
t. Plan formulation	20.0	3.0	4.0	6.0	7.0
u. Legal and institutional					
v. Inventory of facilities					
w. Report preparation guidelines	47.0		7.0	18.0	22.0
5. Printing	5.0		1.0	1.0	3.0
6. Contingencies	16.0		6.0	3.0	7.0
Total	381.0	47.0	152.0	116.0	66.0
Source of Funds:					
Direct appropriation					
Transfer from Army	381.0	47.0	152.0	116.0	66.0
Transfer from					
Total	381.0	47.0	152.0	116.0	66.0

TABLE 2 - ESTIMATES OF COST FOR MAJOR ELEMENTS BY AGENCY

LOWER MISSISSIPPI REGION
BUREAU OF OUTDOOR RECREATION (Federal)
DEPARTMENT OF INTERIOR

(In \$1,000)

Study elements	Total cost	Fiscal year costs			
		1970	1971	1972	1973
1. Preliminary planning	3.0	3.0			
2. Public relations activities					
3. Study management	1.0	1.0			
4. Studies and investigations (as applicable)	(115.0)	(8.0)	(41.0)	(45.0)	(21.0)
a. Economic base	1.5	0.5	1.0		
b. Climate, meteorology, and hydrology					
c. Geology and groundwater					
d. and e. Flood problems	2.5	0.5	1.0	1.0	
f. Related land use and management					
g. Related mineral resources					
h. Irrigation					
i. Land drainage					
j. Navigation					
k. Municipal and industrial water supply	2.5	0.5	1.0	1.0	
l. Water quality and pollution	2.5	0.5	1.0	1.0	
m. Health aspects					
n. Recreation	71.0	2.0	27.0	30.0	12.0
o. Coastal and estuarine	3.0		2.0	1.0	
p. Aesthetic and cultural values	2.5	0.5	1.0	1.0	
q. Fish and wildlife	2.5	0.5	1.0	1.0	
r. Power					
s. Sediment and erosion					
t. Plan formulation	14.0	2.0	3.0	4.0	5.0
u. Legal and institutional					
v. Inventory of facilities					
w. Report preparation guidelines	8.0		1.0	3.0	4.0
5. Printing	3.0			1.0	2.0
6. Contingencies	3.0				3.0
Total	125.0	12.0	41.0	46.0	26.0
Source of Funds:					
Direct appropriation					
Transfer from	125.0	12.0	41.0	46.0	26.0
Transfer from					
Total	125.0	12.0	41.0	46.0	26.0

TABLE 2 - ESTIMATES OF COST FOR MAJOR ELEMENTS BY AGENCY

LOWER MISSISSIPPI REGION
 BUREAU OF SPORT FISHERIES AND WILDLIFE (Federal)
 DEPARTMENT OF INTERIOR

(In \$1,000)

Study elements	Total cost	Fiscal year costs			
		1970	1971	1972	1973
1. Preliminary planning	4.0	4.0			
2. Public relations activities					
3. Study management	7.0	2.0	2.0	2.0	1.0
4. Studies and investigations (as applicable)	(39.0)	(1.0)	(17.0)	(15.0)	(6.0)
a. Economic base					
b. Climate, meteorology, and hydrology					
c. Geology and groundwater					
d. and e. Flood problems					
f. Related land use and management	1.0		1.0		
g. Related mineral resources					
h. Irrigation					
i. Land drainage					
j. Navigation					
k. Municipal and industrial water supply					
l. Water quality and pollution	2.0		1.0	1.0	
m. Health aspects					
n. Recreation					
o. Coastal and estuarine					
p. Aesthetic and cultural values					
q. Fish and wildlife	25.0	1.0	12.0	10.0	2.0
r. Power					
s. Sediment and erosion					
t. Plan formulation					
u. Legal and institutional					
v. Inventory of facilities					
w. Report preparation guidelines	11.0		3.0	4.0	4.0
5. Printing	1.0				1.0
6. Contingencies					
Total	51.0	7.0	19.0	17.0	8.0
Source of Funds:					
Direct appropriation					
Transfer from Army	51.0	7.0	19.0	17.0	8.0
Transfer from					
Total	51.0	7.0	19.0	17.0	8.0

TABLE 2 - ESTIMATES OF COST FOR MAJOR ELEMENTS BY AGENCY

LOWER MISSISSIPPI REGION
BUREAU OF MINES (Federal)
DEPARTMENT OF INTERIOR

(In \$1,000)

Study elements	Total cost	Fiscal year costs			
		1970	1971	1972	1973
1. Preliminary planning					
2. Public relations activities					
3. Study management					
4. Studies and investigations (as applicable)	(26.0)	(5.0)	(15.0)	(6.0)	
a. Economic base	8.0	1.0	6.0	1.0	
b. Climate, meteorology, and hydrology					
c. Geology and groundwater					
d. and e. Flood problems					
f. Related land use and management					
g. Related mineral resources	15.0	4.0	7.0	4.0	
h. Irrigation					
i. Land drainage					
j. Navigation					
k. Municipal and industrial water supply	1.0		1.0		
l. Water quality and pollution	1.0			1.0	
m. Health aspects					
n. Recreation					
o. Coastal and estuarine					
p. Aesthetic and cultural values	1.0		1.0		
q. Fish and wildlife					
r. Power					
s. Sediment and erosion					
t. Plan formulation					
u. Legal and institutional					
v. Inventory of facilities					
w. Report preparation guidelines					
5. Printing					
6. Contingencies	8.0		4.0	1.0	3.0
Total	34.0	5.0	19.0	7.0	3.0
Source of Funds:					
Direct appropriation					
Transfer from Army	34.0	5.0	19.0	7.0	3.0
Transfer from					
Total	34.0	5.0	19.0	7.0	3.0

TABLE 2 - ESTIMATES OF COST FOR MAJOR ELEMENTS BY AGENCY

LOWER MISSISSIPPI REGION
 NATIONAL PARK SERVICE (Federal)
 DEPARTMENT OF INTERIOR

(In \$1,000)

Study elements	Total cost	Fiscal year costs			
		1970	1971	1972	1973
1. Preliminary planning	1.0	1.0			
2. Public relations activities					
3. Study management					
4. Studies and investigations (as applicable)	(54.0)	(12.0)	(27.0)	(7.0)	(8.0)
a. Economic base					
b. Climate, meteorology, and hydrology					
c. Geology and groundwater					
d. and e. Flood problems					
f. Related land use and management					
g. Related mineral resources					
h. Irrigation					
i. Land drainage					
j. Navigation					
k. Municipal and industrial water supply					
l. Water quality and pollution					
m. Health aspects					
n. Recreation					
o. Coastal and estuarine					
p. Aesthetic and cultural values	49.0	12.0	24.0	6.0	7.0
q. Fish and wildlife					
r. Power					
s. Sediment and erosion					
t. Plan formulation					
u. Legal and institutional					
v. Inventory of facilities					
w. Report preparation guidelines	5.0		3.0	1.0	1.0
5. Printing	1.0		1.0		
6. Contingencies	5.0		2.0	2.0	1.0
Total	61.0	13.0	30.0	9.0	9.0
Source of Funds:					
Direct appropriation					
Transfer from Army	61.0	13.0	30.0	9.0	9.0
Transfer from					
Total	61.0	13.0	30.0	9.0	9.0

TABLE 2 - ESTIMATES OF COST FOR MAJOR ELEMENTS BY AGENCY

LOWER MISSISSIPPI REGION
GEOLOGICAL SURVEY (Federal)
DEPARTMENT OF INTERIOR

(In \$1,000)

Study elements	Total cost	Fiscal year costs			
		1970	1971	1972	1973
1. Preliminary planning					
2. Public relations activities					
3. Study management	3.0			2.0	1.0
4. Studies and investigations (as applicable)	(95.0)	(7.0)	(37.0)	(33.0)	(18.0)
a. Economic base					
b. Climate, meteorology, and hydrology					
c. Geology and groundwater	70.0	7.0	37.0	22.0	4.0
d. and e. Flood problems					
f. Related land use and management					
g. Related mineral resources					
h. Irrigation					
i. Land drainage					
j. Navigation					
k. Municipal and industrial water supply					
l. Water quality and pollution					
m. Health aspects					
n. Recreation					
o. Coastal and estuarine					
p. Aesthetic and cultural values					
q. Fish and wildlife					
r. Power					
s. Sediment and erosion					
t. Plan formulation	2.0			1.0	1.0
u. Legal and institutional					
v. Inventory of facilities					
w. Report preparation guidelines	23.0			10.0	13.0
5. Printing					
6. Contingencies					
Total	98.0	7.0	37.0	35.0	19.0
Source of Funds:					
Direct appropriation					
Transfer from Army	98.0	7.0	37.0	35.0	19.0
Transfer from					
Total	98.0	7.0	37.0	35.0	19.0

TABLE 2 - ESTIMATES OF COST FOR MAJOR ELEMENTS BY AGENCY

LOWER MISSISSIPPI REGION
 SOUTHWESTERN POWER ADMINISTRATION (Federal)
 DEPARTMENT OF INTERIOR

(In \$1,000)

Study elements	Total cost	Fiscal year costs			
		1970	1971	1972	1973
1. Preliminary planning					
2. Public relations activities					
3. Study management					
4. Studies and investigations (as applicable)	(12.0)	(3.0)	(6.0)	(2.0)	(1.0)
a. Economic base	1.0	0.5	0.5		
b. Climate, meteorology, and hydrology					
c. Geology and groundwater					
d. and e. Flood problems					
f. Related land use and management					
g. Related mineral resources					
h. Irrigation					
i. Land drainage					
j. Navigation					
k. Municipal and industrial water supply					
l. Water quality and pollution					
m. Health aspects					
n. Recreation					
o. Coastal and estuarine					
p. Aesthetic and cultural values					
q. Fish and wildlife					
r. Power	7.0	1.5	4.5	1.0	
s. Sediment and erosion					
t. Plan formulation	4.0	1.0	1.0	1.0	1.0
u. Legal and institutional					
v. Inventory of facilities					
w. Report preparation guidelines					
5. Printing					
6. Contingencies					
Total	12.0	3.0	6.0	2.0	1.0
Source of Funds:					
Direct appropriation					
Transfer from Army	12.0	3.0	6.0	2.0	1.0
Transfer from					
Total	12.0	3.0	6.0	2.0	1.0

TABLE 2 - ESTIMATES OF COST FOR MAJOR ELEMENTS BY AGENCY

LOWER MISSISSIPPI REGION
DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE (Federal)

(In \$1,000)

Study elements	Total cost	Fiscal year costs			
		1970	1971	1972	1973
1. Preliminary planning					
2. Public relations activities					
3. Study management					
4. Studies and investigations (as applicable)					
a. Economic base					
b. Climate, meteorology, and hydrology					
c. Geology and groundwater					
d. and e. Flood problems					
f. Related land use and management					
g. Related mineral resources					
h. Irrigation					
i. Land drainage					
j. Navigation					
k. Municipal and industrial water supply					
l. Water quality and pollution					
m. Health aspects					
n. Recreation					
o. Coastal and estuarine					
p. Aesthetic and cultural values					
q. Fish and wildlife					
r. Power					
s. Sediment and erosion					
t. Plan formulation					
u. Legal and institutional					
v. Inventory of facilities					
w. Report preparation guidelines					
5. Printing					
6. Contingencies					
Total					
Source of Funds:					
Direct appropriation					
Transfer from					
Transfer from					
Total					

TABLE 2 - ESTIMATES OF COST FOR MAJOR ELEMENTS BY AGENCY

LOWER MISSISSIPPI REGION
DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT (Federal)

(In \$1,000)

Study elements	Total cost	Fiscal year costs			
		1970	1971	1972	1973
1. Preliminary planning	3.5	3.5			
2. Public relations activities					
3. Study management					
4. Studies and investigations (as applicable)	(105.5)	(11.5)	(70.0)	(23.0)	(1.0)
a. Economic base	21.0		15.0	6.0	
b. Climate, meteorology, and hydrology					
c. Geology and groundwater					
d. and e. Flood problems	10.0		8.0	2.0	
f. Related land use and management	27.0	8.0	15.0	4.0	
g. Related mineral resources					
h. Irrigation					
i. Land drainage					
j. Navigation					
k. Municipal and industrial water supply	29.5	3.5	18.0	7.0	1.0
l. Water quality and pollution					
m. Health aspects					
n. Recreation	5.0		4.0	1.0	
o. Coastal and estuarine					
p. Aesthetic and cultural values					
q. Fish and wildlife					
r. Power					
s. Sediment and erosion					
t. Plan formulation	10.0		10.0		
u. Legal and institutional					
v. Inventory of facilities					
w. Report preparation guidelines	3.0			3.0	
5. Printing					
6. Contingencies					
Total	109.0	15.0	70.0	23.0	1.0
Source of Funds:					
Direct appropriation	94.0		70.0	23.0	1.0
Transfer from Army	15.0	15.0			
Transfer from					
Total	109.0	15.0	70.0	23.0	

TABLE 2 - ESTIMATES OF COST FOR MAJOR ELEMENTS BY AGENCY

LOWER MISSISSIPPI REGION
ENVIRONMENTAL PROTECTION AGENCY (Federal)

(In \$1,000)

Study elements	Total cost	Fiscal year costs			
		1970	1971	1972	1973
1. Preliminary planning	4.0	4.0			
2. Public relations activities	15.0	3.0	6.0	5.0	1.0
3. Study management	25.5	3.5	9.0	6.0	7.0
4. Studies and investigations (as applicable)	(299.5)	(31.5)	(128.0)	(105.0)	(35.0)
a. Economic base	10.5	1.5	6.0	3.0	
b. Climate, meteorology, and hydrology	16.0	1.0	10.0	5.0	
c. Geology and groundwater					
d. and e. Flood problems					
f. Related land use and management	26.0	3.0	14.0	9.0	
g. Related mineral resources					
h. Irrigation					
i. Land drainage					
j. Navigation					
k. Municipal and industrial water supply	21.5	2.5	12.0	7.0	
l. Water quality and pollution	82.0	9.0	42.0	26.0	5.0
m. Health aspects	46.0	9.0	15.0	18.0	4.0
n. Recreation					
o. Coastal and estuarine					
p. Aesthetic and cultural values					
q. Fish and wildlife	16.5	2.5	10.0	4.0	
r. Power					
s. Sediment and erosion					
t. Plan formulation	39.5	2.5	18.0	10.0	9.0
u. Legal and institutional	5.5	.5	1.0	1.0	3.0
v. Inventory of facilities					
w. Report preparation guidelines	36.0			22.0	14.0
5. Printing	7.0			6.0	1.0
6. Contingencies	19.0		5.0	9.0	5.0
Total	370.0	42.0	148.0	131.0	49.0
Source of Funds:					
Direct appropriation	328.0		148.0	131.0	49.0
Transfer from Army	42.0	42.0			
Transfer from					
Total	370.0	42.0	148.0	131.0	49.0

TABLE 2 - ESTIMATES OF COST FOR MAJOR ELEMENTS BY AGENCY

LOWER MISSISSIPPI REGION
FEDERAL POWER COMMISSION (Federal)

(In \$1,000)

Study elements	Total cost	Fiscal year costs			
		1970	1971	1972	1973
1. Preliminary planning					
2. Public relations activities	3.0	3.0			
3. Study management					
4. Studies and investigations (as applicable)	(16.0)		(6.0)	(5.5)	(4.5)
a. Economic base					
b. Climate, meteorology, and hydrology					
c. Geology and groundwater					
d. and e. Flood problems					
f. Related land use and management					
g. Related mineral resources					
h. Irrigation					
i. Land drainage					
j. Navigation					
k. Municipal and industrial water supply					
l. Water quality and pollution					
m. Health aspects					
n. Recreation					
o. Coastal and estuarine					
p. Aesthetic and cultural values					
q. Fish and wildlife					
r. Power	7.0		2.5	2.0	2.5
s. Sediment and erosion					
t. Plan formulation	4.0		1.5	1.5	1.0
u. Legal and institutional					
v. Inventory of facilities					
w. Report preparation guidelines	5.0		2.0	2.0	1.0
5. Printing	2.0		0.5	1.0	0.5
6. Contingencies	3.0		0.5	1.5	1.0
Total	24.0	3.0	7.0	8.0	6.0
Source of Funds:					
Direct appropriation	21.0		7.0	8.0	6.0
Transfer from Army	3.0	3.0			
Transfer from					
Total	24.0	3.0	7.0	8.0	6.0

TABLE 2 - ESTIMATES OF COST FOR MAJOR ELEMENTS BY AGENCY

LOWER MISSISSIPPI REGION
State of Arkansas (non-Federal)

(In \$1,000)

Study elements	Total cost	Fiscal year costs			
		1970	1971	1972	1973
1. Preliminary planning					
2. Public relations activities					
3. Study management					
4. Studies and investigations (as applicable)					
a. Economic base					
b. Climate, meteorology, and hydrology					
c. Geology and groundwater					
d. and e. Flood problems					
f. Related land use and management					
g. Related mineral resources					
h. Irrigation					
i. Land drainage					
j. Navigation					
k. Municipal and industrial water supply					
l. Water quality and pollution					
m. Health aspects					
n. Recreation					
o. Coastal and estuarine					
p. Aesthetic and cultural values					
q. Fish and wildlife					
r. Power					
s. Sediment and erosion					
t. Plan formulation					
u. Legal and institutional					
v. Inventory of facilities					
w. Report preparation guidelines					
5. Printing					
6. Contingencies					
Total	60.0	10.0	20.0	20.0	10.0
Source of Funds:					
Direct appropriation - State	60.0	10.0	20.0	20.0	10.0
Transfer from					
Transfer from					
Total	60.0	10.0	20.0	20.0	10.0

TABLE 2 - ESTIMATES OF COST FOR MAJOR ELEMENTS BY AGENCY

LOWER MISSISSIPPI REGION
State of Kentucky (non-Federal)

(In \$1,000)

Study elements	Total cost	Fiscal year costs			
		1970	1971	1972	1973
1. Preliminary planning					
2. Public relations activities					
3. Study management					
4. Studies and investigations (as applicable)					
a. Economic base					
b. Climate, meteorology, and hydrology					
c. Geology and groundwater					
d. and e. Flood problems					
f. Related land use and management					
g. Related mineral resources					
h. Irrigation					
i. Land drainage					
j. Navigation					
k. Municipal and industrial water supply					
l. Water quality and pollution					
m. Health aspects					
n. Recreation					
o. Coastal and estuarine					
p. Aesthetic and cultural values					
q. Fish and wildlife					
r. Power					
s. Sediment and erosion					
t. Plan formulation					
u. Legal and institutional					
v. Inventory of facilities					
w. Report preparation guidelines					
5. Printing					
6. Contingencies					
Total	15.0	2.0	5.0	5.0	3.0
Source of Funds:					
Direct appropriation - State	15.0	2.0	5.0	5.0	3.0
Transfer from					
Transfer from					
Total	15.0	2.0	5.0	5.0	3.0

TABLE 2 - ESTIMATES OF COST FOR MAJOR ELEMENTS BY AGENCY

LOWER MISSISSIPPI REGION
State of Illinois (non-Federal)

(In \$1,000)

Study elements	Total cost	Fiscal year costs			
		1970	1971	1972	1973
1. Preliminary planning					
2. Public relations activities					
3. Study management					
4. Studies and investigations (as applicable)					
a. Economic base					
b. Climate, meteorology, and hydrology					
c. Geology and groundwater					
d. and e. Flood problems					
f. Related land use and management					
g. Related mineral resources					
h. Irrigation					
i. Land drainage					
j. Navigation					
k. Municipal and industrial water supply					
l. Water quality and pollution					
m. Health aspects					
n. Recreation					
o. Coastal and estuarine					
p. Aesthetic and cultural values					
q. Fish and wildlife					
r. Power					
s. Sediment and erosion					
t. Plan formulation					
u. Legal and institutional					
v. Inventory of facilities					
w. Report preparation guidelines					
5. Printing					
6. Contingencies					
Total	65.0	5.0	30.0	20.0	10.0
Source of Funds:					
Direct appropriation - State	65.0	5.0	30.0	20.0	10.0
Transfer from					
Transfer from					
Total	65.0	5.0	30.0	20.0	10.0

TABLE 2 - ESTIMATES OF COST FOR MAJOR ELEMENTS BY AGENCY

LOWER MISSISSIPPI REGION
State of Louisiana (non-Federal)

(In \$1,000)

Study elements	Total cost	Fiscal year costs			
		1970	1971	1972	1973
1. Preliminary planning					
2. Public relations activities					
3. Study management					
4. Studies and investigations (as applicable)					
a. Economic base					
b. Climate, meteorology, and hydrology					
c. Geology and groundwater					
d. and e. Flood problems					
f. Related land use and management					
g. Related mineral resources					
h. Irrigation					
i. Land drainage					
j. Navigation					
k. Municipal and industrial water supply					
l. Water quality and pollution					
m. Health aspects					
n. Recreation					
o. Coastal and estuarine					
p. Aesthetic and cultural values					
q. Fish and wildlife					
r. Power					
s. Sediment and erosion					
t. Plan formulation					
u. Legal and institutional					
v. Inventory of facilities					
w. Report preparation guidelines					
5. Printing					
6. Contingencies					
Total	75.0	10.0	25.0	25.0	15.0
Source of Funds:					
Direct appropriation - State	75.0	10.0	25.0	25.0	15.0
Transfer from					
Transfer from					
Total	75.0	10.0	25.0	25.0	15.0

TABLE 2 - ESTIMATES OF COST FOR MAJOR ELEMENTS BY AGENCY

LOWER MISSISSIPPI REGION
State of Mississippi (non-Federal)

(In \$1,000)

Study elements	Total cost	Fiscal year costs			
		1970	1971	1972	1973
1. Preliminary planning					
2. Public relations activities					
3. Study management					
4. Studies and investigations (as applicable)					
a. Economic base					
b. Climate, meteorology, and hydrology					
c. Geology and groundwater					
d. and e. Flood problems					
f. Related land use and management					
g. Related mineral resources					
h. Irrigation					
i. Land drainage					
j. Navigation					
k. Municipal and industrial water supply					
l. Water quality and pollution					
m. Health aspects					
n. Recreation					
o. Coastal and estuarine					
p. Aesthetic and cultural values					
q. Fish and wildlife					
r. Power					
s. Sediment and erosion					
t. Plan formulation					
u. Legal and institutional					
v. Inventory of facilities					
w. Report preparation guidelines					
5. Printing					
6. Contingencies					
Total	45.0	5.0	15.0	15.0	10.0
Source of Funds:					
Direct appropriation - State	45.0	5.0	15.0	15.0	10.0
Transfer from					
Transfer from					
Total	45.0	5.0	15.0	15.0	10.0

TABLE 2 - ESTIMATES OF COST FOR MAJOR ELEMENTS BY AGENCY

LOWER MISSISSIPPI REGION
State of Missouri (non-Federal)

(In \$1,000)

Study elements	Total cost	Fiscal year costs			
		1970	1971	1972	1973
1. Preliminary planning					
2. Public relations activities					
3. Study management					
4. Studies and investigations (as applicable)					
a. Economic base					
b. Climate, meteorology, and hydrology					
c. Geology and groundwater					
d. and e. Flood problems					
f. Related land use and management					
g. Related mineral resources					
h. Irrigation					
i. Land drainage					
j. Navigation					
k. Municipal and industrial water supply					
l. Water quality and pollution					
m. Health aspects					
n. Recreation					
o. Coastal and estuarine					
p. Aesthetic and cultural values					
q. Fish and wildlife					
r. Power					
s. Sediment and erosion					
t. Plan formulation					
u. Legal and institutional					
v. Inventory of facilities					
w. Report preparation guidelines					
5. Printing					
6. Contingencies					
Total	30.0	2.0	15.0	9.0	4.0
Source of Funds:					
Direct appropriation - State	30.0	2.0	15.0	9.0	4.0
Transfer from					
Transfer from					
Total	30.0	2.0	15.0	9.0	4.0

TABLE 2 - ESTIMATES OF COST FOR MAJOR ELEMENTS BY AGENCY

LOWER MISSISSIPPI REGION
State of Tennessee - (non-Federal)

(In \$1,000)

Study elements	Total cost	Fiscal year costs			
		1970	1971	1972	1973
1. Preliminary planning					
2. Public relations activities					
3. Study management					
4. Studies and investigations (as applicable)					
a. Economic base					
b. Climate, meteorology, and hydrology					
c. Geology and groundwater					
d. and e. Flood problems					
f. Related land use and management					
g. Related mineral resources					
h. Irrigation					
i. Land drainage					
j. Navigation					
k. Municipal and industrial water supply					
l. Water quality and pollution					
m. Health aspects					
n. Recreation					
o. Coastal and estuarine					
p. Aesthetic and cultural values					
q. Fish and wildlife					
r. Power					
s. Sediment and erosion					
t. Plan formulation					
u. Legal and institutional					
v. Inventory of facilities					
w. Report preparation guidelines					
5. Printing					
6. Contingencies					
Total	34.5	2.5	15.0	10.0	7.0
Source of Funds:					
Direct appropriation - State	34.5	2.5	15.0	10.0	7.0
Transfer from					
Transfer from					
Total	34.5	2.5	15.0	10.0	7.0

LOWER MISSISSIPPI REGION
COMPREHENSIVE STUDY

DIRECTORY

ANNEX NO. 5

LOWER MISSISSIPPI REGION COMPREHENSIVE STUDY

DIRECTORY

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LOWER MISSISSIPPI REGION COMPREHENSIVE STUDY

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