

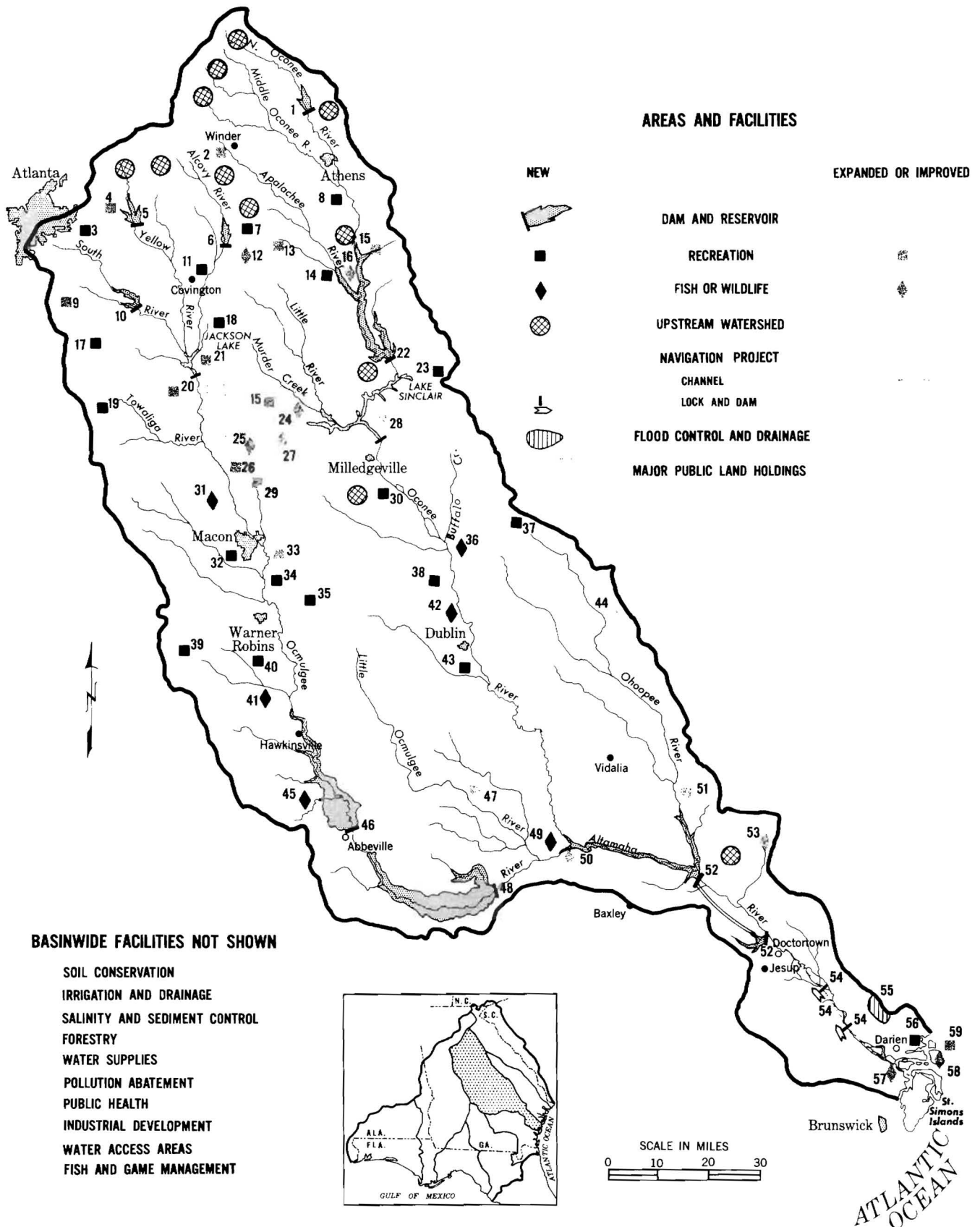
MAJOR SOUTHEAST RIVER BASINS PROJECTS
WITHIN THE FIVE-COUNTY ALTAMAHA COMMISSION AREA

Prepared for
The Altamaha Area Planning and Development Commission

by
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ALTAMAHA BASIN PLAN



MAJOR SOUTHEAST RIVER BASINS PROJECTS
WITHIN THE FIVE-COUNTY ALTAMAHA COMMISSION AREA

The Altamaha Area Planning and Development Commission is a five-county organization dedicated to full economic development of its member counties through effective utilization of sound, area-wide research, technical assistance, planning, and promotion. Its membership consists of Appling, Jeff Davis, Tattnall, Toombs, and Wayne counties.

The comprehensive plan for development of the land and water resources of the Altamaha River basin, a product of the United States Study Commission, Southeast River Basins, resulted from extensive studies conducted over a period of some four years duration.

The Altamaha River basin encompasses 9,265,000 acres, whereas the Altamaha Area Planning and Development Commission serves an area of approximately 1,506,000 acres, about two-thirds of which are within the basin. The balance of the Commission area lies in the Satilla-St. Marys basins.

That portion of the Altamaha Commission area situated within the Altamaha basin represents approximately 10% of the total basin area and contains less than 7% of the total basin population.

The Altamaha River basin extends from Atlanta and Gainesville in the northeast to Darien on the Georgia coast. Its land area is 69% forested. The Altamaha Commission area lies in the southeast part of the basin, occupying a portion of both the upper Coastal Plain and the lower Coastal Plain. The Commission area is 76% forested.

The population of the total Commission area increased by only 2.7% during the decade of the fifties, yet certain of the 17 incorporated communities within the area experienced significant growth. Baxley had a population increase of 25%, Jesup 59%, Lyons 15%, and Vidalia 30%. Considerable urbanization took place during the fifties and appears to be continuing as people leave the farm and industries are established in area cities and towns.

In 1950, there were 11,068 area residents employed in agriculture, 45% of all employed residents. In 1960, there were only 5,453 employed in agriculture, 23% of all employed residents. On the other hand, manufacturing employment rose significantly to make up for a substantial part of the agricultural

employment loss and contributed well to the increase in per capita income realized from 1950 to 1960.

Some 2,860 residents, 11.7% of the total employed, were engaged in manufacturing in 1950. In 1960, there were 5,569 persons similarly employed, representing 23.4% of the total of all employed residents and a gain of 94.7% over 1950. Among other employment categories showing gains during the same period were transportation, communications, and utilities (41.3%); wholesale trade (17.5%); retail trade (36.3%); finance, insurance, and real estate (78.4%); and personal, entertainment, and recreational services (44.6%).

Personal and recreational services could show a substantial gain in the future with the implementation of the plan for development of the Altamaha River basin. Almost 10% of all employed persons in the Commission area were employed in this category in 1960. Implementation of the Altamaha basin plan in an aggressive fashion could double by 1980 the number of persons employed in serving those who seek entertainment and recreation. In addition, implementation of the comprehensive basin plan for development would cause an appreciable increase in the number of persons employed in construction, a category which accounted for some 1,400 jobs in 1960, or about 6% of total employment. The potential for such an increase can be seen readily upon study of the attached major projects descriptions.

With the cooperation of the Georgia Congressional delegation, the staff of the Advisory Board to the United States Study Commission, Southeast River Basins, the U. S. Army Corps of Engineers, a number of other Federal agencies, and Georgia Tech's Industrial Development Division, immediate efforts should be made to commence the additional studies recommended in the basin plan.

In other areas of the Southeast River Basins such studies are already underway. The most recent example is a study of the cause of flooding along the banks of Nancy and Peachtree creeks. This Atlanta project has been granted \$30,000 by the Federal Government with which to carry out the study phase. Some \$125,000 likewise has been provided for study of facilities necessary to permit navigation of the Chattahoochee River between Columbus and Atlanta.

Beyond the major projects identified in this report, specific projects and probable project locations have not been identified in the plan for the basin. Although broad areas for development have been described, local initiative must develop specific projects and must share in the cost of development.

Flood control and prevention, for example, might require the establishment of drainage canals or small, upstream ponds. Two watershed projects became operational in Jeff Davis County during 1962. Progress will depend upon local action. The development of small ponds and provisions for access will create new recreation opportunities, reduce sedimentation, assist in the control of flooding, provide for irrigation, aid the conservation of soil, and help to abate stream pollution.

Domestic and municipal water supplies can be improved under the basin plan for development. Again, local action is necessary. Improvements recommended include the sealing and/or covering of wells, the drilling of new wells, and the installation of new water storage facilities. Assistance is available to the individual who requires technical guidance in improving his well, as well as to the community that needs technical assistance and financial aid in improving its water supplies.

Individual landowners will provide keys to the ultimate effectiveness of forest conservation programs, the degree of wildlife habitat development, the reclamation and irrigation of land, the enhancement of fish and wildlife resources, and the abatement of air and water pollution. Such programs are most effective when carried out on an area-wide basis.

A vector control program in a limited area can indeed have limited results. The mosquito cannot be properly dealt with on a neighborhood basis. In this instance, the Georgia State Department of Health can provide practical counsel in the formulation of an area plan for vector control.

The Federal funds available to finance various projects in the basin plan will vary with the particular phase of the over-all plan. Resource development costs, however, should be shared so as to serve best the public interest. Of the total Altamaha River basin investment cost, about 19% will be borne by the Federal Government and about 81% by non-Federal interests.

The investment cost of the forestry program will be about 35% Federal and 65% non-Federal. It is proposed that the Federal Government share 28% of the investment cost for pollution abatement.

The plan clearly describes both needs and opportunities for a full utilization of the resources in the Altamaha River basin. It is a broad plan and does not profess to contain final answers. In fact, it stresses the need for

further detailed studies. The plan will, upon implementation, provide a definite stabilizing effect on the economy of the Altamaha Commission area and will indeed accelerate area economic growth.

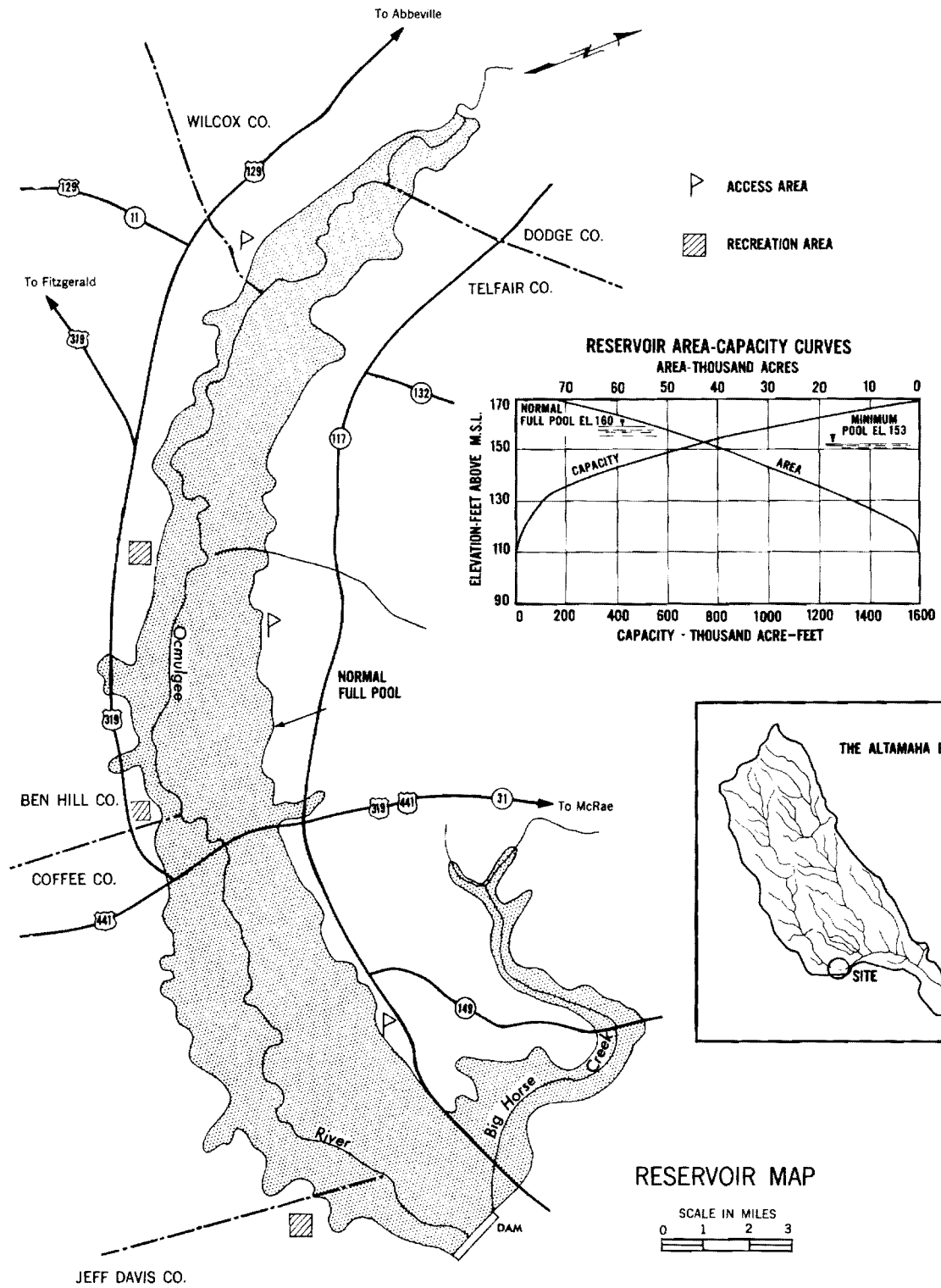
DATA ON SELECTED PROJECTS

Maps and supporting data for projects in the Altamaha Commission area follow.^{1/} These include the Coopers Ferry, Goose Creek, Navigation, Big Satilla Creek, and Upper Hurricane Creek projects.

<u>Project</u>	<u>Total Cost</u>	<u>Annual Equivalent Cost</u>	<u>Annual Equivalent Benefit</u>
Altamaha Basin			
Coopers Ferry	\$ 40,900,000	\$2,153,000	\$ 2,400,000
Goose Creek	98,120,000	5,495,000	5,750,000
Navigation	18,130,000	852,000	1,240,000
Satilla-St. Marys Basins			
Big Satilla Creek	8,440,000	430,000	978,000
Upper Hurricane Creek	<u>5,270,000</u>	<u>255,000</u>	<u>421,000</u>
	\$170,860,000	\$9,185,000	\$10,789,000

^{1/} Reproduced from Appendices 3 and 4, Report of the United States Study Commission, Southeast River Basins.

COOPERS FERRY PROJECT



COOPERS FERRY PROJECT

LOCATION

Coopers Ferry project site is in Telfair and Jeff Davis Counties. The damsite is located on the Ocmulgee River about 17 miles south of McRae, Georgia, and 12 miles west of Hazlehurst, Georgia.

PLAN

The plan provides for a dam consisting of a concrete gravity-type bulkhead section across the main channel with a rolled-earth abutments and a concrete gravity spillway section. The normal pool elevation at 160 feet will provide a 54,000-acre pool. Land would be acquired for the reservoir to elevation 165 feet.

The project includes facilities for hydroelectric power development, about 3,000 acres for recreation and limited fishing, and three access areas for fishermen.

DATA

	Unit	Amount
Dam and reservoir		
Drainage area-----	sq.mile	4,950
Dam		
Top elevation, mean sea level----	ft.	170
Maximum height-----	ft.	71
Length-----	ft.	14,620
Spillway		
Crest elevation, mean sea level--	ft.	113
Effective length-----	ft.	761
Design discharge-----	c.f.s.	440,200
Reservoir		
Normal full pool elevation, mean sea level-----	ft.	160
Maximum design pool elevation, mean sea level-----	ft.	165
Normal full pool area-----	acre	54,000
Minimum design pool area-----	acre	41,500
Normal full pool capacity-----	acre-ft.	1,050,000
Minimum design pool capacity-----	acre-ft.	715,000
Hydroelectric powerplant		
Installed capacity-----	kw.	50,000
Annual energy output-----	million kw.-hr.	128.7
Recreation-----	User-day	350,000
Fishing-----	User-day	207,500

BENEFITS

Annual Equivalent Primary Tangible (\$1,000)

Power-----	1,500
Recreation-----	670
Fish and wildlife-----	230
Total-----	<u>2,400</u>

Impacts

Economic impacts from this point would stem largely from recreation, fish and wildlife, and power. Since a sizable portion of the project would be paid for by local interests, secondary benefits stemming from increased sales of gasoline, food, beverages, lodging, and recreation and fishing equipment are of particular interest locally. More recreational activities would result in increased business and employment in services and trades catering to these activities.

Considerable local impacts are also expected from such items as increased land values and increased home construction and the resulting increase in the local tax base in the area adjacent to the reservoir.

COSTS (\$1,000)

	Early action	Total
Investment		
Dam and reservoir-----	0	27,200
Power-----	0	11,840
Recreation-----	0	1,700
Fish and wildlife-----	0	160
Total-----	0	<u>40,900</u>
Annual Equivalent		
Investment-----		1,474
Operation, maintenance, and replacements-----		296
Taxes foregone-----		<u>383</u>
Total-----		<u>2,153</u>

ALLOCATION OF COSTS (\$1,000)

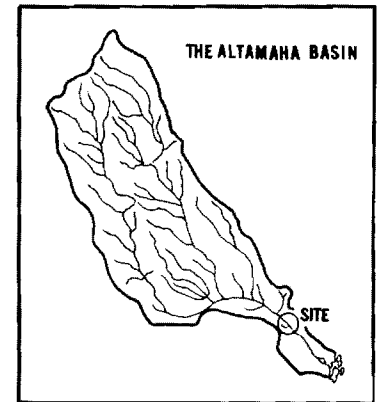
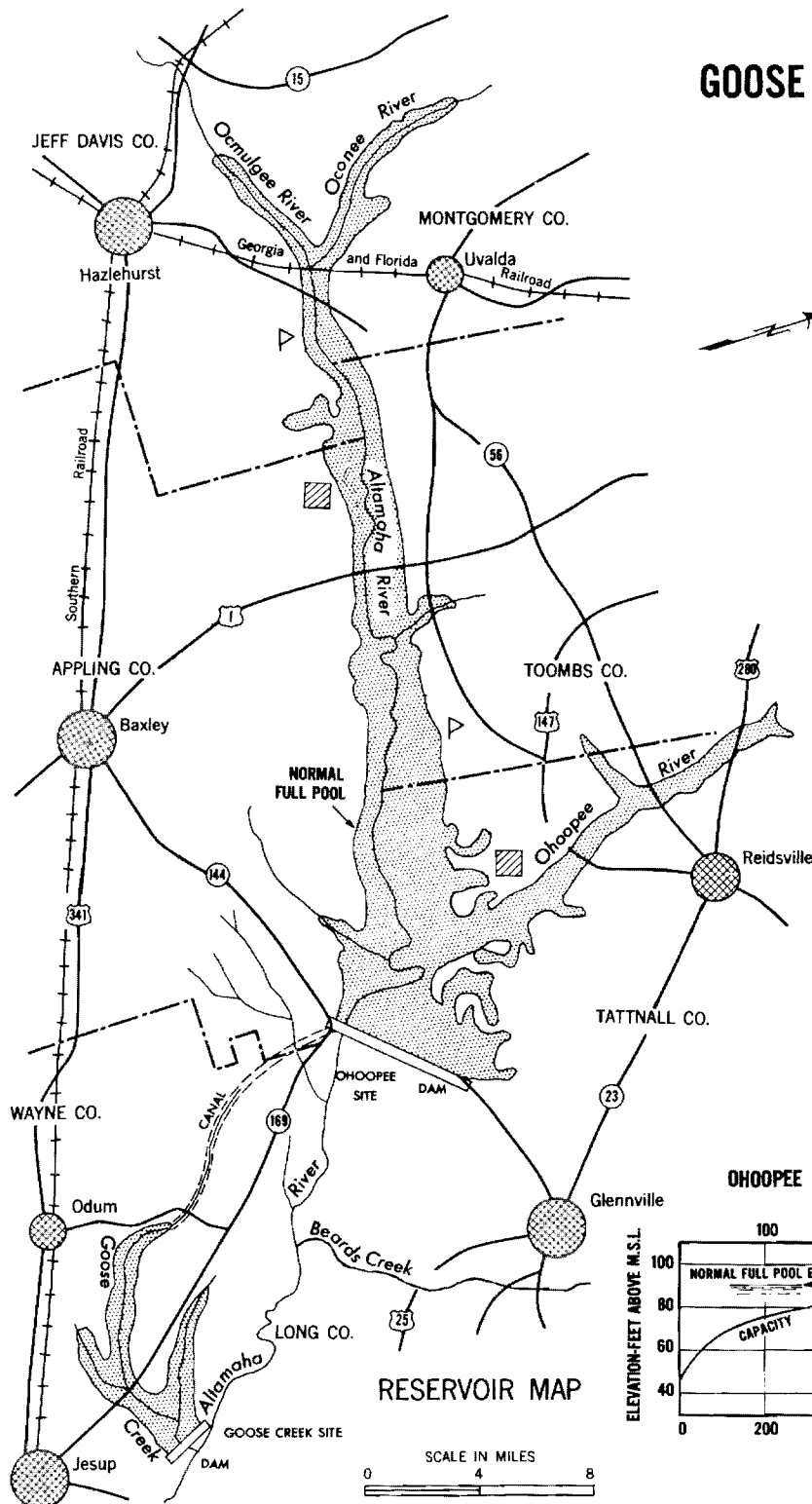
	Investment	Annual equivalent Total	OM&R	OM&R at year 2000
Power-----	29,850	*1,606	145	145
Recreation-----	5,700	323	118	120
Fish and wildlife-----	5,350	224	33	33
Total-----	40,900	2,153	296	298

* Includes \$383,000 for taxes foregone.

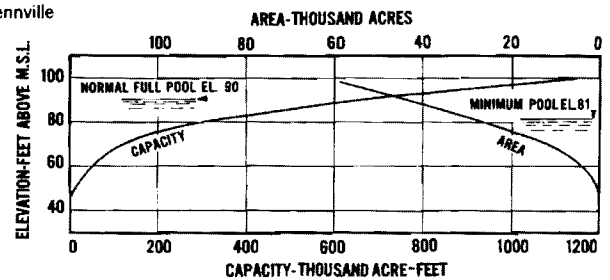
SPECIAL CONSIDERATIONS

Coopers Ferry project has been scheduled for construction after 1975. Total benefits for the project exceed project costs, but, the cost allocated to power exceeds the justifiable investment. However, benefits that would accrue from power generation at the downstream Goose Creek project due to streamflow regulation have not been evaluated. It is probable that the additional benefits to be derived from coordinated operation of the Abbeville, Coopers Ferry, and Goose Creek projects would result in benefits from power exceeding the power costs.

GOOSE CREEK PROJECT



OHOOPEE RESERVOIR AREA-CAPACITY CURVES



GOOSE CREEK PROJECT

LOCATION

This project includes two reservoirs and a connecting canal. The site for the dam creating the upper reservoir in Tattnall and Appling Counties is across the Altamaha River at the mouth of the Ohoopsee River. The site for the dam creating the lower reservoir is across Goose Creek in Wayne County near its confluence with the Altamaha River. The site for the canal connecting the two proposed reservoirs is along the right bank of the Altamaha River.

PLAN

The Goose Creek project would have facilities for power, recreation, and fishing. The reservoir would be operated primarily to produce peaking power and would generate 275 million kilowatt-hours of electric energy annually.

The Ohoopsee River reservoir would be farther upstream than the smaller Goose Creek reservoir and it would provide most of the water for hydroelectric power generation. The two reservoirs would be interconnected by a canal through which water from the Ohoopsee River reservoir would pass on its way to the powerhouse at the Goose Creek damsite.

DATA

	Unit	Reservoir	
		Ohoopsee	Goose Creek
Drainage area above dam-----	sq. mile	13,220	--
Dam			
Top elevation, mean sea level-----	ft.	100	100
Maximum height-----	ft.	65	73
Length-----	ft.	24,030	2,950
Spillway			
Crest elevation, mean sea level-----	ft.	70	70
Design flood pool elevation, mean sea level-----	ft.	95	95
Effective length-----	ft.	1,432	--
Design discharge-----	c.f.s.	680,000	95,000
Reservoir			
Normal full pool elevation, mean sea level-----	ft.	90	90
Normal full pool area-----	acre	44,800	--
Minimum design pool area-----	acre	28,600	2
Maximum design pool elevation, mean sea level-----	ft.	--	95
Normal full pool capacity-----	acre-ft.	665,000	--
Minimum design pool capacity--	acre-ft.	335,000	--

(Continued)

	Unit	Reservoir	
		Ohoopsee	Goose Creek
Recreation and fishery development, four areas-----	acre	3,000	--
Canal, minimum size-----	ft.	110 x 20	--
Hydroelectric powerplant			
Installed capacity-----	kw.	--	180,000
Annual energy output-----	million kw.-hr.	--	275
Recreation-----	user-day	350,000	
Fishing-----	user-day	205,200	

BENEFITS

Annual Equivalent Primary Tangible (\$1,000)

Power-----	4,900
Recreation-----	630
Fish and wildlife-----	220
Total-----	5,750

Impacts

The Goose Creek project would have economic impacts stemming from power, recreation, fish and wildlife, and land enhancement. These are discussed in more detail in Section III of Part Four.

The project would create impacts which would have a pronounced effect on several of the area redevelopment counties in the basin. There would be economic stimulus from the construction activity itself, with much of the construction costs being spent in the local area for wages, services, and materials.

The impacts would extend beyond the basin boundaries and favorably affect many counties in adjoining basins. Recreation would provide impacts to the local economy resulting in new business, new construction, and new economic activity. The availability of cooling water could induce manufacturing and industrial development. The projects would increase the land values and the local tax bases. All of these factors would have an effect on the repayment ability of the local area to meet its cost-sharing responsibilities.

COSTS (\$1,000)

	Early action	Total
Investment		
Dams and reservoirs-----	43,150	43,150
Power-----	53,100	53,100
Recreation-----	1,400	1,700
Fish and wildlife-----	130	170
Total-----	97,780	98,120

Annual Equivalent

Investment-----	3,528
Operation, maintenance, and replacements-----	581
Taxes foregone-----	1,386
Total-----	5,495

ALLOCATION OF COSTS (\$1,000)

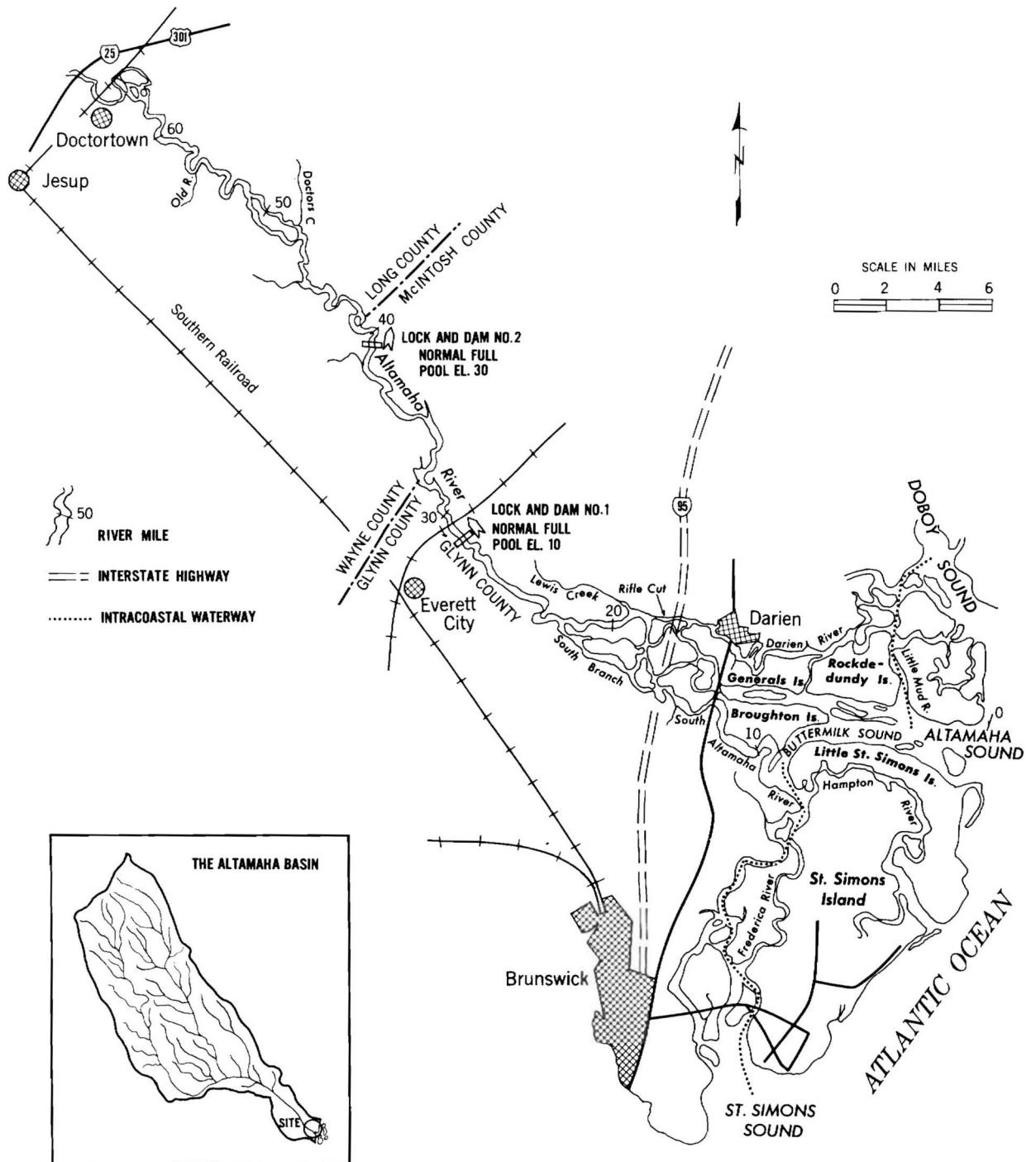
	Invest- ment	Annual equivalent Total	OM&R	OM&R at year 2000
Power-----	84,750	*4,900	463	463
Recreation-----	8,000	380	97	117
Fish and wildlife-----	5,370	215	21	23
Total-----	98,120	*5,495	581	603

* Includes \$1,386,000 for taxes foregone.

SPECIAL CONSIDERATIONS

The Goose Creek project has been scheduled for construction in the early action phase primarily because of the urgent need for peaking power. Total benefits for the project exceed the project costs and the costs allocated to power equal the justified expenditure. Benefits that would accrue from power due to streamflow regulation provided by the upstream projects of Abbeville and Coopers Ferry have not been evaluated. It is probable that the additional benefits to be derived from coordinated operation of the Abbeville, Coopers Ferry, and Goose Creek projects would result in benefits in power exceeding the power costs.

NAVIGATION PROJECT (ALTAMAHA SOUND TO DOCTORTOWN)



NAVIGATION PROJECT
(Altamaha Sound to Doctortown)

LOCATION

The project consists of a slackwater channel from Altamaha Sound upstream to mile 59 near Doctortown.

PLAN

The plan consists of two low-head navigation dams and locks located at mile 28.7 (No.1) and mile 39.6 (No.2) which will provide a slackwater navigation channel for commercial barge traffic upstream to Doctortown.

DATA

	Unit	Amount
Lock and dam No. 1, lift-----	ft.	10
Lock and dam No. 2, lift-----	ft.	20
Minimum channel width-----	ft.	90
Minimum channel depth-----	ft.	9
Lock size-----	ft.	60 x 360
Depth over upper sill-----	ft.	18
Depth over lower sill-----	ft.	14
Freeboard, above upper pool-----	ft.	5
Elevation, mean sea level		
Pool No. 1-----	ft.	10
Pool No. 2-----	ft.	30

BENEFITS

Annual Equivalent Primary Tangible (\$1,000)

Navigation----- \$ 1,240

Impacts

Impacts are discussed in Section III of Part Four.

COSTS (\$1,000)

	Early action	Total
Investment		
Locks and dams-----	0	16,400
Channel improvement and markers-----	0	1,180
Lands and easements-----	0	550
Total-----	0	18,130

Total

Annual Equivalent

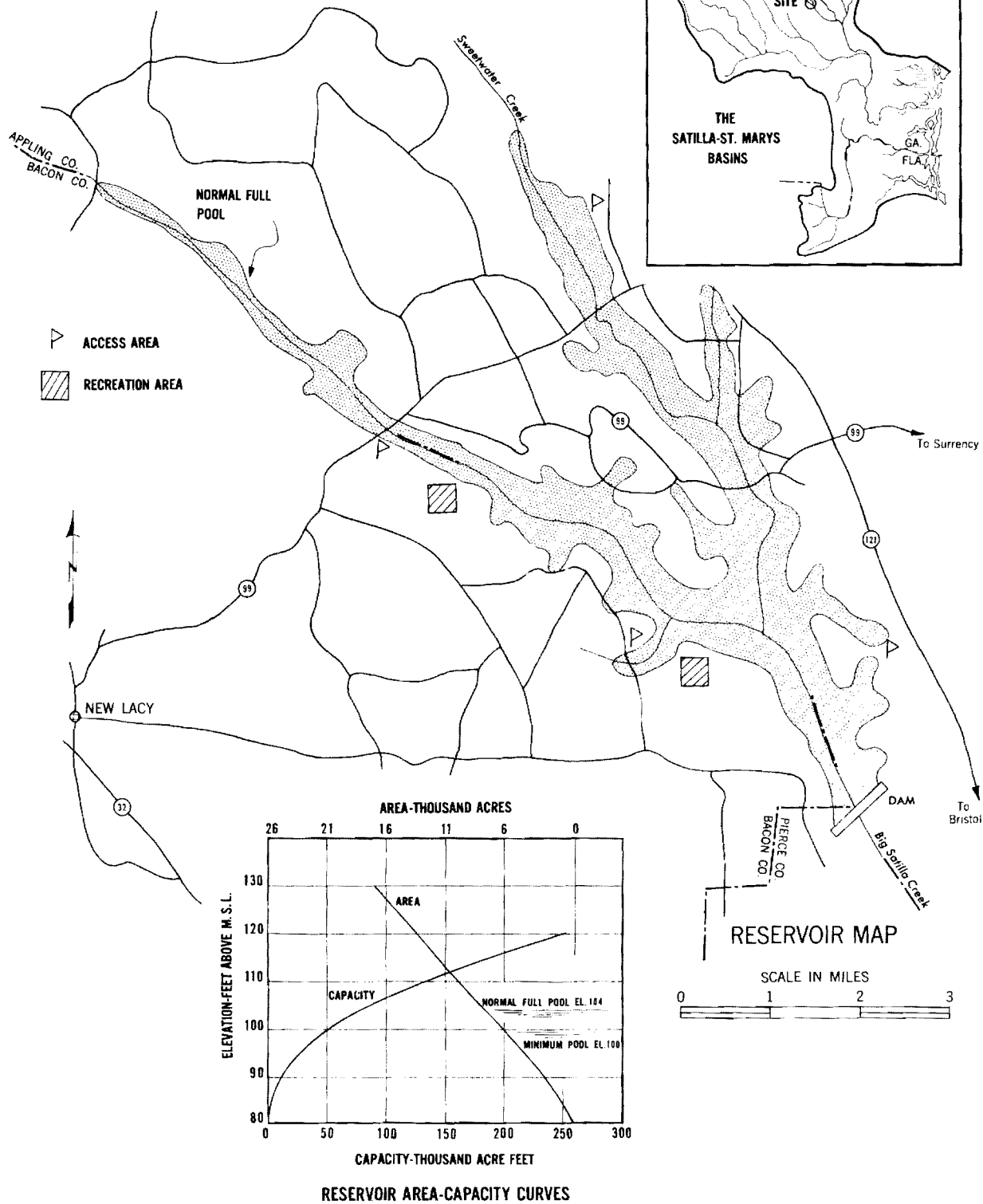
Investment-----	630
Operation, maintenance, and replacements-----	* <u>222</u>
Total-----	852

* Annual equivalent operation, maintenance, and replacements costs are the same as the operation, maintenance, and replacements costs at the year 2000 because all facilities are assumed to be added at one time.

ALLOCATION OF COSTS

All costs are allocated to navigation.

BIG SATILLA CREEK PROJECT



BIG SATILLA CREEK PROJECT

LOCATION

Big Satilla Creek damsite is on Big Satilla Creek, a tributary of the Satilla River, about 17 miles southeast of Baxley, Georgia. The reservoir site is in Appling and Bacon Counties, Georgia. The damsite is about 2 miles downstream of the confluence of Sweetwater Creek and Big Satilla Creek.

PLAN

The proposed project consists of a dam and reservoir, two parks, and water-access areas. The primary purpose of this project is recreation, but it would also provide benefits to fishing and irrigation. Storage in the reservoir would be provided for low streamflow augmentation for fishing and irrigation.

The dam would be an earthfill structure with a concrete ogee spillway section and apron and a steel sheet cutoff wall located at the upstream end of the spillway section. The reservoir would extend above the dam about 11 miles up Big Satilla Creek and about 8 miles up Sweetwater Creek. Land to be acquired for the dam and reservoir to the spillway design pool elevation is estimated to be 10,400 acres. In addition, about 3,100 acres would be needed for parks, access areas, and other public use. The principal relocations would be a few miles of secondary roads, power and telephone lines, and a small cemetery. Two 1,500-acre parks, adjacent to the reservoir, with facilities for boating, water skiing, swimming, camping, picnicking, and sightseeing would be provided for recreation. These facilities would initially handle, annually, an estimated 200,000 user-days of recreation. The maximum development would be for 500,000 user-days annually. Access areas for fishermen would be provided adjacent to the reservoir and in the recreation areas. The reservoir would meet the needs for an additional 80,300 user-days of fishing by 1975 and 84,300 by the year 2000. Storage of water for the irrigation of about 500 acres of land by the year 2000 would be provided in the reservoir. The reservoir would be operated to maintain a minimum flow of 80 cubic feet per second below the dam and to fluctuate the pool level so as to minimize mosquito and other vector problems.

DATA

	Unit	Amount
Drainage area above dam -----	sq. mile	252
Dam		
Length -----	ft.	5,500
Maximum height -----	ft.	50
Spillway		
Effective length -----	ft.	670
Crest elevation* -----	ft.	104
Design discharge at elevation 112 ft.*-----	c.f.s.	60,500

(continued)

	Unit	Amount
Reservoir elevations*		
Normal full pool -----	ft.	104
Minimum design pool -----	ft.	100
Maximum design pool -----	ft.	112
Reservoir areas		
Normal full pool -----	acre	7,500
Minimum design pool -----	acre	6,000
Maximum design pool -----	acre	10,400
Reservoir capacities		
Normal full pool -----	acre-ft.	81,000
Minimum design pool -----	acre-ft.	51,000
Maximum design pool -----	acre-ft.	150,000
Runoff volume, normal full pool-----	inch	6.0
Storage requirements		
For irrigation-----	acre-ft.	500
For streamflow regulation and evaporation losses, etc.-----	acre-ft.	29,500
Design minimum flow required in stream below dam-----	c.f.s.	80

* All elevations given are mean sea level

BENEFITS

Annual Equivalent Primary Tangible (\$1,000)

Recreation -----	840
Fish and wildlife -----	135
Irrigation -----	<u>3</u>
Total -----	978

Impacts

The economic impacts from this project stem largely from the proposed purposes of recreation and fishing. There would be increased business activity in the immediate area and increased sales of such items as gasoline, fishing and recreation equipment, food, beverages, and lodging.

Although land enhancement benefits were not considered in evaluation of this project, there will be significant impacts from this source. These impacts will be significant from this project although it is not anticipated that they will be as great as the example of Lake Lanier cited in Section III, Impacts of the Plan, since the nearby population will be considerably less and the reservoir will be smaller. The construction of homes around the reservoir would be an asset to the area as would the increased tax revenues from this source. Legislation setting up a local development agency to construct the project should provide for the capture of some of these enhanced values and additional tax revenues to assist in paying for the project. This is being done in one 300-square mile area in West Tennessee.

The construction of the dam and reservoir would provide temporary employment in the immediate area in the construction trades.

The irrigation storage provided in the reservoir would be used by landowners and operators and would be of benefit to the area. The impacts from this would be measured in greater agricultural production due to assured water supply.

COSTS (\$1,000)

	Early action	Total
Investment		
Dam and reservoir -----	5,725	5,725
Recreation -----	1,569	2,615
Fish and wildlife -----	100	100
Total -----	7,394	8,440

Annual Equivalent

Investment -----	290.9
Operation, maintenance, and replacements -----	139.1
Total -----	430.0

ALLOCATION OF COSTS (\$1,000)

	Invest- ment	Annual equivalent Total	OM&R OM&R	OM&R at year 2000
Recreation -----	5,610	319	129.9	165.8
Fish and wildlife -----	2,800	110	9.1	9.1
Irrigation -----	30	1	0.1	0.1
Total -----	8,440	430	139.1	175.0

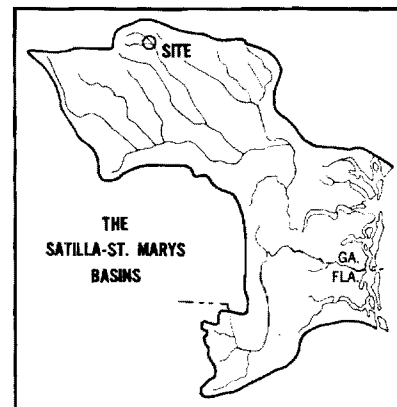
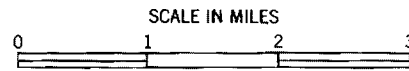
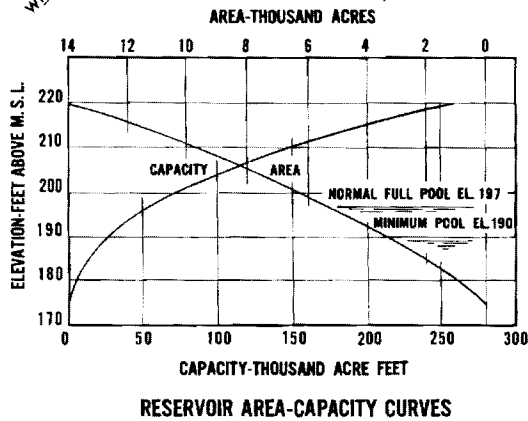
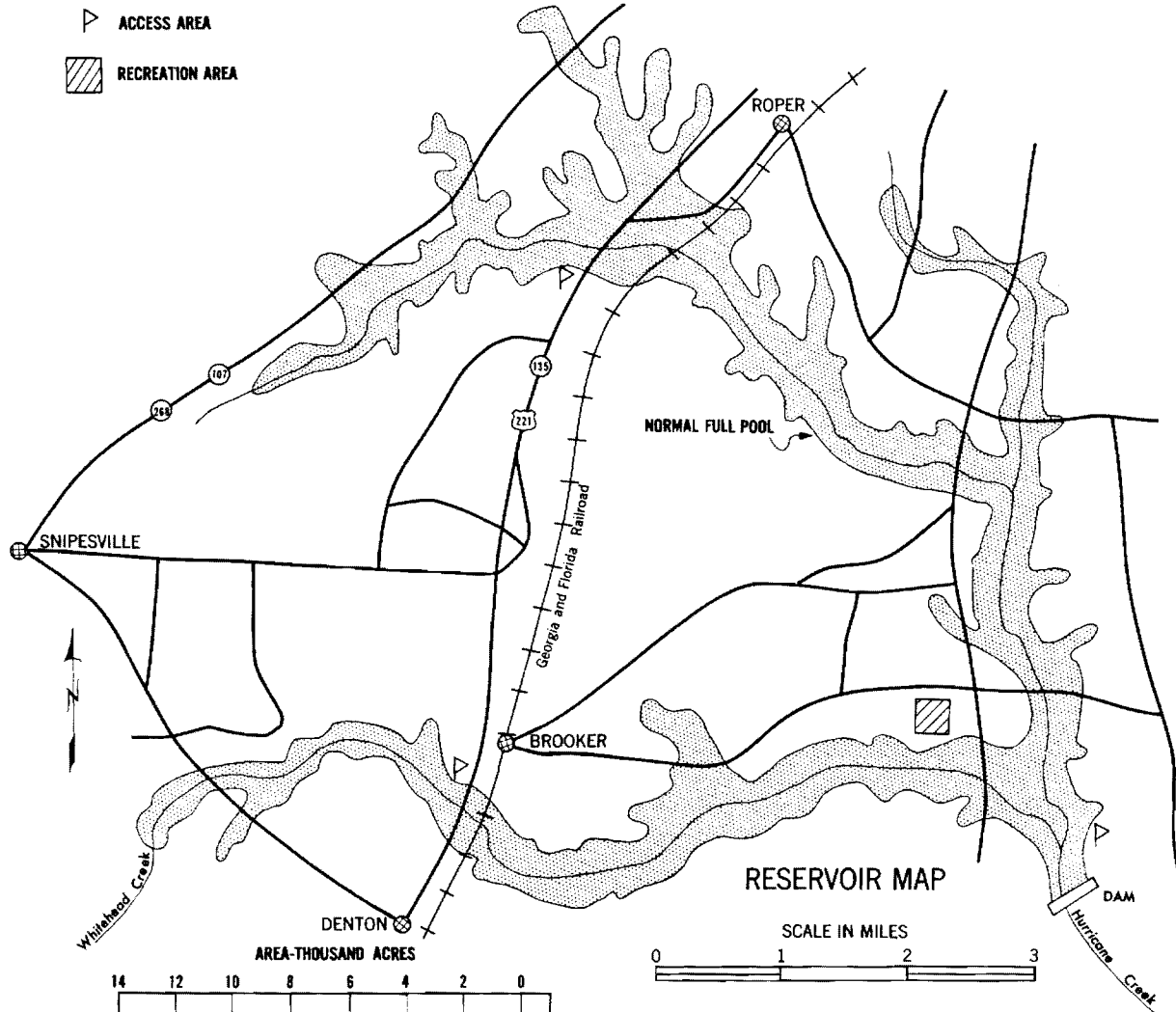
SPECIAL CONSIDERATIONS

The Big Satilla Creek reservoir would be very desirable for recreational activities. The size and depth of the reservoir and the configuration and slope of the shorelines would be such that many types of water sports could be pursued at the same time. During most of the year, the reservoir pool would be relatively stable. The difference between the normal pool elevation and the minimum design pool is estimated to be about 4 feet. The quality of the water would be excellent for water-contact sports. The project location is about 30 miles from the cities of Jesup, Baxley, and Waycross, and it would be accessible by good highways. It is projected that the project would attract many recreationists and fisherman from the nearby cities and the surrounding area.

Federal financial assistance is recommended to assist in the early initiation of the Big Satilla Creek project. The early development of the project would demonstrate the financial feasibility of this and similar undertakings from the local viewpoint. The revenue from the increases in

in property values and tax base and the income from the users of the facilities, both in the area and attracted from outside the area, would more than offset the cost of construction and the cost of operation of the project.

UPPER HURRICANE CREEK PROJECT



UPPER HURRICANE CREEK PROJECT

LOCATION

Upper Hurricane Creek dam and reservoir site is on Hurricane Creek in Jeff Davis County, Georgia. The damsite is about one-half mile downstream of the confluence of Whitehead Creek and Hurricane Creek.

PLAN

The proposed project consists of a dam and reservoir, one park, and water-access areas. It would provide benefits from recreation, fishing, irrigation, and pollution abatement. Storage in the reservoir would be provided for low-flow augmentation for fish, irrigation, and the dilution of wastes.

The dam would be an earthfill structure with a concrete gravity spillway and apron and a steel piling cutoff wall at the upstream end of the spillway. The reservoir would extend up Hurricane Creek about 7 miles above the dam. Land needed for the dam and reservoir to the spillway design pool elevation is estimated to be 8,000 acres. In addition, about 1,600 acres would be needed for a park, access areas, and other public use.

This project is phased for construction in the period 1975 to 2000. It would provide annually 150,000 user-days of recreation and 67,000 user-days of fishing. The reservoir would be operated to maintain a minimum flow of 50 cubic feet per second below the dam and to fluctuate the reservoir pool so as to minimize mosquito and other vector problems. The minimum flow of 50 cubic feet per second in Hurricane Creek is needed for fish and wildlife. This flow would be more than ample to meet the minimum flow requirements of about 4 cubic feet per second for pollution abatement.

DATA

	Unit	Amount
Drainage area -----	sq. mile	97
Dam		
Length -----	ft.	2,450
Maximum height -----	ft.	40
Spillway		
Effective length -----	ft.	400
Crest elevation* -----	ft.	197
Design discharge at elev. 205. ft.*	c.f.s.	36,000
Reservoir elevations*		
Normal full pool -----	ft.	197
Minimum design pool -----	ft.	190
Maximum design pool -----	ft.	205

	Unit	Amount
Reservoir areas		
Normal full pool -----	acre	5,400
Minimum design pool -----	acre	3,300
Maximum design pool -----	acre	8,000
Reservoir capacities		
Normal full pool -----	acre-ft.	54,000
Minimum design pool -----	acre-ft.	24,000
Maximum design pool -----	acre-ft.	105,000
Runoff volume, normal full pool -----	inch	10.4
Reservoir requirements		
For irrigation -----	acre-ft.	500
For streamflow regulation and evaporation losses, etc. -----	acre-ft.	29,500
Design minimum flow required in stream below dam-----	c.f.s.	50

* All elevations given are mean sea level.

BENEFITS

Annual Equivalent Primary Tangible (\$1,000)

Recreation -----	210
Fish and wildlife -----	125
Irrigation -----	11
Pollution abatement -----	<u>75</u>
Total -----	421

Impacts

There are many benefits to the area from the project which would directly or indirectly increase the ability and willingness of local interest to participate in the cost of the project.

Construction of the dam and reservoir would, during the installation period, provide employment, sales of materials and equipment, increased housing and food service opportunities, and many other associated benefits.

After construction of the project, new business would be attracted to the area and many new opportunities for employment would occur in new trades and services such as boat building, rental and repair, swimming and water skiing, equipment and supplies, food services, and automobile services. The dilution of the water in Hurricane Creek to reduce the effects of pollution, after secondary treatment, would be one means to encourage industry to be established, particularly in the vicinities of Alma and Blackshear, Georgia.

As a result of visitations to the reservoir, benefits would accrue from increased employment opportunities in motels, restaurants, auto and boat sales and services, and souvenir manufacture and sales.

COSTS (\$1,000)

	Early action	Total
Investment		
Dam and reservoir -----	0	4,270
Recreation -----	0	955
Fish and wildlife -----	<u>0</u>	<u>45</u>
Total -----	0	5,270

Annual Equivalent

Investment -----	190.8
Operation, maintenance, and replacements -----	<u>64.2</u>
Total -----	255.0

ALLOCATION OF COSTS (\$1,000)

	Invest- ment	Annual equivalent Total	OM&R OM&R	OM&R at year 2000
Recreation -----	1,980	126	53.7	55.2
Fish and wildlife -----	2,440	97	8.4	8.4
Irrigation -----	30	1	0.2	0.2
Pollution abatement ----	<u>820</u>	<u>31</u>	<u>1.9</u>	<u>1.9</u>
Total -----	5,270	255	64.2	65.7