

VII PRIMARY CONSIDERATIONS

A. Socio-Economic

1. Recreation

As a component of the National Wild and Scenic Rivers System, the Chattooga River will attract visitors from the entire United States to the river and surrounding area. This will have a direct affect on the local economy because of the need to furnish goods and services for an estimated 139,000 visitor-days of recreation use. The broader effect should be that the Chattooga will serve as a drawing card to the general area and will focus attention on the many other outstanding features in the Georgia-North Carolina-South Carolina mountain area. This can have an effect on the local economy much greater than the river alone.

On the river itself the greatest increase in recreation use will occur in hiking, floating--including canoeing and rafting--and primitive camping. Though canoeists come from many miles to enjoy the whitewater found on the Chattooga, those who have come in the past have learned about it primarily from word of mouth. Including it in the National System will increase the number of canoeists who know about the Chattooga and its canoeing challenge. This will attract many more than have come in the past. Hiking, because of a lack of trails, is still a minor activity along the river. Proposed trails will provide more hiking opportunity for those who would like to see the Chattooga River. Primitive camping in connection with hiking and canoeing will increase. Including the Chattooga River in the National System is not expected to have a great effect on the hunting and fishing use of the area. These uses are expected to increase in direct proportion to the hunting and fishing use of the surrounding area.

Of the two principal alternatives for use of the Chattooga, from the recreation standpoint, Wild and Scenic River status is considered to be more desirable than development with dams. In the entire Southeastern United States, only four rivers were designated in the National Wild and Scenic Rivers Act for study for possible inclusion in the system. The study rivers are the Suwannee in Florida and Georgia, a slow-moving coastal plains river; the Obed in central Tennessee, flowing through hill country, and the Buffalo River in Tennessee, also flowing through hill country. The Chattooga River is the only one proposed in the Wild and Scenic Rivers Act that flows through the Southern Appalachians and has true whitewater canoeing opportunities.

Additional river impoundments will increase an already plentiful recreation resource.

There are 21 major lakes within a few hours driving time of the Chattooga River. Four more lakes would only add to this already large supply of one recreation resource. Other new lakes are planned and with the construction of each new lake, there is one less free-flowing river or part thereof, for future generations to enjoy. In short, the future outlook is for more lakes and fewer free-flowing rivers.

Including the Chattooga in the National Wild and Scenic River System would provide an estimated 81,600 visitor-days ^{1/}, of canoeing and hiking each year and a total of 139,200 visitor-days of recreation use. Planned recreation improvements, including trails, portages, campsites and launching sites, would cost an estimated \$800,000. The fifth year of operation administrative cost, including cleanup and management of the river, is estimated to be \$203,000. Major benefits other than recreation would be the preservation of the Chattooga as a free-flowing stream for coming generations along with the preservation of rare plant communities.

Development of the Chattooga River with four dams as proposed in the Southeast Basins Report would cost an estimated \$136,900,000*. The cost of recreation improvements around these four lakes would be \$1,400,000*. These investments would provide an additional 3,738 acres of boating waters not now available on the Chattooga River. They would also provide an estimated 260,000 user days of recreation on the lakes with an additional 1,770 user days attributed to fish and wildlife. Annual administrative costs for this development would be \$873,000* for powerplant operation and \$71,000* for recreation administration for a total of \$944,000*. In addition to public recreation opportunity, the development of these lakes would create private recreation residence opportunity around the shoreline to an estimated 200 additional recreation residences with an estimated cost of \$2 million. These expenditures would no doubt have a large impact on the local economy. The flooding of 3700 acres of existing fish and wildlife habitat would be a definite loss to the area. Mitigation as now practiced cannot replace this ecosystem. In addition to the recreational benefits, power development would generate electric power estimated at \$9,228,000* per year.

*1960 Dollars

2. Agriculture-Commercial-Industrial-Municipal

Water from the Chattooga is not used for irrigation or other agricultural purposes, and the old farmlands included within the proposed river corridor are growing up in young forest or will be maintained in pastoral use. Including the Chattooga River in the National Wild and Scenic Rivers System will have little effect on existing or future agriculture along the river.

1/ A visitor-day consists of 12 visitor hours.

Of the 15,432 acres within the river corridor the Forest Service administers 13,471 and 1,961 acres are privately owned. Ellicott's Rock Scenic Area has 713 acres within the river boundary that is permanently reserved from timber harvest. This leaves 12,758 acres of Forest Service commercial forest land. Of the 1,961 acres in private ownership, 1,188 are classed as forested. The following are estimates of the volumes and values at present market prices for all the timber within the proposed river boundary.

Acres in Proposed River Corridor

	<u>N.F. less Scenic Area</u>	<u>Ellicott's Rock Scenic Area (N.F.)</u>	<u>Private</u>	<u>Total</u>
Georgia South	7,421	97	657	8,175
Carolina North	4,029	491	63	4,583
Carolina	<u>1,308</u>	<u>125</u>	<u>1241</u>	<u>2,674</u>
	<u>12,758</u>	<u>713</u>	<u>1961</u>	<u>15,432</u>

National Forest Land (minus Scenic Area)

Sawtimber

	<u>Acres</u>		<u>Vol./Acres in MBF*</u>	<u>Total Vol.</u>	<u>Value/MBF*</u>	<u>Total Value</u>
Georgia South	7421	X	3.0	= 22.3 MMBF	@ \$55	= 1,226,500
Carolina North	4029	X	3.0	= 12.1 "	@ \$50	= 605,000
Carolina	<u>1308</u>	X	2.3	= 3.0 "	@ \$45	= 135,000
	<u>12,758</u>			<u>37.4</u>		<u>1,966,500</u>

Pulpwood

	<u>Acres</u>		<u>Cords/Acre</u>	<u>Total Vol.</u>	<u>Value/Cord</u>	<u>Total Value</u>
Georgia South	7421	X	5.0	= 37.1 M Cds.	@ \$.62	= \$23,002
Carolina North	4029	X	4.5	= 18.1 " "	@ .75	= 13,575
Carolina	<u>1308</u>	X	3.3	= 4.3 " "	@ .58	= 2,494
	<u>12,758</u>			<u>59.5</u>		<u>39,071</u>

*MBF = Thousand Board Feet

Private Lands (Forested)

Sawtimber

	<u>Acres</u>		<u>Vol./Acre in MBF*</u>		<u>MMBF Total Vol.</u>	<u>Value/MBF*</u>	<u>Total Value</u>
Georgia	385	X	2.0	=	.8	@ \$35	= \$28,000
South							
Carolina	52	X	1.9	=	.1	@ 30	= 3,000
North							
Carolina	751	X	1.5	=	1.1	@ 30	= 33,000
	<u>1188</u>				<u>2.0</u>		<u>\$64,000</u>

Pulpwood

	<u>Acres</u>		<u>Cords/Acre</u>		<u>Total Vol.</u>	<u>Value/Cord</u>	<u>Total Value</u>
Georgia	385	X	5.0	=	1.9M Cds	@ \$.62	= \$1,178
South							
Carolina	52	X	5.0	=	.3" "	@ .75	= 225
North							
Carolina	751	X	5.0	=	3.7" "	@ .58	= 2,146
	<u>1188</u>				<u>5.9</u>		<u>\$3,549</u>

*MBF = Thousand Board Feet.

Combining both National Forest and private land, but excluding Ellicott's Rock Scenic Area, gives a total commercial forest land acreage of 13,946 acres with present timber value of \$2,073,120.

Although timber harvest has occurred in the vicinity, the proposed corridor is of minor importance in commercial timber production. The steep slopes near the river limit timber harvest under present logging techniques. If timber harvesting is restricted in the corridor the effect on the forest products industry will be slight, if any. Any potential loss of timber to the industry, even under future logging technology, can best be replaced by more productive and accessible timberlands.

Existing and future needs for hydro-power are discussed in Chapter V-F of this report. Except for potential reservoirs, there are no commercial, industrial, or municipal uses of the river that would be foregone if it becomes a Wild and Scenic River. There are no commercial fishery uses of the river.

The resort village of Cashiers on the extreme upper headwaters is the largest established community near the river and the rugged terrain and landownership pattern along the river may preclude future municipal development. Private lands along the Chattooga can be expected to become heavily developed in

private summer homes in the future, rather than in industrial or commercial development, if the river is not included in the National Wild and Scenic Rivers System. Only the lands directly along the two paved highways--Highway 28 and U. S. 76--are vulnerable to commercial or industrial development, and there are no known plans for immediate development of these lands.

Except for U. S. Highway 76, major travel routes in the Chattooga River vicinity are all north-south between the mountains and Piedmont and do not cross the river. The east-west roads and highways crossing the Chattooga are used mostly by local residents. The three State Highway Commissions have no plans to construct interstates or additional highways or expand existing highways across the Chattooga.

Utility needs for this area are generally in place, and little need is seen for expansion. Wild and Scenic River status and scenic easements will limit future development within the river boundary.

According to the reports of the Corps of Engineers, Resources Advisory Board, and Federal Power Commission there are no flood control benefits to be foregone if the Chattooga is included in the National Wild and Scenic Rivers System. The Chattooga flows almost entirely through forested, undeveloped country and potential reservoir sites on the Chattooga would offer no flood control advantages. The waters of the Chattooga flow directly into Tugaloo Reservoir and then into Hartwell Reservoir. These two hydro-power reservoirs provide sufficient flood protection for the lands along the Savannah River.

3. The People and Their Way of Life

The steeply mountainous lands through which the Chattooga River flows have severely limited development and have had a profound effect on the people and economy of the area. Except for the resort village of Cashiers on the extreme upper headwaters and a small area of summer homes at Highway 28, all development and population is located many miles away from the river in narrow fertile valleys between the main mountain ranges and cross ranges and in the lower elevation Piedmont. The mountains have isolated the river from past development and prevented concentrations of population from locating near the river.

The lands directly along the river were not settled even in early settler and Cherokee Indian times. The Cherokees used these lands only as hunting grounds. Major Cherokee villages were 20 miles east and 10 miles west of the river.

The quest for gold in the 1700's brought many of the first white settlers into the area. One early gold mine was located on Ammons Branch about two miles from the Chattooga. It yielded only a small pocket of gold and was quickly exhausted. Gold mining declined in a short period of time; and the settlers that remained turned to agriculture, locating villages and farms away from the river in the valleys between the main mountain ranges. Most of these farms were small, with many located on steep hillsides. Poor practices and eroding lands gradually reduced most of these mountain farms to little more than bare subsistence farming.

In the late 1800's and early 1900's, the large sawmill companies began buying up the wild mountain lands throughout most of the Appalachians. The "cut-out and get-out" era that followed saw boom times with jobs, roads, railroads and progress, followed closely by economic depression as the sawmills moved on. Most of the Chattooga Drainage was completely cut over with no provision for reforestation. Uncontrolled fires and erosion caused loss of the protective forest-humus cover on many watersheds in the area, and destructive floods plagued many of the communities in the Appalachians. The 1911 Weeks Law authorized the Forest Service to buy lands throughout the United States for watershed protection, and much of the mountain lands for miles around the Chattooga became part of the three National forests. Through reforestation programs and fire protection by the Forest Service, these lands have been restored to a forested, productive condition.

Major transportation routes and settlement continued to follow the valleys to the west, north and east, beyond the river. As farming slowly declined in the four counties around the Chattooga, poultry production emerged in the 1930's as a profitable enterprise, and small chicken farms increased through the 1940's. This profitable industry attracted large feed companies, and disastrous price wars became widespread. The small farmer was unable to compete, and the large feed manufacturers became dominant by the 1960's. Development continued to bypass the steep mountainous lands along the Chattooga.

As farming slowly declined, large numbers of people left these rural counties, attracted by jobs and wages in urban areas. An increasing number of textile and small manufacturing plants settled in these counties and helped offset this migration from the rural counties to the cities.

The people of these counties are predominantly native-born descendants of farmers, craftsmen and small merchants. A high percentage of the people are unskilled. Minimum wage requirements and high costs of production forced many industries in these counties to substitute machines for men and to change skill requirements. Much of the farm and unskilled labor from these areas has found it difficult to obtain employment. An increasing labor pool of unskilled and semi-skilled workers has resulted.

Economic and population data for the four counties around the river are nearly meaningless when applied directly to the drainage area of the Chattooga. The river flows in near isolation through some of the most rugged country in the Southern Appalachians. The physiographic, social and economic isolation of the Chattooga River is a strong factor favoring establishment of a wild and scenic river here.

As farm employment has dropped and manufacturing employment has increased and changed its skill requirements, tourist-oriented businesses in these counties have experienced a remarkable accelerated growth. The same mountain ranges and cross ranges that have isolated these counties and restricted development in the past, are now recognized as major tourist attractions, attracting vacationers from all over the Southeast.

Current Economic and Population Situation

Macon and Jackson Counties in North Carolina and Rabun County in Georgia are included in the Appalachian depressed area region. Oconee County in South Carolina, while not experiencing boom conditions, is not included.

The average population of these four counties increased 3.4% in the 10 years between 1960 and 1970.

U. S. CENSUS OF POPULATION*

	Land Area in Sq. Mi.	Total Pop. 1970	Total Pop. 1960	Population Loss or Gain
Jackson, N. C.	495	20,486	17,780	+2706
Macon, N. C.	517	14,873	14,935	- 62
Rabun, Ga.	369	7,656	7,456	+ 200
Oconee, S. C.	670	40,088	40,204	- 116

*Source: U.S. Department of Commerce, Bureau of the Census 1970.

Oconee and Macon Counties in South Carolina and North Carolina respectively, had a population loss of 178 persons during the 1960 decade. Jackson County, N.C. was the only county of the four that had an appreciable increase in population.

The population character of Rabun County, Georgia, and Macon and Jackson Counties in North Carolina is experiencing some change. Some immigration is occurring to these counties from Florida, southern South Carolina, and southern Georgia, as well as from the midwest and northeast. This immigration is made up primarily of retired persons and technical and administrative personnel employed by the increasing industrial development in the Little Tennessee Valley in Macon and Rabun Counties. The beginning of industrial development in southern Oconee County, South Carolina, is having a similar influence on the population there.

Macon and Jackson Counties, North Carolina

The counties around the Chattooga all have widely varying economic and population characteristics. The portions of Macon and Jackson Counties around the river in North Carolina includes the Highlands Cashiers area. This area has been famous as a destination vacation area for many years--as early as 1800, exclusive summer homes and vacation inns were located here. Highlands, North Carolina--highest incorporated town east of the Rockies--and Cashiers, North Carolina, are known throughout the Southeast for their cool summer climate, waterfalls, clear mountain streams, lakes and spectacular mountain scenery. Over 300,000 tourists visit the area during the peak vacation period from June 1 through Labor Day and an additional 15,000 summer home people visit and live in the Highlands area during this period.

Private vacation developments include golf courses; a ski course; expensive resorts and vacation inns featuring private lakes; trails and riding stables; gift shops, and a concentration of high priced summer homes approaching suburban residential proportions. The few additional commercial developments within the area are entirely of a service type and include several grocery stores, drugstores, gas stations and restaurants. During late fall, winter and early spring, most of the resorts and several of the commercial developments are closed, and summer homes are vacated until warmer weather. The population of the Highlands area drops to 600 in the winter months.

Visitors to this area come to relax and enjoy the cool summer climate and spectacular scenery away from the pressures of urban living. Most resorts here are of the comfortable country-inn type featuring excellent food and plenty of room for relaxation in a rustic atmosphere. Although relaxation is probably the most popular recreation activity here, other outdoor activities such as golfing, hiking and horseback riding are also popular. Most vacationers to this area are well-educated and many are extremely interested in studying and observing the flora, fauna and geologic history of the area. One of the most popular Forest Service activities in the area in recent years has been a weekly lecture by

the District Ranger at the local Museum of Natural History, followed by a guided auto tour through National Forest lands. Many visitors to the area visit National Forest observation sites and swimming and picnicking areas. Forest Service campgrounds provide facilities for the more adventuresome, as well as families of more modest means.

Private resort and summer home development within this area has been of appropriate design and construction. This is one of the few vacation areas that has not suffered from a blight of gaudy drive-ins, wild west shows, caged bears, snake gardens and other enterprises of this type.

Establishment of a wild and scenic river will generally be welcomed by the private sector in this area.

Rabun County Georgia

Although not yet as popular and exclusive as the higher elevation Highlands-Cashiers area to the north, Rabun County, Georgia has been noted for many years as a vacation area that serves a large number of pass-through travelers, summer cottage residents, and visitors to the county's many summer inns and hotels. Rabun County's economy is based partly on farming and new industry, but tourism is fast developing as one of its major industries.

The county seat is Clayton, located seven miles west of the River on heavily travelled U. S. Highway 441. Ninety-two percent of Rabun County is forested, and the majority of development is centered along a broad valley separated from the Chattooga by steep mountains.

U. S. 441 is a major travel route between the northern U. S. and Florida. Several modern motels and service stations catering to the pass-through traveller, have located in the Clayton area along U. S. 441.

There are several summer hotels still in operation which serve a substantial vacation-recreation travel trade. These are similar to the quiet country inns in the Highlands-Cashiers area and are noted for their excellent food and comfortably rustic atmosphere.

The new Kingswood Country Club near Clayton represents a new trend in economic development for Rabun County. This development features a golf course, club house, restaurant and motel accommodations in a well-designed, exclusive atmosphere.

"Agriculture plays a small role in the economy of Rabun County. In 1964 there were 316 farms which averaged 95.5 acres each. The value of farm products sold was \$833,486. The principal agricultural products are poultry, livestock, corn, grain and garden vegetables. In the manufacturing sector of the county's economy, wood and wood products, shirts, steel furniture, aircraft parts, carpets, and stone products are produced. There are 75 travel-serving establishments in the county.

Development potential for the county lies in expansion of its accommodations to attract more destination travellers and provide additional services and facilities to detain the pass-through traveller on U. S. 441." 2/

Inclusion of the Chattooga River within the National Wild and Scenic Rivers System would provide a major attraction assisting Rabun County's expanding travel industry.

Oconee County, South Carolina

Oconee County differs from the counties of North Carolina and Georgia that surround the river. Only a small area of mountains encloses the Chattooga River in South Carolina and this is almost entirely in National Forest. Most population and development is located beyond this fringe of mountains in the Piedmont Province. Oconee County has no major tourist or vacation industry, but construction of the Keowee-Toxaway Reservoir and inclusion of the Chattooga in the National Wild and Scenic Rivers System will create a demand for supporting travel-serving development.

Present industrial developments in this county are mostly small, neat fabricating and assembly plants located primarily along U. S. 123 in the vicinity of Westminster, Seneca and Clemson. The central part of Oconee County is a broad plateau of economic development. Good land use practices, primarily pasture for livestock, have generally replaced row crop farming in the area.

In 1970, Oconee County had a total population of 40,088 within a land area of 670 square miles averaging 60 people per square mile. This is twice the population density of the counties of North Carolina and Georgia around the river. This is due to more suitable development acreage within the Piedmont part of the county and a large increase in urban population within the county. Urban population increased 28% and rural population decreased 2% between 1960-1970.

2/ Buchanan, W. Wray, "The Vacation/Recreation Travel Industry in Rabun County", University of Georgia.

Increasing emphasis on attracting industry into the State has been a primary factor increasing the urban population of this county. South Carolina's past economy was based on agriculture. As the profitability of farming declined and people migrated from their farms, South Carolina responded by offering substantial incentives for businesses to locate plant facilities in the State. The result has been a shift from an agrarian to an industrial economy, from a rural to an urban population. New businesses have brought many of their own people with them into South Carolina, and many more original residents have remained in the State because of job opportunities.

The people of South Carolina have a median age of 23.4 years, the third lowest in the Nation; the National average is 29.5 years. The low median age is a result of the low marriage age, large out-migration in older age brackets, and the recent influx of young families arriving to fill the State's growing industrial employment needs. Median family size in South Carolina was 4.11 persons in 1960, down from 4.19 in 1950. Per capita income increased 60% between 1955 and 1965 as a direct result of the rapid industrialization of the State. Median incomes of non-farm laborers increased 33% between 1950-1960 while farm laborer income suffered a 2% drop. This trend will continue to induce increasing numbers of people to leave their farms and take jobs in industry. Results of this transition will be increased urbanization and suburbanization, higher personal incomes and increased leisure time. These will lead to a high increase in demand for outdoor recreation opportunities.

4. State Coordination

There are no existing interstate compacts concerning the Chattooga River. The South Carolina and Georgia Game and Fish Commissions recognize and accept either of the two State fishing licenses on the main river, since they share it as a common State boundary. All three State Game and Fish Commissions are studying the need for similar fishing seasons, bag limits, bait requirements, and complementary trout stocking and fish management programs for the Chattooga.

Since the river is shared by all three States there is a need for similar water quality classification standards and a coordinated pollution prevention program. The State water quality organizations share with the Environmental Protection Agency the joint responsibility for setting and enforcing water quality standards and for monitoring the water quality of interstate rivers. All of these organizations have cooperated with the Forest Service in determining if there are existing pollution problems on the river and in studying the adequacy of the present Federal/State standards. The

three State organizations have responsible water quality and pollution control programs, but their continued cooperation is needed to assure that the Chattooga can remain suitable for all wild, scenic and recreation river uses in the future. While joint Federal/State standards approved for each of the three States for the Chattooga meet the wild and scenic rivers criteria some differences exist, particularly temperature and coliform bacteria criteria. The Environmental Protection Agency is currently reviewing these standards with the States so that these differences can be resolved.

Georgia has the largest watershed area draining into the Chattooga including tributaries from populated areas. The Georgia Water Quality Control Board has worked closely with the City of Clayton, Georgia to clear up the pollution problem on the Stekoa Creek.

B. Other Viewpoints

Support for including the Chattooga River in the National Wild and Scenic Rivers System has been almost unanimous. Two public meetings were held as part of the Chattooga River Study. In December, 1969, the "Public Listening Session" was held in Highlands, North Carolina, to gather factual input information about the river area and opinions on management as a wild and scenic river. When sufficient information had been assembled and analyzed, a "Proposal" was prepared and reaction to it sought at a "Public Meeting" at Clayton, Georgia in March, 1970. In each case, the record was held open for 30 days for additional statements after which a complete record was assembled and analyzed. The record, including oral statements and written statements received by mail, contains over 1,000 statements from over 1,500 people, organizations and government agencies. Only three individuals and one private hunt club opposed including the river.

Support for the proposal came from 12 governmental agencies, 50 private organizations, 15 petitions (over 500 signatures), and over 900 individuals. Several responses indicated disagreement with parts of the Proposal. As a result of the additional information submitted for the record, and heavy public opinion, some of the recommendations of the Proposal were changed for the final report.

VIII ANALYSIS OF ALTERNATIVES

The study identified three alternatives for future use of the Chattooga River.

1. Maintain the status quo - let uncoordinated development and use continue as it has in the past.
2. Develop the river for hydroelectric power.
3. Include the river in the National Wild and Scenic River System.

A. The Status Quo

Future development of the river and adjacent lands without coordinated planning would probably result in:

1. Maximum development of private lands for summer homes.
2. More public camping facilities constructed by the Forest Service.
3. Further encroachment on the river shoreline by jeep roads.
4. Increased use of river shorelines by fishermen and boat campers resulting in litter accumulation and site deterioration.
5. An increase in sources of potential river pollution.
6. A continuation of logging practices on National Forest and Georgia Power Company lands.

B. Hydroelectric Development of the River

There have been four proposals for hydroelectric development of the river.

	<u>Agency</u>	<u>Report</u>	<u>Date</u>	<u>Dams Proposed</u>
1.	Corps of Engineers (COE)	House Document 64 74th Congress	1/1935	5
2.	Corps of Engineers (COE)	House Document 657 78th Congress	6/1944	4

- | | | | | |
|----|---|-------------------------------------|---------|---|
| 3. | U.S. Study Commission
Southeast River Basins
(SERB) | Senate Document 51
88th Congress | 9/1963 | 4 |
| 4. | Federal Power
Commission | Hydroelectric
Power | 12/1969 | 3 |

Analysis of these four proposals for Chattooga River hydroelectric development indicates that three of the four are incompatible with Wild and Scenic River status. Only the FPC proposal considered partial development. The other proposals were for dam site systems, since each reservoir and power plant depends on water release from other reservoirs for its efficiency.

Basically the four proposals involve six dam sites:

<u>Report</u>	<u>Dam Site</u>	<u>Location (River Mile)</u>
FPC	1. Cashiers	46.9
COE - '35	2. Warwoman	21.2
COE - '44	Warwoman	20.3
SERB	Warwoman	20.4
COE - '35	3. Sandbottom	18.2
COE - '44	Sandbottom	17.5
SERB	Sandbottom	17.7
FPC	Sandbottom	17.7
COE - '35	4. Rogues Ford	11.1
COE - '44	Rogues Ford	11.1
SERB	Rogues Ford	11.0
FPC	Rogues Ford	11.3
COE - '35	5. Long Creek	7.3
COE - '35	6. Camp Creek	4.9
COE - '44	Camp Creek	4.9
SERB	Camp Creek	4.9
FPC	Opposum Creek	4.9

A series of dams on the Chattooga River would so seriously segment, reduce the length, and regulate flows of remaining reaches as to eliminate river character. The upper non-floatable reaches (Sec. I and II) cannot stand alone:

Free-Flowing Reaches (Miles)

Report	Between Reservoir Reaches	West Fork	Sec, I & II
COE - '35	0.6	3.3	19.7
COE - '44	0.6 to 3.5	-	21.4
SERB	0.6 to 2.9	0.0	20.4
FPC	0.6	3.3	14.4 <u>1/</u>

1/ Section II below the Cashiers project.

The one variation to the system's proposals was presented by the Federal Power Commission. Its Cashiers proposal could operate as an independent pure pumped storage facility. The 330 acre forebay would be on Little Whitewater Creek, a tributary of Whitewater River, Keowee River Basin. The after-bay would be a 450 acre impoundment on Chattooga River at river mile 46.9.

This installation would eliminate from Wild and Scenic River consideration the upper seven miles of the study river. Ecological change caused by transfer of water between drainages hasn't been explored. Installed capacity would be 550,000 kilowatts. With this reservoir, part of the Southeast (Region III) would have 4% of additional peaking capacity needed by 1990, and the Nation could have part of a river undammed but with regulated flow. Without the reservoir, an entire river can be retained for the Nation in free-flowing condition.

As a part of the Chattooga River Study, the Resources Advisory Board, Southeast River Basins Staff, Atlanta, Georgia, summarized the U.S. Study Commission's Southeast River Basins Report and commented on its proposed hydroelectric developments (Memorandum dated November 14, 1969, in Appendix C). Both the Southeast River Basins Staff memorandum and the Federal Power Commission proposals give information on the electric power needs for the Southeast. According to the Resources Advisory Board Report:

"The per capita use of electricity in the SERB area in 1959, amounted to about 3,000 kilowatt hours, which was below the average for the southeastern region, which in turn, was below the national average.

"Energy requirements in the SERB area in 1959 totaled about 15 billion kilowatt hours with a demand of about 2.9 million kilowatts. Hydroelectric plants generated about 3 billion kilowatt hours that year and had a peak capacity of nearly 900 thousand kilowatts.

"By 1975, electrical energy requirements in the SERB area are projected to 49 billion kilowatt hours with a demand of about 9.1 million kilowatts. By 2000, total electrical requirements in the SERB area are expected to reach at least 119 billion kilowatt hours with a demand for about 22 million kilowatts of capacity. Per capita use is expected to be at least 11,700 kilowatt hours annually."

In their reports both the Resources Advisory Board and the Federal Power Commission indicate that the Chattooga River could help meet the power generation demands for the Southeast by the year 2000. In its conclusions on the Savannah Basin, the U. S. Study Commission on page 5-2 of its report indicates "(7) Hydroelectric Power Development included in the 12 reservoir projects of the plan would meet only a portion of the estimated needs to the year 2000 for electric capacity and energy. The remaining needs can be supplied by thermal plants in the basin or in nearby areas. Some of the future capacity requirements probably can be met by pump storage which is made possible by the fact that the larger reservoirs in the plan would join one another."

The FPC report concludes that: "Nearly two million kilowatts of installed capacity including both conventional hydroelectric and pumped-storage installations in the Chattooga River basin, appear feasible for single purpose development. This latter capacity would help meet the need for future peaking capacity but it represents only a minor part of the total Region III needs by 1990." (Underlining added.)

No attempt is made to minimize the need to develop more electrical power generating capacity in the Southeast. Not in question is the projected demand for 9.1 million kilowatts capacity by 1975 or for 22 million kilowatts capacity by 2000. Most of the energy requirements of the Southeast River Basins area in the 1960's were met from steam-electric generating sources. Now pumped storage generation is emerging to an increasing extent as a means for meeting peak loads of relatively short duration. Power for peak loads cannot be provided by steam electric plants.

Engineering know-how for electric power generation has increased rapidly over the past few years, as indicated by an analysis of the proposals made for development of the Chattooga River.

Though the river itself has not changed since 1935, the potential for power generation by the river has increased through the different development proposals.

<u>Proposal</u>	<u>No. of Dams</u>	<u>Installed Capacity (Kilowatts)</u>
COE - '35	5	75,300
SERB - '63	4	366,000
FPC - '69	3	3,000,000

If increased engineering know-how can increase the potential of this river, it can probably increase the potential of other rivers. One example of this is the Duke Power Company's Keowee-Toxaway power complex. The U. S. Study Commission, which considered only hydroelectric potential, estimated that the Jocassee and Newry-Old Pickens projects would have an installed capacity of 300,000 kilowatts and an average annual generation of 170.9 million kilowatt hours. Within the area covered by those two projects, Duke Power Company has, and will expand, facilities including pump storage and steam stations to provide 10,480,000 kilowatts.

Resources Advisory Board, SERB advises that:

"Part of the additional capacity required to meet the increasing electric load may be in nuclear-fueled plants. Advances in the use of fuel cells, thermal-electric, solar and other types of devices to convert heat to electric energy have been made. With further experimentation, development, and improvement some type of direct conversion unit may become competitive with the present steam-electric central station plant for base load operations. Nuclear-fueled plants have recently become more competitive with conventional steam-electric plants.

"Developments in the application of aircraft-type jet engines as prime movers of electric generators indicate that they have a potential for peaking purposes. The initial cost per kilowatt is considerably less than conventional thermal plants, thus reducing fixed charges. The plants can be fully-automated reducing operator costs offsetting to some degree the high costs of fuel. These installations have further advantages of site, location, cooling water requirements, and load availability. One major disadvantage is the problem of noise suppression."

Georgia Power Company has four hydroelectric power plants on Tallulah River and two on Tugaloo River with a combined installed capacity of 166,420 kilowatts. This same installed capacity was reported for these six plants in the Corps of Engineers Report of 1935. These plants were built some years before that. As electric power generating capacity, especially from hydroelectric plants, becomes more critical in the future, modernizing of these six plants could possibly provide not only the additional generating capacity now estimated for the Chattooga but much more.

This type of expansion of design for other projects could probably offset the unavailable generating capacity of the Chattooga River.

In theory, the generating capacity of the Chattooga River cannot be replaced in any way by the year 2000. If the Chattooga must be developed for hydroelectric power by that date, the question then arises--where will the additional power for the year 2001 come from? Concerned public and private power entities are concerned about that now, in view of the doubling of use of electricity in the Southeast every eight to ten years. That is why they are reluctant to forego the option of reserving sites for peaking purposes.

This Study finds that the Chattooga River can supply a minor part of the electric generating capacity needed for the future. It can also play an important role in supplying intrinsic Wild and Scenic River benefits to the people of the United States.

C. Wild and Scenic River System

Designating the Chattooga River a part of the National Wild and Scenic River System would preserve--

- a free-flowing river in a natural condition. It is one of the few remaining rivers like this in the southeastern United States.
- a river with sufficient volume and flow to allow full enjoyment of river-related recreation activities. These activities like fishing, whitewater canoeing and hiking and camping along the river will enhance the recreation opportunities for many people in an area where river-oriented recreation is scarce.

--a river with unpolluted waters safe for human contact and capable of supporting many forms of aquatic life. A rare river ecosystem, free of pollution like the Chattooga will provide a source for scientific study.

--a river environment that is relatively undeveloped by man and possesses outstanding scenic, geologic and historic values.

--a river capable of supplying many intangible values. These values are difficult to assess but certainly exist for the canoeist as he meets the challenge of the river, the scientist as he studies the natural phenomena of the river, and the nature photographer filming the beauty of the river.

Designating the Chattooga River a Wild and Scenic River also means some material values will be lost--

--the potential for hydroelectric development will have to be found elsewhere - other rivers or through improved technology.

--any losses to the forest products industry because of restrictions on timber harvest can be replaced by increases in volumes harvested on more productive lands. These losses are minor as little harvesting has been done in recent years in the proposed 1/2 mile-wide corridor.

--no impoundments on the river means no additional reservoir-oriented recreation opportunities in a general area that includes 21 major reservoirs including Lake Sidney Lanier with over 11,000,000 recreation visits last year.

--land acquisition and easement efforts may have an adverse affect on some landowners. The "willing seller" approach should minimize this.

The proposal to include the Chattooga River as a unit of the National Wild and Scenic River System has almost unanimous support. Many private citizens, organizations, state and federal agencies have indicated their support. The Georgia and North Carolina state legislatures have passed resolutions supporting the proposal.

D. Conclusions

Leaving the Chattooga River to develop on an unplanned basis will result in overdevelopment, deterioration of the water and environment and perhaps eventual loss of the river character.

Hydroelectric development under three of the four proposals discussed would render the river ineligible for inclusion in the National Wild and Scenic River System. The other proposal would regulate river flow. Improved engineering technology can probably replace the potential of the Chattooga River for hydroelectric development.

Measuring the Chattooga River against criteria for wild and scenic rivers has revealed its unique qualities. The conclusion of this study is that the Chattooga River possesses values that qualify it for inclusion in the National Wild and Scenic Rivers System.