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## River Voyageurs: A Journal

Duane A. Stober  
*Wofford College*

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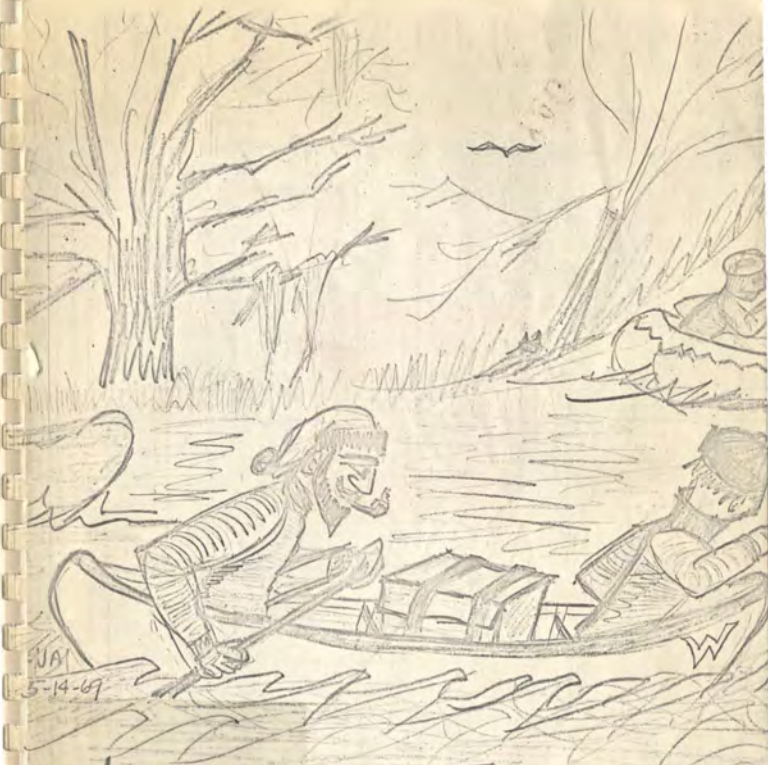
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# The River Voyageurs

A JOURNAL COMPILED  
BY DUANE A. STOBER

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THE RIVER WYAGERS

WYFFORD COLLEGE INTERIM

1969



### Acknowledgment

The "River Voyageurs," Wofford College Interim Project # 71 in January 1969, was a canoe trip. This trip started just below Pecolet Hills and terminated at Charleston, South Carolina. With the help and suggestions of many people this project became a reality. The success of this project is due mainly to those students making the trip. They not only had to paddle their canoes and camp along the river, but each student was required to have an approved individual research project of his choice. These individual research projects make up part of this journal.

I would like to take this opportunity to express my deepest appreciation for all the wonderful help given this project. Space will not permit the inclusion of individual names, for it would go on almost indefinitely. However, my thanks to the various faculty members who aided in this project, to the Boy Scouts of America, and the many fine and wonderful people who aided us in many ways on our trip down the rivers. The arranging of educational tours of our state capital city by the State Department of Education was most helpful. A special expression of appreciation to the Game Division of the State Wildlife Commission, who kept an ever watchful eye on us and extended a helping hand throughout our entire trip.

Last, but not least--to the boys who made the trip--without their efforts and hard work this project would not have been a success, nor would this journal have been possible.

"Doc"

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PROJECT PARTICIPANTS

Duane Stotes

George R. Lucas, as is

Donald B. Smith Jr.

Paul Mansengill

Joseph B. Hines III

Paul Yarbrough

Wayne Daffins

Dean Potter

Jim Hastings

Cremell Harley

David Miller

Robby Taylor

Robert L. Dobbins

David Hadden

Adon Holzman

William W. Dwyer III

Danny Campbell

Why a river voyage for an intellectual and educational experience at Wofford College? This idea was originally thought of and expanded by Duane Stober, athletic trainer and physical education instructor at Wofford. His idea was one result of a canoe trip which he had participated in while in college himself. This trip took place on the lakes and rivers which abound in Canada.

Now the question of why a river voyage. Duane Stober, hereafter referred to as Doc, felt that a trip of this type through the heart of an area rich in historical heritage could provide a means for intellectual stimulation. This stimulation could be easily centered on projects involving the historical aspects of the river and areas surrounding the river, the study of how these rivers have been harnessed for the good of man and how man has abused these rivers through pollution. These projects in history, biology, geology, and botany were ones which had ample subject matter that could or could not be easily discerned as canoes paddled down the rivers of the broad Santee system.

Another reason for the trip and probably more outstanding than any other part of the canoeing environment was the physical power needed to get the group from Spartanburg to Charleston--paddling. Physical educators believe that a sound body is just as necessary as an educated mind in bringing out the higher capabilities of a person. Because of the physical aspects of the trip along with the intellectual aspects, Interim Project 71 presented a well-rounded approach to the total education of young men's minds and physical bodies.

Another major factor or factors which need to be introduced are those individuals who had the intellectual curiosity combined with the physical stamina to make Interim Project 71 possible. In general, these young men were average students, easy-going, and overly endowed with that wonderful gift, a sense of humor. In evaluating these young men, we three who are preparing the journal all agree that the ability to endure cold, wet and other discomforts and at the same time laugh at situations and ourselves was a major factor for the complete success of the voyage. This humor will be quite evident in the day to day accounts following. But now to get to the individuals themselves: we on the journal committee took each canoe team at random and tried to describe these fellows in a few words.

David "Rare" Miller and Dooley Bizzell are two scatter-brained freshmen with "Rare" being the more sane of the two. Both had a common interest in searching for adventure, both were good football players at Wofford and good paddlers. Bizzell, a strong bowman with a competent sternman, David Miller, combined to form a strong team always out to get in front so that "Rare" could snap his pictures. There were three paddles broken by this team; Bizzell broke 2 and "Rare" broke 1. These were strong boys.

Paul Yarborough and Sammy Campbell paddled together. Sammy had long hair and was our only hippy paddler; a good bowman with a dull eye for sharp rocks. On the Cooper River, he found that he couldn't paddle with Gordon Koleznar because both had only paddled in the bow of their respective canoes. Sammy got a big kick out of the trip. Paul Yarborough was the sternman of this team and was affectionately known to all as "Squatty-Body" because he was next to the shortest member of the group. He was famous or notorious for some of the damndest animal calls ever heard: coo-coo-coo. Both Paul and Sammy were seniors and depending on a canoe trip to graduate. Paul celebrated his 22nd birthday the day we reached Charleston Harbor, the 20th of January.

Robbie Taylor and Bobbie Dobbins, the tailend of the group, were homework bound for Charleston. A freshman and senior respectively, Dobbins made a preliminary trip and was former chairman of the equipment committee. They were light paddlers with a good steady pull. They were also known as Stober's Pathfinders who went right when "Doc" went wrong.

Paul Massengill and Gordon Kolezner comprised one of the stronger teams. Both being Kappa Sigs, there was a lot of weight in the bow of their canoe because of Gordon's fat. Paul was proven to be one of the best stormmen. They retrieved the lost equipment of Doc's swamped canoe and were also accomplished explorers of the muddy marshes on the Cooper River. Gordon was the self-nominated chairman of the equipment committee. He had no competition because he was the biggest and strongest and self-proclaimed most handsome, HA!

Dean Potter and David 'Haddock' Haddon were the most unmatched team. We never thought they would make it. 'Haddock' got into big trouble with the military and was nearly court-martialed by Captain Swearingen for improper uniform and impersonating an officer. Potter was the exceptional cook and also a good strong stormman.

George Hims and Don Birath were charter members of the Wetback Club because they turned their canoe over the first day of practice on the Pascolet River. Don was one of the hardest workers on the trip while George was one of the slowest. They were both good strokers and paddled their canoe, the Water-Turkey, well. George was a good joke teller and it took a real man to joke about his stuttering. He was an exceptional 'Donald Duck'. "Ring my chimes!"

Doc Stober and Jim Hastings supposedly led the group to Charleston. Jim claimed he pulled the canoe all the way to Columbia while Doc insisted Jim never got his paddle wet. Jim was chairman of the food committee, a good cook, and also the group alarm clock because his alarm needed draining every morning before daybreak. He was one of the fat few and was also famous for his whomp at Wampoo! Doc was the predictable stormman, always on the rocks. An instructor or unlimited, he was our great fearless leader; the shortest member of the group with the roughest looking beard.

Captain George Swearingen and Wayne Delfino made up another team. Captain: "Sailor, don't you know how to recognize a superior officer?" He is a gung-ho ROTC and a good military man. He gave 'Haddock' hell. Wayne was one of the changeables. He found out he couldn't cook, so he tried the equipment committee. He was Captain Swearingen's little helper and he will someday be known as the rock-riider of the river.

And last and always least, 'The' Creswell Harley or Harley Creswell, depend ing on where you put the comma. He was the middleman of the trip. We didn't know that he could paddle until we left Columbia because he rode all the way down in the middle of Doc and Jim's canoe. He was Doc's special firman, a weak but steady paddler, an overpresent wise ass and always out of matches.

In the day to day accounts of our river voyage, specific detailed accounts of acts by individuals involving camp set up and cooking of the meals will be omitted because each member of the respective committees helped by doing the work and duties assigned to each committee. Everyone worked until all duties had been completed.



## II Preliminary Meetings

- 3 -

Decisions for the Vofford College Interim Period had to be made soon since registration for the projects was held early in October of 1968. It was easy to see that there were many adventurous students excited about an excursion down rivers of the state. There was even a waiting list of students wanting to go. As the leaves dropped with the temperature, some of the first members also began to fall away. In the occurring turnover, members of the group were gained who were more valuable--people who felt not only an excitement for the adventure, but also some inner need.

The first step of the trip was, of course, registration. On October 14, 1968, came the second step. All would-be voyagers met. The meeting was an indication of what was coming. Mr. John I. Dean of the Boy Scouts of America was the guest speaker. He ran through a list of possible food-stuffs which could be carried on such a trip and gave an account of equipment which would be necessary. The highlight of the evening was slides which Mr. Dean brought along. They were taken on a recent canoe trip made in Canada. The pictures were interesting and somewhat helpful. That particular trip occurred during the summer season. Mr. Dean seems to be quite a fisherman too. Before finishing his presentation, canoes and water were flashing before our eyes so he could stop the machine and show the fish he caught. Of course those who took part in this January trip are grateful to Mr. Dean for his assistance and the time he shared with us.

The meeting took longer than planned or anticipated. Before adjourning, we were told to begin considering whether we had rather be on a food committee or an equipment committee.

In a short time, it was November the fourth and the date for meeting number two of the river voyagers. Doc presided over the meeting and distributed what later became a tentative roster of voyagers.

Individuals within the group were required to have projects, as mentioned earlier. Summaries of these projects had to be submitted at this meeting.

We were quick to realize the red tape in preparing for such a trip as a river voyage. All members of the group were required to have a standard release from the college signed by a parent or guardian, by ourselves, and by a witness for each signature. The release simply relieved the school from being responsible for our safety. It was in such a complicatedly legalized form that most of us had to take Doc's word that it was necessary--since it was above our level of reading. At any rate, releases were distributed along with a form which was composed of a complete and detailed physical examination.

The releases posed no particular problem. They could be mailed for proper signing. However, the physical examination was another matter. After discussion, we decided to contact Doctor Alston, who agreed to come to the college and give the physicals en masse to whoever would be unable to have them otherwise. Eleven of us met Wednesday, November 6, 1968, at 6:30 p.m. for examinations.

Our second preliminary meeting proved enlightening as to the items influencing the grading system for this particular interim. Over-all participation, including attendance at all meetings and committee meetings, individual projects, and the voyage itself would determine pass, fail, or pass with honors.

Next on the agenda was dividing into respective committees--food (including cooking) and equipment.

Gordon Koleznar nominated himself as chairman of the equipment committee and discussion developed around equipment needs and responsibilities.

The food committee was somewhat less successful in the area of chairmanship. The elected chairman was later unable to make the voyage. The discussion revolved around needs for proper nourishment and the range of possible foods.

The meeting was adjourned.

Another meeting was scheduled for Monday, November 25, 1968. Excitement mounted as the date was approached. A swimming test was held at Converse College. Everyone seemed to enjoy the opportunity to get wet. The only complaint lodged was against not having enough "free" swim time.

Many of us realized how physically out-of-shape we were as we tread water and swam a couple of lengths of the pool. Of course, it was no endurance test and everyone passed, since the members kept noses above water.

After the swimming was finished the equipment committee was dismissed and the food committee met for a short time. Everytime the food committee met, it was felt that little could be accomplished before the month of January arrived.

We were dismissed after agreeing to submit suggestions for food which could be taken and would be appetizing.

Finally, on Monday, December 9, 1968, the last preliminary meeting was held. We felt it would never arrive. It was a bad time for a meeting since final exams started two days later and numerous members of the group were pushing hard to complete last minute term papers, reports, assignments, etc.

This meeting was the deadline for submitting the required fee of seventy-five dollars. Trying to get hold of that much money no need doing anymore than mentioning Christmas, when money always seems short. At any rate, we made it.

Doc briefly ran through a list of equipment which all of us would have to bring back after our semester and Christmas vacation.

It was one of our shorter, if not the shortest, meetings. Attitudes were high. Excitement was in the air. Impatience was evident. The river voyagers were ready to get down to more than orientation-type meetings.

We adjourned, confident of returning January 3, 1969, to canoes, paddles, the out-of-doors, and much water.

The difficulty of dragging back to the confines of school from two weeks of freedom and leisure is almost indescribable. There was some alleviation from the drudgery for the river voyagers. All of us were perfectly aware of the fact that after a few days of classes, we would be away--once again--from inside Wofford College walls. It felt good. It was almost like a child going to his first state fair. Or better yet, Magellan going around the world.

For some unexplainable reason, a distant relationship had existed between members of the group during our preliminary sessions. Some of us were still strangers. But when we began to gather in the Field House classroom on January 3, there was an even more unexplainable unity. This feeling of unity grew, continued to develop. Unity within the group became more and more evident. It will be felt as the journal develops.

It was ten o'clock, Friday, January 3, 1969, when the voyageurs were assembled in the Field House classroom for final registration. All it amounted to was Doc calling the roll and crossing off the names of the characters who had changed their minds at the last minute.

"Aw right, you guys who are not here, say so," or some kind of similar remark was made by Doc. "Does anybody know if what's-his-name is still planning to go?" "Well if he is, you fellows tell 'em to see me in a hurry," continued our leader.

As we got down to business, a tentative schedule was distributed which included January the third through January the twenty-second.

We were informed of our first encounter--as a group--with canoes and prospective canoeing partners. This encounter would be in the afternoon at Lake Bowen. "Come prepared."

"Safety?"

"Yes, safety!"

"We're going to be careful."

No actual rules were made or given as such. Naturally, Doc and Captain Swearingen demanded our respect as leaders of the group. All of us had responsibilities, not only to ourselves, but to each other. The rules were made and enforced by the group, as a group. Anyone goofing-off or letting up had to face the guys he let down. But one area was emphasized and stressed repeatedly. That area was safety. Each man had to have a life preserver. Doc said they were "to wear--not to sit on while paddling." We were reminded of those who had recently drowned in areas we would be covering. Fool-harty antics would not be appreciated (or tolerated). The voyageurs realized what was at stake. We listened. In fact, our second night out, we camped at Blair, S. C. A day or so after our voyage ended, a local newspaper ran a picture of the Broad River where search was underway for a drowning victim. The picture was taken from the bank where we pulled our canoes ashore to make camp. Safety was not to be taken lightly.

After a while that morning we divided--equipment committee here, food committee in there. "In there" turned out to be in the weight room and Captain Swearingen was 'elected' instructor: food committee.

The equipment committee found themselves in good shape. Everyone was assured a tent, sleeping bag, and a life-jacket. Personal gear was the responsibility of each individual--eating equipment, wash clothes, towels, soap, toilet tissue, and other necessary items. This helped to lighten the tasks of the equipment committee.

The food committee was a different matter.

"What do you like?" asked Captain Swearingen.

After making an enormous list of possibilities, it was suggested and agreed that everyone on the food committee would prepare and submit a day's menu. As to be expected, only a few menus were done. Only two are remembered; those of Don Birath and Jim Hastings. It didn't make too much difference. We forgot to take menus when we left on the trip.

We all adjourned for lunch.

Rushing through lunch, we hurried back to the Field House. We were finally going to get canoes and then hit the water.

"Where's Birath and Hims?"

About fifteen until two the cars were loaded and we were heading for our canoes. Lake Bowen was a pretty sight to see. The sun was bright. Low hanging clouds speckled the sky. The wind was cold. It looked as if it might snow.

A couple of photographers followed us from the school to the lake and made pictures for the Sunday Spartanburg Herald-Journal. The paper ran a story and three pictures. One picture was a big group photo of us in the water. Dooley Bizzell and David "Rare" Miller even got in on a shot of their own. They were standing on shore beside their canoe and putting on life jackets. David Haddon got caught walking behind Dooley and "Rare"--doing nothing. Doc got his own picture too, with Bobby Dobbins and Robby Taylor taking a canoe off the trailer.

Getting into the water was no particular problem. But problems came. This was the first time in a canoe for a few of the soon-to-be voyagers. The gusty wind was troublesome. And due to the weather, there were swells which broke over the bow of our canoes. With white-caps on Lake Bowen, we shivered at what would come on Lakes Marion and Moultrie. On top of all this was the complete inability of working together in a canoe. That came only after days of rigorous practice and the actual trip. Some of the fellows kidded others about not waiting a paddle the entire trip. However, it must be admitted that one person could never do it alone. Teamwork was the only answer. One of the most valuable aspects of the trip was the fact that no one could be totally independent. We all had to depend on one another, realizing the fact that we had to live together as best we could. Teamwork meant staying dry. It meant eating well, keeping warm, and having a place to sleep. Teamwork may have even meant survival as we shot over rocks and rapids. We had to rely on each other and have confidence that every man would do his best.

At any rate, after a couple of struggling yet fun-filled hours with Lake Bowen, we headed back to Wofford and called an end to canoes and paddles for a night.

Saturday morning, January the fourth, came quickly. Ten o'clock seemed early when the meeting began.

"Are Birath and Hims here yet?"

With a Boy Scout instruction book--~~Canoeing~~--on hand, we got an introduction to official strokes. It helped in reviewing (or learning, as the case may be) the J stroke, push over, draw, sweeps, ruddering, etc.

Again the two committees parted company to discuss respective plans and procedures. Both committees dismissed early, with three members of the food

detail--Birath, Campbell, and Mims--going to the college cafeteria and borrowing a list which contained food products, weights, and prices.

Paddle practice was more exciting. We gathered at one o'clock at the field house and proceeded to I-85 and the Pacolet River. Canoes were unloaded and carried about a quarter of a mile down to the river. We all shoved off from a rocky sand bar to get under way. Since the first river we would face on the voyage was the Pacolet, we felt it would be a good idea to take a bite of that particular river, even though our journey would originate farther down stream.

To make a long story short, the river bit back. Within a hundred yards, the swift and tricky current swept Mims and Birath toward the right bank and under extremely low hanging branches and trees. In the confusion, the canoe did a flip-in-perfection. Thus, these two canoers became charter members of the "wet-back club."

Cries of "Cold?" and "How deep?" were heard along with questions concerning the safety of the two water-logged voyageurs. Both boys disappeared under the water for a time but bobbed up treasuring their life jackets. The only injury suffered was to pride and Don Birath's lost eye glasses. The river ate those glasses right up; they're fortunate it doesn't eat people and canoes.

The two wet-backs got to shore, emptied their water-filled vessel and the session continued. At the next sand bar, everyone stopped and gave dry clothes to the wet pair. After much kidding, Birath finally admitted that he wasn't really looking for the bottom anyway.

Total distance traveled was near five miles, emerging from the river at Converse Mills. It took several hours but no speed record was intended. That was it for another day, so the group headed back to school. No one complained about the next day being Sunday and a day of rest.

On Monday, January 5, the river voyageurs met at 9:00 A.M. in Milliken Science Hall for a lecture on the biological aspects of the canoe trip. The lecturer was Dr. E. G. Patton, associate professor of biology at Wofford College.

We met in Room 213 and Dr. Patton immediately began his lecture on water-life down the river during winter. He discussed habitats and inhabitants as well as factors which affected these areas and members of the animal kingdom. He brought out how habitats can be divided into specific areas such as the river shore, the surface-film of water, in the water itself as well as the bottom habitat. He also differentiated between the swift water habitat and slower and still water habitats.

Dr. Patton emphasized the fact that the river was an ecosystem and that we would be a part of that system as we paddled down from Spartanburg to Charleston. He also stated the importance of creating in each of us the frame of mind to look for living plants and animals within this river ecosystem.

In showing that the river was an ecosystem, Dr. Patton brought to class water samples and leaves collected at Cleveland Park in Spartanburg. Each of us observed this specific habitat for small living animals such as snails, water fleas, roundworms and bristloworms. His major example of how an inhabitant changes in respect to its habitat was the midge larva.

Also, Dr. Patton showed a filmstrip entitled, Ecology and Man Series: Energy Relationship. There was a question and answer period at the end of the film and we then adjourned at 11:20 A.M.

Monday afternoon resulted in a major breakthrough. After flu shots, we repeated the course taken Saturday in the Pacolet River. The day was cold and icy. Had it not been a personal experience, the voyageurs would have been slow in believing our first real obstacle. As we rounded a bend, we discovered a snow white area that looked like a description which may be found in a science fiction book. Drawing nearer, the canoes eased over ice which kept getting thicker. Finally, the lead canoe seemed to crash to a stand still. For the next quarter of a mile, we had to break through ice which was from a fourth to half an inch thick. We would never have imagined the temperature so low. Neither would we have thought so much ice could form in a flowing river. The first canoe to make progress through the ice was that of Paul Yarborough and Sammy Campbell, followed by Dooley Bizzell and 'Rare' Miller in another canoe, and Gordon Kolozner and Paul Massongill in a third canoe. Pushing, pulling, swapping the lead, and cracking ice, these three canoes blazed the trail. The canoes received many scratches but nothing serious and no damage. It was in this ordeal that the first of many paddles got broke. 'Rare' got the honor. (Some honor! This cost the voyageurs later when we replaced all paddles which we broke on the trip.)

Regardless of the clouds, cold, and ice, it was a blast. No one would have missed it.

The same territory as Saturday was covered. Arriving at Converse Hills, the ice was still a problem. The 'dock' was by no means choice either. A few of our fellow students were waiting to assist and also helped us gain one more member to the wet-back club. No kiddin'! The third character to take a dip was the old man himself--Doc. He was helped in somewhat by a tug on the canoe from shore and it wasn't easy being the first canoe out of the ice. Therefore, Doc was spared some of the pain of ridicule.

Considering the obstacles and time, our average speed was faster. We could see improvement in teamwork, too. We returned to school with an air of satisfaction, calling another day complete.

Tuesday morning, January 7, the "River Boyageurs" met in Andrews Field house and had a brief discussion about the day's activity schedule. The possibility of catching the "Hong Kong" flu had Doc worried so he arranged with Mrs. Halligan, the nurse at the infirmary, to give us all flu shots. "Ouch" now that didn't hurt--much. On with the day's activities.

At 10:00 we met in the Main Building in the History Department for a brief history lecture by Dr. Lewis P. Jones, chairman of the History Department of Wofford. Dr. Jones showed us some very interesting and scenic slides of South Carolina. One place of particular interest was Mulberry Plantation which is located on the Cooper River. Since we would be paddling right by this magnificent estate he advised us to stop and look at it.

As the lecture went on, Dr. Jones showed slides of various styles of architecture in different periods of S. C.'s History. He explained the needs for water transportation and the canal systems of S. C. which were practically out dated, before they were completed, by the railroad.

By 11:30 Dr. Jones had given us a short but very descriptive history of South Carolina and the importance of her river systems. Water and its power to turn turbines and waterwheels has always been a vital part of South Carolina.

Much to our dismay, we left about one-third on Tuesday, January the seventh, for the same place on the Pacolet River. Everyone was eager for new territory and somewhat restless for unseen sights in unknown water. After three days, it was felt that a section of the river had been practically memorized.

Since our time was limited, hours became more valuable. A lot still had to be done before being able to leave. Therefore, instead of travelling from I-85 to Converse, we decided to stop at the bridge on the Camp Croft Road which crosses the Pacolet River.

As we made this last short preliminary journey, almost all of us were quick to realize and admit just how mistaken we had been in feeling we know the water. We were amazed at the stumps and rocks we had passed over twice and were seeing for the first time. Objects along the shore were also being newly discovered, such as an old broken down bridge almost hid by trees. Had time permitted, it was the sort of thing that many of us would like to have stopped and investigated. Changes which have occurred over the years were evident from our first day in the river.

Reaching Camp Croft Road in record breaking time, we strained every ounce of strength in our bodies getting our canoes out of the cold muddy water, through mud, thick underbrush, and rocks--straight up to the road and the waiting trailers.

Upon reaching the school, we were reminded of things facing us on our final day before the voyage. Everyone then disbanded.

Wednesday, January 8, was the busiest day yet. It was rough, to say the very least.

The show got on the road at nine a.m. with a test on our assigned reading; a book by Henry Savage entitled *Rivers of the Carolinas, the Santee*. Almost everyone gained a lot from the book and it was a pleasure when some of us met Mr. Savage. He stopped by as we were making camp our first night on the Wateree River. As for the test itself, Doc said there was no abundance of knowledge.

Hurrying from the field house classroom, we went to room fourteen Greene Hall. Professor Harrington was waiting to present a lecture-discussion on the geological aspects of the South Carolina rivers. Dr. Harrington got "wound-up" on what a few skeptics in the group considered tall tales. However, Dr. Harrington is convinced that the Grand Canyon would be no comparison to the gap which would have been left through the Carolinas had the soil been as solid as the Grand Canyon area. It seems that ancient elevations were tremendous and the rivers cleared an extremely wide area with time. Rather than cutting down as the Grand Canyon, the land was cut wide as well as deep.

After waking Haddon from his nap, Dr. Harrington continued by illustrating the formations of rocks which we would have to get over or around. With the aid of slides and the black board, he showed currents which would aid in determining the angle of rocks. We were warned that trying to get through some of the rapids at the Fall line in Columbia, South Carolina would be "suicide. . . completely suicide," according to Dr. Harrington. "At least half of you would be killed," he concluded.

Before being dismissed for lunch, we were shown a picture of a canoe in rapids. The expression was later remembered by Hastings when his panic-stricken face told us how he felt while going through rocks without Doc in the stern of their canoe.

At this time, Captain Swearingen, George Nims, Don Birath, and Jim Hastings went to purchase the food we would be taking on the trip.

Hastings was chairman of the food committee. He was an able leader and did a fine job. He agrees that one deserving praise for outstanding work is

Don Birath. Don's ever considerate attitude, his never ending work, and his organized manner kept the kitchen area functioning. Not only does he deserve congratulations for a job well done, but also a word of thanks.

Between two and two-thirty that Wednesday, the work really began. Doc had the canoes behind the field house waiting. River voyagers began arriving with packed personal gear which would be taken on the trip. David Haddon came with a car load of huge plastic bags. The canoes were placed on the ground with personal gear alongside. A couple of hours later the food arrived. It was stacked at the head of the lined canoes. Each team went to work wrapping food and equipment in plastic and then packing their respective canoes--by trial and error. We worked into the night distributing the materials and equalizing loads. Upon finishing this "practice run," we estimated approximately three hundred pounds of food and equipment in each canoe.

As mentioned above, this was a day of work. It was already dark and our task was nowhere near complete. Now we had to unload the canoes and put the gear in personal cars. Some of the river voyagers had volunteered the use of their cars which surely did help out. Six canoes were loaded on the trailer behind Doc's car. And the majority of the voyagers departed for the Pacolet River. Several "slack" members of the troupe "couldn't make it," so they missed what turned out to be one of the hardest parts of the entire trip, or the entire interim as far as that goes.

We eased through narrow passage-ways beside the Pacolet Mill and stopped behind the Mill, as near the river as possible. As near as possible happened to be about fifty to seventy yards, with thirty of that almost straight down (or straight up--depending on whether you're at the top or the bottom) a trash pile of wood, nails, and stone. It was rough and slick and a tough job taking the canoes from the trailer and getting them down to the water. Finding a place to set the canoes after carrying them down to the river presented still another problem. Hours passed, food and equipment were carried, and canoes were loaded and made ready for departure. By nine o'clock all but two or three canoes were ready to go. We decided those few would have to wait until morning and we headed for cars and warily drove back to Yafford.

Many personal things were still to be settled before leaving the next day. We commented on the limited time left to tie up

"See you fellows here at six in the morning."

"Goodnight, Doc."

"Anybody going my way?" someone asked walking across campus.

A few lucky ones managed to get a long, good night's sleep; that's what all of us wanted. We learned the next morning that most of us got an hour or two or either no sleep whatsoever Wednesday night. Nevertheless, we were all ready and eager to get the show on the road--or on the river, that is.



Thursday, January 9, 1969

The big day had arrived and the "River Voyageurs" met this morning at 6:00 a.m. at Wofford College and by 6:30 a.m. we were headed for Pacolet Hills. Directly below the second dam at Pacolet was the point of origin for the canoe trip. All the water that was held back by the second dam was diverted through a race canal which flowed very fast and was shallow. This race was our first encounter with rapids and in order to avoid any accidents and to assure the safety of one and all, Doc asked the mill personnel to raise the water level about 4 to 6 inches.

When the Voyageurs reached the dam this morning, we began to finish filling and loading all canoes that had not been loaded the previous night and to lash all equipment and food securely in the canoes. By 8:00 a.m. all canoes were in the water and the men of Wofford College who paddled them were ready to start on an adventurous course to Charleston.

After the water was raised it was decided that the voyageurs would go down the left side of the race which was swifter but more navigable and deeper. At 8:15 the first canoe started down the race and by 8:30 all canoes had reached the bottom of the race without much difficulty. A hard day of paddling lay ahead.

The "River Voyageurs" observed many things as they moved steadily down river and one of the most noticeable things about the river was the litter and waste that floated down the Pacolet and lined the river's shores. Everything from clothes baskets and plastic balls to tractor tires and beer bottles was seen, making the muddy waters of the Pacolet River look bleak. The ultimate in waste that was observed was raw sewage in the Broad River.

Another subject of interest observed on the Pacolet River was the lack of wildlife. Only a few species of birds, such as the thrush, cardinal, and robin, were observed in small numbers. No waterfowl of any description were seen on the Pacolet but a few summer ducks, cranes, blue herons, and canvas backs were noted on the Broad River along with the smaller birds.

From time to time we would run across cattle grazing on pasture land and in wooded areas. We passed beneath highway 18 about 10:30 and thirty minutes later we made our first stop. At this time various members of the group conducted experiments and made observations for their individual projects. This became a standard procedure and everybody made use of this time in some way.

We resumed our steady paddling and reached highway 105 about 11:45. At this time we made our first acquaintance with the Game Wardens of the S. C. Wild Life Commission. This stocky and jovial warden, Mr. Manly Groer, was waiting for us to assure our safety and to assist us in all his capacity which was greatly received and appreciated. Mr. Groer informed us that we were not far from the Broad River and that he would meet us later that day in Lockhart.

We proceeded down the Pacolet River for thirty more minutes stopping for lunch at the junction of a small stream on the left side of the river. Five or six of our members had forgotten to bring their own lunches, so the food goods were broken into and cheese sandwiches and vienna sausages were heartily eaten followed by the complaint of not enough food (which lasted the whole trip).

After lunch we once again moved down the Pacolet River, and arriving at the junction with the Broad River at 2:10 p.m. we stopped briefly on a sandbar for more independent research and rest. For the next hour and a half we paddled

steadily but lightly down the Broad River observing as much as possible. Around 3:30 we ran into light rain which blew over rather quickly. The wind was strong or and our canoes were in more open water on the Broad River than on the Pacolet

At 4:05 p.m. the first man crawled ashore at Lockhart and met Mr. Groer at the spillway office. Mr. Groer, in turn, contacted Mr. Grier Warren, a native of Lockhart, who was most kind and generous enough to lend us the use of his truck (flat bed) for transporting our canoes over Lockhart's two dams. To the "River Voyageurs'" surprise, Mr. Warren and Mr. Groer decided that it would be best to portage around Nail Shoals dam also in order to save time the following day.

The actual portaging began about 4:45 with only two canoes in the first portage. All cooks and necessary equipment and food stuff went with the first load in order to start supper and set up camp below Nail Shoals hydro-electric plant and dam. The first group arrived at the camp location about 5:20 and unloaded the truck as the cold rain came down. The portage was fifteen miles long and very slow. In order to help out, members of the cooking committee set up tents and prepared supper while the equipment people transported the canoes. All tents were set up and all canoes were at the campsite by 8:00 p.m.

Before starting to cook supper the cooks had to locate a suitable area for preparing and storing the food. The best site for a kitchen or mess hall is an area clear of undergrowth but plentiful in trees and saplings. Conditions of this nature were scarce but the voyageurs always made the best of whatever was available.

The general procedure for setting up camp was not very complicated but it was a lot of hard work. The mess hall was the first thing to be established. Fire wood had to be cut and two buckets of river water had to be boiled for individuals to clean their mess gear. A tarp tent was hung up between trees and usually two plastic tarps were hung from the sides of the main tarp forming two walls for wind protection. The stoves and food were placed under the tarp.

Somewhere near the mess hall there was a fire built for boiling water. This was the most used fire of any on the trip and was a warm comfort in the dark early morning hours. A few tents were usually set up near this fire except for the first night because the mess hall was in a heavily wooded area, and therefore the tents had to be set up in a semi-circle in the rain.

The two committees had various jobs and responsibilities. The equipment members had to set up tents, cut fire wood, build fires, dig a garbage pit, and a latrine. The cooks on the cooking committee were responsible for fixing the meals, boiling the water, storing the food, and cleaning up--K. P.

The first supper we prepared was the most elegant of the whole trip. The meal consisted of hamburger steaks, mashed potatoes, green string beans, fruit cocktail, coffee, hot chocolate, and milk. Supper was served around 8:30 and the rain had eased up a bit. After supper individuals cleaned their personal mess gear and prepared to bed down. A few people were still gathering wood while still others were cleaning the cooking gear and making sandwiches for the next days lunch and also preparing for the next day's breakfast. A few individuals even found time to try to bathe.

By 9:30 all had gone to bed except for a few of the cooks who were still working. The rain was freezing to the tents and by 10:00 it had turned into a slow drizzle. By 11:30 the last man had gone to bed.

Our cooking committee awoke early this morning in anticipation of cooking the group's first breakfast on the river. As of this morning a smooth cooking routine had not been established and breakfast was expected to consume a lot of time. The first cook was awake by 4:30 and built the fire up in the mess area. The stars were shining clear and bright in the almost cloudless sky and the wind was steady and cold. The temperature this morning was about 20 degrees F, and all the equipment and canoes were covered in a heavy layer of ice that the previous rain had left.

Around 6:00 various members of our group began to stir about and warm themselves by the fire as the delicious smell of bacon drew them magnetically from their frozen tents. This morning's menu consisted of eggs, bacon, grits, bread, hot chocolate, and coffee and was served about 7:00. In no time at all the food was gone and the dark sky was beginning to lighten. It was day break about 7:30 and the cooks began to clean up while other members packed their personal gear and warmed themselves by the fire.

The camping committee wasn't able to fold the tents because of the layer of ice which covered them. Therefore, the committee men waited for the sun hoping it would melt the ice. Unfortunately it was too cold and the tents had to be folded and packed wet and frozen.

After the mess pots were cleaned, individuals cleaned their personal mess gear. Cleaning pots and frying pans in such cold weather is extremely hard. One minute our hands were frozen and the next thing we knew they were burned in boiling water. By 8:30 all cooking equipment had been cleaned and all food had been packed in boxes and ready to be loaded into the canoes.

Around 9:00 most of the canoes had been launched down the steep river bank after being lashed down with rope which became a standard procedure with the "River Voyageurs". By 9:30 all canoes had shoved off and headed down river. No more than a thousand yards from camp we encountered our first rapids on the Broad River which was a half of a way to start the morning off right.

Doc, Harly, and Hastings in the lead canoe naturally went the hard way since they were leading and after seeing this the rest of the canoes took an alternate route that Doc pointed out from his vantage point below the rapids. This also became a standard procedure for the lead canoe in the rapids--picking out the most suitable way through the rapids. About 11:30 we were two miles above Henderson's Island and the lead canoe once again became antangled in an awkward position. The lead canoe got hung up on the edge of a three foot water fall and Doc directed the others through an open passage to the left.

The lead canoe was in such a dangerous position that everyone knew that the occupants were bound to get wet so they headed for shore to build a fire. After several long minutes of contemplation, Doc decided to try and head back up stream. This proved to be a good idea and Doc's canoe made it ashore after paddling up river and going down the left side. When two of the members of the lead canoe were asked how they felt out there in the river about to go over the waterfall, Harly replied, "I didn't say a single cuss word, but I sure prayed a lot, Mother." The only thing Doc said was, "I never thought we'd make it... This hard land sure feels good."

Everyone on the trip at one time or another had this same feeling and Creswell Harley did a good job of summing up the group's feelings about getting wet. Since the fire had already been made and it was almost 12:00 it was decided that we would eat lunch. This consisted of two peanut butter and jelly sandwiches per man, vienna sausage, potatoe sticks, and Kool Aid. By 12:30 the

Voyageurs were headed down river with more complaints about there not being enough food to eat. Around 1:12 we came to the tip of Henderson's Island, where we literally ran into half a mile of rapids. The canoes pulled ashore at the tip of the island and waited for several canoes which were aground on some rocks further up river. During this time everyone scouted the river for a possible way through the rapids.

From an early canoe trip made in mid-December by Bobby Robbins and Jim Hastings, knowledge of a "water pass" had been learned but exactly where wasn't known because of the change in water level. Supposedly it was possible to take a motor boat up the far left side which would have been on the right side going down. With so many rapids it was decided that every canoe would find its own way down since it would be virtually impossible for a canoe following another canoe to stop if the lead canoe happened to become stuck.

When all canoes had finally reached the tip of the island and rested awhile we disembarked for a glorious and rough ride down the rapids. At this point everyone learned what it felt like to be in the lead canoe and team work paid off in extra dividends at a time like this. The bowman was responsible for directing the right path for the canoe to take since the sternman couldn't see a thing. The sternman's task was to keep the canoe on the path the bowman wanted. This is easier said than done and often not done at all. The feelings of fright and concern one gets when his canoe, that is floating free and fast, suddenly hits a rock underwater and lurches to a quick stop in the middle of a river, throwing the occupants forward, are simply indescribable. When you can see and feel the ribs and bottom of the canoe push inward you really begin to hope the canoe doesn't rip apart and you also react extremely fast to such situations.

When a canoe becomes hung up on a rock you either push off backwards or turn the canoe around and head stern first. In some cases it was necessary for the paddlers to put their leg in the water and take the load off the canoe and in extreme cases, which was only done once, exchange members of a canoe. Every member of the voyageurs has his own story to tell about Henderson's Island and if you have 2 hours or more ask a voyageur to tell you his story.

All canoes made it through the rapids of Henderson's Island safe and sound and worse for the wear, but the voyageurs were better for knowing that they had met a real challenge. The canoe team of Paul Yarbrough and Sammy Campbell were the only ones who found the "water pass" and went down the rapids without a scratch. Sammy, the bowman, later commented that the waves and swells met him face first. They were so high and the current so fast that their canoe almost took off flying.

Once past the treacherous island the water was fairly swift with a 2-mile-an-hour current and very few rocks all the way to Blair, S. C., where we made camp the second night. We arrived here about 3:30 and met a great game warden named David Yongue, who had made arrangements with Mr. Blair and his son-in-law to allow us the privilege of spending the night in an old abandoned house overlooking the Broad River.

We unloaded the canoes and turned them over as usual to keep the frost out. Then we set up a kitchen right on the river bank and prepared the evening meal which wasn't quite as elaborate as on the first night. Meanwhile the equipment

committee hauled the personal gear up to the house in Mr. Blair's truck and replenished our water supply. They also brought in coal for the fire which Mr. Blair generously gave us.

After eating and cleaning up it was almost 8:00 and all the cooking equipment was brought up to the house. The wet tents had to lay out to dry and in a far corner room the cooks set up the kitchen for breakfast and made sandwiches for the next day's lunch. By 10:00 things had settled down and everybody was eating popcorn, candy, and soft drinks that they had bought earlier at Mr. Blair's general store. One by one the weary "river rats" fell fast asleep, grateful to Mr. Blair for the comforts of his house.

The cooks had breakfast started before 0:00 and were ready to serve before daybreak. Everyone was hungry even though they had stuffed themselves with candy the previous night. This was the only breakfast that the gluttonous group didn't eat all that was prepared. By dawn, cleaning operations had begun in the kitchen and people were packing their personal gear and making ready for the trip to the canoes. Warden Yongue and Mr. Ball's son-in-law came this morning to see us off and Mr. Yongue brought welcome news of a portage around Pear Shoals dam and nuclear generating plant. By 8:00 everybody was just about ready to go to the canoes and some equipment had already been carried down the hill. Once again we loaded and lashed down the canoes full of equipment and launched them about 9:30. Several of the local area men had come by this time to see us off and get a glimpse of the crazy fools who were going down the river in the middle of January.

We told Mr. Yongue that we expected to reach Pear Shoals about 1:30 or 2:00 and he said he and several other wardens would be waiting for us with a truck. This was one of our shortest days of paddling but not very far from Blair it became one of the hardest. There was not current because of the back up water from Pear Shoals Dam but this didn't dampen our spirits one bit although our bodies were becoming sore and our muscles tired easily. We therefore set a slower pace with steady light paddling.

The short time it took us to reach Pear Shoals lake seemed like an eternity and rests were often called for. Several times the last four canoes would get behind and finally the front four stopped waiting for them to catch up and went ahead. The first canoes entered the mouth of the lake around 1:00 and waited for the others to fill in the ranks.

As we were crossing the lake we discovered that we were paddling through an underwater forest of stumps which are very dangerous even in the still water that we were in. The only canoe team to hit a stump in these infested waters was that one composed of Bobby Doblins and Robby Taylor, who never quite lived it down. By 1:45 we had picked our way through the stump-filled mouth of the lake and were paddling in deeper waters.

At 2:15 the first canoe landed and Mr. Yongue and his warden friends were there to meet us. They had brought a pickup truck, a car, and a five-ton flat bed truck to transport us and all our canoes and equipment around Pear Shoals dam. We unloaded the canoes and loaded them on the two trucks with our equipment and by 2:30 we were ready to roll. Some rode in the car while some of us rode on the truck. It was cold, but we were loving every minute of it and thanking the Good Lord for being so good to us.

The portage was about 20 miles by the road but only about 12 miles by the river. We arrived at a campsite, Mr. Yongue had suggested we use, a little after 3:00. It was a very popular place for hunters and fishermen to camp and from the looks of the area it had been used quite often. Every kind of trash and garbage imaginable was scattered throughout the area. The campsite was in a beautiful location and everything was perfect except for the litter which careless people had left behind. This campsite was only one of three at which we camped that was in easy access of the public. And each of the three campsites bore the remains of careless inconsiderable people who didn't take time to bury their trash.

We policed the area as best as was possible but even if all 17 of the River Voyagers had spent the whole day picking up beer cans and what not we never would have finished before dark.

As soon as we had unloaded the canoes and equipment we ate lunch and offered to share our food with the wardens who wisely begged off. That was all right with us and it wouldn't have bothered us so if they hadn't told us they had just eaten a big steak dinner. We were surely envious but the sandwiches tasted good. We even celebrated by letting everyone who wanted to help himself have more if he fixed his own.

By 4:00 everyone was still hungry but there were plenty of tasks that needed performing and supper wasn't too far away so the cooks closed the kitchen and started preparing the evening meal--beef stew with rice, corn and all the extras. This surely beat the hot dogs we had the night before.

Meanwhile the camping equipment men split wood, set up tents, and dug a variety of holes from a garbage pit to a slit trench latrine--a mighty important place. By 5:30 most of the camping chores were completed and the kitchen had been set up and supper was ready. The boys ate like horses and drank like camels until all the food disappeared behind smiles of contented faces with very few complaints. Once the meal was over, everyone cleaned his mess kit and the cooks cleaned the kitchen equipment. They made the next day's lunch and got everything ready for breakfast.

By 8:00 everything was in order. Both fires were blazing, and everyone sat around the fires telling stories and recalling the past three days' adventures. This was the first time we had all sat around the open fires at night and had time to relax and enjoy ourselves and each other's company. On an expedition of this nature a closeness and feeling for your fellow companions is unmatched by any other ordeal. Just being a member of a group that would undertake such a journey in mid-January gave us a feeling of pride. We became more than fellow travelers or good friends; we became members of an exclusive and unique group--The River Voyagers of Wofford College.

Not only was there pride in our accomplishments but there was a pride in our work, in our ability to paddle, to withstand the elements of nature, and pride in being Wofford students who were combining physical stamina and our background in higher education to quench our thirst for adventure and knowledge through a scientific investigation of the rivers of South Carolina. This investigation was not of the classroom-lecture level. There was no one to guide us in our individual projects, whether they were historical, botanical, biological, geological, or whatever. The ever-present feeling of really being physically involved in scientific fact-finding exploration gave to our members a sense of intellectual accomplishment and importance.

The free-flying feeling of being on our own never went to our heads because as soon as one of us opened his mouth another voyager put his foot in it. This jovial feeling of being members of a special group put us all on equal level and no one was any better than anyone else. This feeling and sense of being isolated from the frantic world of civilization made the evenings around the fires the most enjoyable time of our lives. We were truly functioning as whole, not 17 individuals but we still retained our individuality and a sense of personal pride. After making a few raids on the coffee pot and nibbling our snacks we conversed around the fire until 9:30 and then we had a short meeting and Doc and Captain Swearingen filled us in on our progress and also criticized a few of our faults. But Doc and the Captain were not above the rest of us nor did they try to be. They were plain members of the River Voyagers, who even though they might not have worked as hard as the students, got cut just as often as the rest of us, maybe more.

About 10:00 we all broke up and headed for the sack knowing that there were treacherous rapids not far from our campsite, the junction of the Broad River and the Little River.

This morning everybody was full of anticipation about the rapids that lay ahead of us. The fire builders and cooks started performing their chores this morning around 5:30 a.m., while the rest of us lay in the sack a little longer. By now, preparing meals and doing other chores was almost second nature to all of us. In no time at all a good hot breakfast of eggs, bacon, and oatmeal was ready.

As soon as breakfast was over procedures for breaking camp went into effect. Everybody worked together and everything went as smooth as clock work. By 8:30 a.m. all of the canoes were loaded with equipment, lashed down, and ready to go but the elements of the river weren't very friendly this morning. Steam vapors were rising up from the river's water. This steam is formed when the cold air meets the warmer water in the river. The vapor was so thick that at 8:30 a.m. we couldn't see the other side of the river.

Doc said that we couldn't paddle in fog like that in rapids and decided that we would have to wait for the sun to warm the air and clear the fog. While we waited for the fog to clear we had a short religious service and following that we all said the Lord's Prayer.

By 9:30 we were all ready to move on but visibility still wasn't very good so as we waited everybody with cameras was busy taking pictures of the beautiful scenes of the river. By 9:45 we were able to push on down the river to the rapids which everybody was concerned about.

The previous day several boys in our group paddled down the river to investigate the rapids that lay ahead. Their report had been everything but good, and today we were going to find out how bad the rapids were. The scouts had told us that there was only one possible place in the river where we could go through in canoes. This passage was close to the right bank of the river and the current was very fast at this particular spot. The pattern of the current made the situation even more dangerous and challenging. The water at this passage flowed toward the right shore and then through the narrow gap with a huge rock on the left and overhanging trees on the river bank.

This morning Doc wanted to take another look at the rapids before we attempted to shoot through them. Once again scouts climbed ashore and looked the situation over. It was decided that Paul Yarborough would remain at the passage site and give directions to the canoes as they would work their way through the maze of rocks. Because of Yarborough's new task of guiding the canoes his partner was left without a bowman, so the 17th member of our group, Creswell Harley, who was in Doc's canoe, made the smartest move he made on the whole trip. He got out of Doc's canoe and filled the other vacancy.

All scouts were once again back in their canoes and they slowly picked their way through the underwater rocks that were in front of the rapids. No one thought that in just a few seconds the lead canoe would be swamped, but it was. The members of this canoe team, Doc Stober, sternman; and Jim Hastings, bowman, were the most surprised of all. They approached the passage straight on and as they entered the gap between the rocks and the trees, the inward current pushed the canoe closer and closer to the right bank. As the canoe was trying to swing back out into the river after shooting through the gap, Doc became engulfed in some branches of an overhanging tree. The current was still very strong and it wedged the canoe and Doc between the two limbs. As soon as this happened the current pushed the bow of the canoe hard to the right shore. Unfortunately, there was a submerged log jammed under some branches and the bow struck the log and the canoe began to roll to the left as the water rushed under and over the canoe. Doc grabbed a limb and climbed out of the canoe in hopes of keeping it



from sinking. This was a wise decision and as Doc was climbing out he got one of his legs wet. Without being tangled up, the canoe stopped listing and corrected itself.

In just a few seconds everything had happened, just about anyway. Hastings the bowman, was left in the canoe which was half-filled with water. He turned around to look at Doc and saw him dangling from a tree limb. Frightened and unsure about the whole situation, Hastings made fruitless attempts to guide or pull the canoe ashore. By now the canoe was completely through the rapids and floating on down the river. As Hastings passed Yarborough, the guide who was sitting on shore, he said, "Give me a hand," and Yarborough just looked at him in amazement. Finally, Hastings got close and waded ashore--wet from the chest down. The canoe floated 100 feet or so and stopped on a rock.

The remaining seven canoe teams weren't quite sure of themselves after seeing their noble leader hit the bottom but one by one they shot the gap in the rapids, the correct way, and made it safely through. Some of the people helped to pull the swamped canoe ashore while still others built a fire to help dry the new members of the wet-back club. The other two members of the wetback club, George Sims and Donald Birath, gave Doc and Hastings their moral support for they knew exactly how they felt. By time time the swamped canoe had been recovered, emptied, and unpacked, and its occupants dried it was 11:00 so we decided to eat lunch while we were stopped.

Most of Hastings' replies about the situation were not printable, but he did say that he didn't want to do it again. Doc said he was glad it was his canoe instead of someone else's, but Hastings didn't agree with that. When Doc was asked what happened he said, "I don't know and I wasn't going to wait and find out."

When the Voyageurs finally moved on it was almost 12:00. All the equipment and gear had remained in the canoe except the sleeping bags which were later found floating a half mile down river. During the next hour or so the Voyageurs paddled through some rough and challenging rapids. By 1:30 we had come into the backup waters of the old diversion dam for the Columbia Canal and locks system. There was a steady headwind which made paddling twice as hard at times.

A little before 2:00 we spotted #20 and then we knew we weren't far from our destination--the diversion dam. The distance to the I-20 bridge and where we first saw it didn't seem very far but we had to buck a head wind and our progress was slowed down. By 2:45 we had crossed under I-20 and now the dam was in full view. Our spirits picked up and so did our paddling. About 3:15 we pulled ashore on the left bank and Doc went to scout ahead for a possible landing place and to observe the spillway that leads to the canal. Unfortunately, the water level was down about four feet from normal and our landing point was very steep.

The State newspaper and a local television station had heard of our trip and took films of our arrival. The newsmen interviewed Doc and Captain Swearingen while the rest of us went about setting up camp. The cooks prepared chili and beans for supper. One of the Voyageurs' mothers, Paul Yarborough's, brought him a birthday cake, a chocolate pound cake. Professor Patton of the Biology department brought us more canned goods to replenish our supply of food and to talk with various members about their projects in biology.

Doc and Mr. Harold Schreiner, who planned our tour of Columbia, went to a washeteria and dried the sleeping bags and to see if we could get showers at the Y.M.C.A. Meanwhile the rest of us were eating our supper and praying for a hot shower. Doc came back around 7:30 with the good news and Mr. Schreiner, his

daughter, and her husband were kind enough to take us to the M.C.A. for our showers and then to a drug store to buy cand and back to our campsite. We got back around 10:00, refreshed but tired.

There was a little problem about a water shortage so Doc called another meeting to find out why no one had refilled the water containers. Then a few people sat around the campfire drying clothes while the rest hit the sack. The last man was in bed by midnight.

Monday, January 13, 1969

We heard Doc's voice this morning at 5:15. Everyone was very slow in responding and at 5:30 Doc had to rouse most of us sleepy people. There was much to be done this morning before Mr. Schreiner picked us up for our educational tour of Columbia. While breakfast was being prepared, the tents and personal gear was being transported over the canal dam to be packed on a truck. The truck was furnished through the efforts of Mr. Jack Edgerton by Allen Brothers Milling Company.

After breakfast, everyone made last minute preparation to pack all the personal gear and cooking utensils. The camping area was policed while the truck was being loaded with canoes, food, and equipment. By 8:30 the truck had left and was to be stored in a warehouse until late afternoon when all the equipment would be transported to a new campsite on the Wateree River. The new site was located just off highway 76, east of Columbia.

Around 9:00 Mr. Schreiner, the Supervisor of Physical Education of S. C. arrived at our old campsite to guide us on our educational tour of Columbia. With Mr. Schreiner were Dr. A. M. Mosley, Supervisor of Social Studies; Mr. Lonnie L. Dunlap, Supervisor of Safety and Driver Education; and Mr. Carl M. Hust, Director of S. C. Recreational Commission. These gentlemen were kind enough to offer their time and provide us with transportation for the tour.

We had a busy schedule so we departed at once for our first destination, the Governor's office. Our group had been invited by Gov. McNair to visit him on our tour because of his keen interest in our-of-doors activity and the educational value of our trip. We were to have met the Governor at 9:30 a.m. this morning but unfortunately he was still suffering with a flu infection.

After we left his office the "Voyageurs" toured the State Capital and viewed the many magnificent qualities of our great capital. Unfortunately our tour took place several days prior to the opening of the new session of the Senate and House. At 10:30 we left the Capital and proceeded to the new Coliseum for a tour of it. After roaming all through the Coliseum the next stop on our schedule was lunch at Capstone Dormitory. Again we had the misfortune of touring on the wrong day because the revolving restaurant atop the dormitory was closed on Mondays. But we did have the good luck of eating lunch with a host of pretty girls.

Our appearance was not very glamorous nor our manners very good. Seventeen men who had been used to camping out just about went wild in the presence of a women's dorm. After lunch we were given a guided tour of the revolving restaurant which was closed. Then we headed for the State Department of Education for a series of lectures by Dr. Mosely, Mr. Dunlap, Mr. Hust, and Mr. Schreiner.

By this time the members of our group were unbelievably tired, especially after a heavy lunch. We had grown accustomed to sitting or kneeling in our canoes and all the walking and riding around in cars tired us. We were not used to eating a big lunch either. All this had the devastating effect of making us sleepy. The lecture room at the Department of Education was very warm and we were used to the cold weather. So naturally several of our members took cat naps or nodded their heads right frequently.

At 2:30 we were delighted to get a chance to get out in the cold weather for a walk to go visit the State Superintendent of Education, the honorable Cyril B. Busbee. The temperature was about 30 degrees but we were all walking around wearing short-sleeved shirts. Mr. Busbee met with us for a few minutes and praised our journey for its education as well as physical aspects. Our tour schedule was cut short so that we could set up camp at our new campsite off highway 75.

Originally we had been scheduled to visit the Archives Building and Museum but the time would have taken too long. Since we were riding in four cars we split up to do our last minute errands before going to our new camp. Some purchased groceries while others went to the Allen Brothers Mill to get the truck with our gear. All this took longer than anticipated, so Doc decided to buy chicken box suppers instead of the cooks having to prepare a late supper.

We unloaded the truck and picked out a suitable campsite and began to set up camp. When Doc arrived with the chicken we all ate supper and finished setting up camp. This was about 5:45. Since all the canoes and cooking utensils were beneath the bridge on highway 75, two members of our group, Donald Birath and George Mims, decided they would sleep with the gear. Also most of the mess gear had been cleaned from this morning's breakfast and it had to be washed by the light of the moon and a Coleman lantern. The next day's lunch had to be made in advance also so the cooks were kept busy until about 10:30. By that time most everyone else had gone to sleep.

Tuesday, January 14, 1969

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This morning we got up at the usual early hour, hungry as usual and ready to go. The morning was calm, the river had risen about 6 feet as our friend, Mr. Henry Savage, had told us the night before when he stopped by our campsite near Highway 76 on the Votawee River. We appreciated that he would take the time from his busy schedule to visit with us.

We waited for the fog to lift and were on our way by 9:00. We had a good current this morning as well as all through the day, so it was comparatively easy to make about 30 miles to the Sawdust Pile. We saw lots of river shacks with concrete boat landings and a lot of dead or dying fish, which proved to be bait used by the moderate number of fishermen we saw that day. We were still amazed at the height of the river from the previous day. We tried at times to determine where we were but during the morning we had difficulty doing this because the bridges we saw over the river and the ones marked on the map didn't correspond. We saw only two bridges over the river while there were three marked on the map. But later on that afternoon, thanks to the brilliant calculations of Jim Hastings, possibly more luck than brilliance, we finally determined exactly where we were by counting the tributaries coming into the Votawee.

We stopped and ate dinner around noon near some type of power plant that was under construction. It was a very muddy place and it looked extremely wild, a kind of jungle-type clearing. We pushed on after our meal but later on, several members made some necessary stops called for by nature and were left behind. They took the speed of the current for granted and thought they could catch up but after about thirty minutes or so separation, Massongilli, Koznar, Bizzell and "Rare" caught up again with the aid of Massongilli's toy! It was about this time that we came to the mouth of the Congaree River where it entered the Santee. Campbell was so overjoyed that he broke his paddle and "Rare" started taking pictures. We even had a few fishermen giving up their fishing and looking in amazement as 8 loaded canoes drifted by in single file. You should have seen their expressions. It wasn't very long after this that we arrived at our campsite for the night. We arrived at the Sawdust Pile about 3:30 and decided to camp downstream on the left. It was decidedly one of our best campsites.

We met Warden Bill Toler here and he helped us by taking Campbell and Yarborough to fill our water bottles. We stopped at a small local store and bought out their candy bars and also purchased some other necessary and much desired refreshment. It was this night that George Hims proved that he was one of the best wits of the group. He really "turned on" most of the night. He had everyone laughing so hard at his jokes that tears rolled and sides ached. He topped the evening off when Delfino asked him if he were married and had any children. George calmly replied, in his usual staccato, that he had been married 3 years but that he had no children. He and his wife were still virgins! With that last remark, our day was complete!

Wednesday, January 15, 1969

We observed one of our most beautiful sunrises this morning. The river was foggy but the sunlight coming over the trees and striking the high clay bank across the river made a beautiful sight. It proved to be another beautiful day.

We left the Sawdust Pile about 9:15 that morning and were immediately aware of quite a bit of wild life. Doc was using his paddles for a shotgun and you should have seen the concerned look that those ducks gave him when he started "shooting."

We passed under the burnt Rimini Bridge shortly before dinner. We were pretty stretched out along the river now so to make paddling easier, Campbell and Yarborough lashed their canoe to the canoe of Massengill and Hastings. This worked out fine until Hastings and Campbell found that they were the only ones paddling and the two Pauls were relaxing. So they quit paddling also, Well, Paul Massengill decided to use his toy again and we broyed on into our dinner campsite.

We stopped for dinner about 12 and also to let Robbie Taylor thaw out his frozen toes. He had gotten his feet wet somehow and he said they were almost frozen. We also cut a 2 x 6 board that was nailed to a tree to lash Massengill's toy to. We decided that things would run more smoothly also if we had each canoe lashed to another one. When we finished the lashing and dinner, we left in single file under full power of one of our places of emergency equipment. The rest of the day was very leisurely indeed!

While we were eating dinner, another warden, Mr. Bubba Fogle, stopped and offered us assistance. We had everything we needed except for a few supplies, so he obliged us by taking Capt. Swearingen to a store on down the river, to meet us later on.

Shortly after we were on our way again, we decided we need something to brace Massengill's toy with. It was giving us a little trouble. We stopped on the bank and Yarborough jumped out onto what looked like solid ground. Well, he sank up to his behind, but that wasn't too far because his legs were so short! He finally extracted himself and cut a log about 4 feet long to brace our toy with. Things went along much better now. While Paul Massengill and Paul Yarborough drove our group along, almost every one also got some leisurely sack time.

Later on that afternoon we again met Warden Fogle. He and Capt. Swearingen had returned with supplies. He then offered to show us a short cut to the I-95 bridge, our destination for the day. As we took this short cut we noticed a great many stumps and at times the Warden's boat would kick up mud. The water was very shallow in some places.

We arrived at the I-95 bridge about 4:30 and camped about a mile below the bridge. This was a high campsite and also the home of the feared "Moss Man." Moss Man was a supposedly fictional character who lived along the banks of the Santae River. He is covered with moss from head to foot and seems to be about 6'3" and 200 pounds. Well, that night, Haddon and Bizzell decided they wanted to sleep in a cave along the river bank. They fixed every thing up inside, even to putting in stormcoats. Later that night, Moss Man appeared and made believers out of the cave-dwellers. By this time there were two wide-eyed and shaky lads who began to wonder if cave living was a good idea. After several tense minutes and various remarks, most of which would not make good copy, the "Moss Man" laughed. This laugh was a great relief to the cave-dwellers which assured them that this creature was one of their fellow travelers, at least they hoped so. Possibly with a little doubt still left in their minds, they tried to sleep. With a picture of this creature in their mind, they slept lightly that night, and maybe with one eye opened. We are fortunat enough to have gotten a picture of this "Moss Man."

After all this excitement we all decided to get some sleep. The lakes of the Santae System waited for us the next day.

Thursday, January 16, 1969

Our day began about an hour before the sun's day. It had been a good night in a good campsite and everyone was in rather good shape as cloths were being put on, sleeping bags rolled up, and tents coming down. Breakfast was in progress. Naturally everyone was hurrying to eat--always hungry.

Probably the most beautiful sight was the sunrise on this particular day. It was the largest, bright orange color any of us had ever seen. One voyageur was so fascinated that he took five or six color photos. (We hope Bobby enjoys showing that roll of film to people he tells about the journey.)

Loading the canoes took a little longer than usual since our camp was elevated and about sixty yards from the water. However, we were still in the water hooking up our train, and moving out by eight o'clock.

Going back on Lake Marion, we knew it would be another monotonous day compared to the excitement of the changing river and the rapids we had left behind. The day before, we had discovered the freaky atmosphere of Lake Marion. It held true another day--until we got out of that lake. Each of us agreed that spooky chills came from passing black, barren, lonely, and decaying trees all across a lake as big as Lake Marion.

Due to the schedule previously set up, we were not able to spend as much time in the area as we would have liked. We had to get to Charleston and we had a dolly distance deadline. Neither could we stop at interesting places to investigate the surroundings. Due to our race with time, we spent a few days "cheating." This was our second day. Paul Massengill brought a small motor which was attached to a log between two canoes. Two by two, everyone grabbed hold of a rope which extended the length of our train. At three to five miles per hour, we were off.

The morning hours were not significantly eventful. On the left, we watched a character chuck his trout lines. He seemed to be trying hard to ignore us. Maybe he didn't believe what he saw and was concerned about his hallucinating. On the right we watched the shore line. Gordon Koleczar and Sammy Campbell, in the bow of the first two canoes, respectively, looked ahead for stumps or other obstructions. Many simply took morning naps in the beautiful sunshine. Sleeping was the ideal thing in the situation. It was even better than floating on a dream. We stayed close to the shore. In fact, some of us felt we were too close. We began catching swells coming in from somewhere toward the middle of the lake. Had we changed directions left, the canoes would have been properly heading into the swells. Doc felt, however, that the water would get worse if we moved away from shore. We obeyed even though thoughts of mutiny crossed our minds when swells began breaking over the side of our canoes.

About mid-morning, we were amazed at the speed of a boat coming toward us from the deep waters toward the middle of the lake. We could almost see the horizon between the bottom of the boat and the water as it jumped the low spots and hit the tops of the swells. When he got nearer, we recognized the craft and driver as part of the Wildlife Commission.

"How's everything going?"

"Va need anything?"

He quickly turned and departed as he had arrived.

At eleven-thirty, we neared a white sand beach and decided to take a break and also try to find out exactly where we were. We discovered we were heading for a private swimming area when we got close enough to read a sign which said, "No boats." Since noon was swimming and not expecting any swimmers, we landed

Since we were stopped and everyone was hungry--as usual--lunch was suggested. In no time flat and with the assistance of all, lunch was served and a fire was blazing. That was one of the most quickly prepared meals of the trip.

A short time later, we were wondering if the trip would be completed. It seems we were trespassing. While we were warming ourselves and enjoying our food, we distinctly noted the rapid arrival of a police car with a passenger. Some woman had seen us arrive, it seems, and had called the owner of the property. The owner had in turn called the police. It was the owner and the police who came to see what mob had inhabited his paradise. Introductions, conversation, and asking directions went well. And no arrests were made. Whether the officer nor the owner cared about getting too close to our motley crew of dirty, unshaven, rough and roady river voyageurs. We departed.

Nothing occurred during the next few hours except riding. When we stopped again, it was about three or three-thirty. The place resembled a deserted tropical island. The motor started dragging about fifty yards out and we had to wade the last ten yards to shore. Kolaznar didn't have water proof foot wear on and he somehow talked Captain Swearungen into carrying him piggy back to shore. We stayed a short time but long enough to find foot prints of a human with big feet and a dog. Haddon found a bird track: "That thing was gigantic!" "Did you see that thing?"

Later in the afternoon, we passed a concrete structure which looked like a deserted warehouse or maybe an old theater. Finally it looked like a fort of some kind.

"I saw a place near the water with a cannon in it," someone exclaimed.

We wanted to stop and search the place but didn't have time . . . schedules!

In a short time we met two great guys. Two wardens from the Wildlife Commission came up in a big inboard/outboard.

"How you doing?"

"Slow," was the reply.

"Can we give you a tow?"

"We thought you'd never ask!"

Both parties felt this would be the thing to do because of the late hour and the distance remaining to our next camp site. Our schedule was too tight during the entire trip since we only had the month of January for the interim. We really had to push to make the time that we made. Due to the fact that we were still in Lake Marion and there was no other camping areas for many miles, the above decision was made.

And pull they did, down the navigation channel, in sight of the Lake Marion Dam, and half way through the Diversion Canal between Lake Marion and Lake Moultrie.

Again the camp site was ideal. We were about half a mile above the Canal Motel and Restaurant. Both were closed for the winter season but the restaurant was being operated as a general store. One ranger carried Nims and Campbell to the store to replenish the water supply. A car was used to return the water and the two boys to camp. Camp was made and supper in the making. Most work stopped when it was learned that the store was open and had a telephone. Calls were made to several states and candy and ice cream was purchased. The owner of the store left restroom facilities open for us to use. We surely appreciated that.

Back in camp supper was roady and the voyageurs had been roady.

"Did you see that sleeping bag?"

"What sleeping bag?"

"Dobbins'?"

"No, what happened to it?"

"He was warming it, drying it, or something. Anyway, he had it by the fire and burned the middle out of it." "Instead of one sleeping bag, now he's got two little ones!"

Jokes and cuts continued to flow freely--as they had the entire trip. No one was ever excluded and everyone had to take it. Thank goodness for a sense of humor and unity.

"Captain, this is probably the first camping trip in a while that you caught a hard time back?"

"The first," said Captain Swearingen with a regretful smile.

The camp fire group was light as everyone began making a fiarco sack attack. We were all pretty tired. Sleeping bags felt good.

Friday, January 17, 1969

Getting up, getting dressed, having breakfast, breaking camp, and loading canoes had got to be the same mechanical procedure each morning. This morning we had two exceptions to our regular manner. In the first place we still had restroom facilities. And secondly, the men from the Wildlife Commission were to arrive at eight o'clock. Therefore, we began a little earlier in order to make sure we kept no one waiting. We did not care to show our appreciation for their assistance by making them wait an hour. They had left their boat the night before. Shortly after eight o'clock, we were pulling out.

For some reason, morale was not as high as it had been. It had been five days since we had had showers. We had been in no civilization to mention. And the main thing was our method of propulsion. The wardens from the Wildlife Commission advised us to continue being pulled. We were slow to agree but were persuaded by the knowledge the wardens had of the water we would have to cross. They said we would not be allowed to cross on our own anyway; that they would have to be with us at all times and that the water would probably be rather turbulent. There was no question about being grateful for the pull. Thinking of our schedule again, it would have been a near impossibility without mechanical assistance. However, the riding added monotony. The work amounted to bailing out water, staying dry, and keeping our canoes together. The wind was cold and we just sat. Then there were those of us who simply didn't want to "cheat." We wanted to make it all on our own--even if it meant longer, harder, and extra days.

"I had rather paddle. I just don't like this riding all day," said Mims. He summed up the attitude of us all.

We completed our stretch through the diversion canal and were into Lake Moultrie.

"What a lake!"

"Is this the ocean already?"

It looked like the ocean. We could see nothing ahead but water and the horizon. After the stories we had been told about the rough water, we were



amazed at how smooth everything was. We continued to have smooth sailing until we reached what we approximated as the middle. Swells began building. Watching the warden's boat being tossed about made us realize the problems we would have had. They took a lot of sting out of those swells but they were still forceful enough to lift our canoes and drop us hard enough for the bows to dip under the water on occasion and take some water at every dip. Of course, none of us will deny the fun and excitement. It took a fantastic ride--like a roller coaster at times and like a bucking horse at other times.

We were ever mindful of those who haven't made it across Lake Maultrie, especially three University of South Carolina students who drowned some time ago. We respected the power which surrounded us.

There was only a little of the morning left when we saw the Santee Power Plant in the distance. Here we began to turn right and make a wide sweep around a peninsula which supported Wampee Plantation.

A couple of hundred yards off shore, the boat quit pulling, we untied canoes, and actually raced to shore. The water was so low that several canoes became stuck on sand bars before getting to shore. Finally all were in; we unloaded, and turned our canoes over. Food stuffs were stacked on plastic and covered with vinyl which Yarborough brought along to put under his tent each night. Personal gear and lunch was packed in the back of a station wagon furnished by the Plantation.

A Mr. Potter had greeted us at the dock. He won the hearts of everyone when he informed us definitely that we would be the official guest of Wampee! getting a bed, shower, supper, and breakfast. Talk about a boost in morale, everyone was back to jokes, laughs, and cuts. Cuts were deeper than ever and we even seemed to appreciate being cut down again. Things were getting back to the way they were--and the way we felt they should be.

There were several big houses and giant, stately trees. A half mile walk brought us to a house. Next to the house was a row of cabins with two beds in each. Doc and the Captain got the master bedroom with two big beds, since they were top brass. Hastings and Duane Potter managed to get the other big bed room while the rest of us headed for the cabins. There were no complaints about who got what or where. We had plenty of room!!

After unloading the gear, we headed for the house where the sandwiches had been taken. It was about two o'clock and this time, we were starving.

A big coffee maker had been put in operation by the cooks at Wampoo. What coffee! It was delicious.

Lunch went in a hurry and voyagers scattered. Some washed out clothes, almost everyone showered (until all the hot water was used), and almost everyone took naps until we were called for chow. There was no problem sleeping in those warm comfortable beds.

Kolezner made rounds at five-thirty, waking everyone for supper. No time was wasted in getting to the dining hall.

Harley, Haddon, and Duffino wandered in late for supper, still half asleep. They succeeded in blowing a fuse in their cabin earlier and had moved to another cabin without our realizing it. What scorn they received for being late.

What a supper it was! We had roast beef, mashed potatoes, green beans, salad, fruit cocktail, and pie for desert, with coffee, tea, or milk to drink.

It was cooked to perfection and every man ate his fill. A reader can only imagine the amount of food to fill seventeen hungry river voyageurs. One of the cooks confessed that there were no left-overs. For the first time, there was no good-natured complaining about not enough food.

After the splendid meal, Mr. Welsh--a director of the Santee-Cooper project--was on hand to give us many interesting facts about the Santee-Cooper System and the surrounding area. We enjoyed, as well as appreciated Mr. Welsh's time.

It was eight-thirty or nine o'clock when we left the dining hall. Walking back to the cabins, all of us admitted we had definitely over eaten.

There was a television in the house Doc and Captain Swearingen occupied and a few voyageurs took the opportunity to watch it. We had not seen a t.v. since leaving Spartanburg. More people were taking showers, more clothes were being washed, and others were simply preparing for bed. By eleven o'clock only one or two were still stirring.

Saturday, January 18, 1965

The night had passed quickly and pleasantly. This was perfectly clear when Captain Swearingen knocked on doors and roused everyone from soft pillows.

With some personal gear being packed, the major concern was for breakfast. About thirty minutes after being awakened, we were again advancing toward food. The anticipation was understandably high after the food we enjoyed the night before. There was no let down. We had scrambled and fried eggs, toast, sausage, grits, butter, preserves, juice, milk and coffee. Again we ate all we wanted--actually all we could hold. The food was so delicious we wanted more and more. If only we could have carried it with us.

Now we were rushing again. We hurried back to our cabins and began packing. A pick-up truck was sent to get our gear and haul it back to our canoes. We loaded the canoes in anticipation of the locks we would soon enter as we looked across the water to the Santee-Cooper Electrical Generating Plant.

As we entered the water, we were told that it would take us at least two hours to paddle across to the locks.

Yells, screams, cries, jokes, and cuts were omitted as we began. Morale was higher than it had been in days. We were rested and feeling great. We were paddling again!

Instead of two hours, it took us forty-five minutes to an hour to paddle across to the dam. We entered the locks in two groups of four canoes each and held the canoes side by side. The big gates closed behind us and the water level began dropping. In about fifteen minutes the water was seventy-eight feet lower. It was some experience. As the water dropped, eyes popped. All of us were more than ready to be released from between the two giant gates and the walls on each side. The fact that water was spewing through the gate behind us and giving quite a shower in no way helped our confidence. When the lower gate began opening, we rushed for the freedom of the Tall Race Canal. We enjoyed the current and smooth sailing for the next couple of hours. By noon we were in the Cooper River and a lot nearer to Charleston.

The water was calm and the procedure uneventful so we paddled along carrying on conversations with guys in near by canoes, racing at times, and singing.

In the area of singing we returned to our old stand by. Before leaving on our trip, a song was written and released by Joe South entitled Games People Play. It caught on the first time we heard it and it ultimately became our so-called "theme song." Some or all of us were singing parts of the song daily. As the title suggests somewhat, the song is a protest against the superficial lives many people live in our society today. The following verse was sung most frequently.

People walking up to you  
Singing glory hallelujah  
And trying to sock it to you  
In the name of the Lord,

Da da da da da da da  
Da da da da da da dee.  
Talking 'bout you and me  
And the games people play.

During this span of the river, we played a few games of our own, everything from throwing candy to splashing water on one another. For some reason, a few guys enjoyed irritating Haddon.

"Prepare for a ram!"

Kajuznar and Messengill rammed Haddon and Potter broad side. Naturally, neither Haddon nor Potter thought it was very funny. But the "rammers" were in hysterics laughing at the expressions and reactions which came from the rammed canoe. Of course, no damage was done since the "ram" was less than an unexpected bump.

We passed many beautiful homes and many dull looking rice fields before lunch.

The wardens from the Wildlife Commission came out and warned us about a barge coming up the river. We got near the left bank and met with room to spare. We waved. They waved. And to break an amount of boredom which had developed, a few of us carried our canoes out far enough to ride the swells produced by the barge.

For lunch, we stopped at the Mulberry Plantation. During our lunch break, we had an opportunity to see the Plantation home and some of the surrounding grounds. We obtained a picturesque view of the historical Old South. As we wandered over the hills and through the beautiful gardens, many thoughts were carried back in time. We could almost hear the sounds of Negroes singing as they work in the fields.

The afternoon was spent paddling. In trying to be descriptive, there is not much more to say about it. If the current was moving, we couldn't tell it so we paddled. The temperature was rising high enough to make it comfortable and the atmosphere was humid.

After a half a day in the Cooper River and getting nearer to Charleston, we were amazed at the current and the backing-up effect of the tide. At times it looked and actually felt as if we were paddling up hill.

As we went under a railroad trestle, all of a sudden it seemed that the tide and the current began working together. The tide and current pulled us a lot faster. Picking up speed and gaining a little time of our schedule, we decided to stop for a rest at Strawberry Landing. After a disappointing stop,

where the drink machine didn't work and there was no candy in the store, we decided to push on. The proprietor of the landing informed us that we still had a long distance to go but he knew a short cut through some old rice fields. He showed us the way and said he would join us again when we came back into the main channel down river.

As we neared the channel again, our volunteer guide proceeded to point out the main channel as it led to the sea. He told us that from this point on we could not get out of the channel again. We continued down the Cooper River, riding the tide for about another hour until we spotted a cleared area and decided to make camp. This was one of the few areas with enough elevation to even make our camp.

Several members of the group spotted what they felt would be a better camp site a few hundred yards down river. The ground was smoother and the trees provided more coverage. However, we discovered later why the ground was smooth and the foliage thick. As the tide came in, the area was completely under water. Had we camped there, the tents would have been under water before morning.

We began setting up tents and the kitchen. As supper was being prepared, a light rain began to fall. This was the second night of our trip that we ate supper in the rain.

The rain stopped for a period of time. We took advantage of this by cleaning the kitchen area and personal mess equipment. We also had some time for a camp fire discussion before the rain made a return visit. The topics of discussion ranged from psychology and mental illness to religion and capital punishment. And of course the old stand by, girls! As the rain reappeared and the hour was late, we decided we would be dryer in our tents. One of our group decided that a little more djrt was needed around the bottom of his tent to keep the moisture that was falling from coming in. Flashlight and shovel in hand, he proceeded with the task at hand. Our fearless leader was stopped short as he uncovered a snake. At the same time letting out a cry "dam, a snake," which brought the entire group to his aid. As it turned out it was a harmless water snake, of which two more were to be uncovered before leaving this campsite. After this little excitement, everyone returned to their tents for the night.

As two of our fellow travelers always said, "Goodnight, David." Good-night, Chot."

Sunday, January 19, 1969

This Sunday was a day we had all long awaited. We would be able to sleep late because this was the only day that we would do no paddling while on the river itself.

We began to get up around 9:00 A.M. and look through the kitchen for something to eat. Some of us had not been up long when we heard a strange noise coming from up river. The fog still covered the river and we could not see a great distance, which made it sound like some prehistoric animal, as it came closer we recognized it as the same tug boat & barge we met the day before going up the river. After this early morning start and a shaky second cup of coffee we settled down to a day of rest. The day was hot and stuffy but a change after the cold during the earlier part of the trip. It felt very good to be able to feel comfortable in short-sleeve shirts. The morning was spent on such things as an unauthorized trip by several of the more rambunctious

members of the voyage. We were severely reprimanded by Doc when we returned 2 hours late for dinner. "Death is a long time!" These boys didn't seem to be too worried because of the very nature of the trip. We were out to have a good time and that is exactly what we did. I might add here boys will be boys, regardless of their ages. This group was no exception. They possibly were even more adventurous because of the rigid routine of the trip. Everyone on the trip, by this time had become curious by nature. Some were able to control their curiosity somewhat better than others. It goes without saying, that everyone likes to play with toys. This was true of this group, and more so, if the toys are big, and especially if they are not supposed to play with them or on them.

After this late group finished their meal, things got pretty quiet because of the mid-afternoon naps. Doc slept most of the afternoon and it was extremely late before we saw our fearless second in command, Captain Swearingen. He had been sacked out in his hammock in the woods somewhere. But while some of the group were resting, that same rambunctious group went exploring the muddy marshes which surrounded us. Koloznar, Massengill, Haddon, and Yarbrough found that the mud could be quite soft and deep in places. This became evident to the entire group when Paul Massengill returned to camp with mud caked up to his rear end. He was a mess; in fact, all of these explorers were a wet mess.

By the time these four returned, supper was on everyone's minds so our trusty food committee came up with some filling concoction to satisfy our monstrous appetites. It wasn't long after supper that all was quiet at camp once again. We were eagerly awaiting our last day on the river.

Monday, January 20, 1969

This morning we got up around daybreak. It was raining and very foggy over the river and marshes. The marshes on the opposite bank were barely visible because of the high tide and fog. It continued to rain through most of the morning and we all ended up eating breakfast under the kitchen tarp. Doc suggested that we get an extra shelter tarp up but due to lack of interest and also because most of us were already wet, the tarp didn't get put up. Our camp site had turned into a sea of mud by the morning and as we began to break camp after breakfast, the mud became deeper from everyone's walking over the same area. We took down wet tents, rolled up wet sleeping bags, packed wet food and dirty kitchen equipment to be cleaned at a later date. We were all glad that this was our last breakfast on the river.

We were not in an extremely hurried state of affairs because we could see that there was still a high tide on the Cooper River. We wanted to try and catch the tide as it turned to aid us on the last leg of our river voyage. We got all our canoes loaded and into the river and were finally on our way by mid-morning.

Well, we got into the Cooper River, all eagerly awaiting the longed-for 5 to 10 mph current we had heard so much about before our trip began. Then we found out that we were still in a high tide river. Boy, were we 17 disillusioned paddlers, eager to reach Charleston, and having to paddle against the tide. What fun and games! We paddled like this for maybe an hour when we caught our first glimpse of the naval shipyard in the form of a great bulk of a ship across the marshes and the heavy cranes and derricks used in repairing those military vessels. About the time we started getting hungry, we began to pass signs that read: GOVERNMENT PROPERTY--KEEP OUT--NO TRESPASSING--VIOLATION WILL BE PROSECUTED--NO FISHING--NO LOITERING. We didn't see any warnings to a bunch

of college canoers so we proceeded with much effort deeper into hostile territory, fully expecting a volley of machine-gun fire to explode from the marshes any time. We crossed rice paddies and followed the direction of several local native fishermen. About 12:30 we stopped paddling and decided to drift with the current and eat dinner. We paddled our canoes together so that ham and spam sandwiches could be distributed. As usual at meals we had our everlasting jokers at work. There was never a dull moment at meal time. We finished our sandwiches while drifting about 100 yards on the extremely fast current that we wanted but didn't have. Shortly after dinner we approached the large ship we had first sighted. It was a large naval vessel with a submarine tied up on each side. The submarines looked as if they had taken a beating because of great patches of rust spots where the paint had been chipped. We continued paddling on into the harbor and received greetings in the form of waves from the men on the ships, a whistle blast, and conversation from several young men on the harbor tug boats. In fact, we thought at one time we were going to get rammed by one of these work-horses of the harbor but his maneuverability surprised us when he made an easy 90 degree turn to go around behind us.

We had now become concerned about where we were to land. We were supposed to land at a place known as the Admirals Landing. Doc had told us it was a landing for small vessels, but the small vessels we were acquainted with seemed from another world compared to the naval craft surrounding us. We were beginning to be recognized, though, for the hearty travelers that we were--some signalman on a destroyer began to send us messages in morse code but fortunately or unfortunately for us, depending on his message, none of us knew morse code. He soon stopped sending signals when we didn't reply. We had sighted the Cooper River Bridge earlier and it seemed that we would go under it before we stopped. The current had also speeded up considerably at this time and paddling had become enjoyable again. And then, the big moment--our landing was sighted. Man, what a great feeling to know we had made it all the way from Spartanburg. We tied up our canoes at the dock while sailors on sub chasers stared in amazement at eight canoers amidst their ships of war. All of us were tired, but we felt great. Doc and Capt. Swearingen left the group to find out where we were supposed to go. Before they returned we had our canoes unpacked and all our personal gear stowed on a Navy bus that had arrived to carry us to our barracks for the night.

We arrived at building 67 about 2 o'clock, unloaded our gear and stowed it in our respective rooms. Then the Navy personnel gave us a briefing on regulations and how we were to get on and off base. We were given free time until 10 o'clock the following morning.

Then the fight for showers began. We found four showers immediately but after having to wait for about thirty minutes per person, a few of the voyagers began to look for other shower space. Four more showers were found about halfway down the hall. These were quickly filled by dirty voyagers and it wasn't long before the halls were empty because of the attractive big city lights of Charleston.

Tuesday, January 21, 1969

After our big night in Charleston, Tuesday morning dawned bright and clear. We assembled about ten o'clock in front of our barracks to load all of our personal gear on to the Wofford Maintenance truck. We all piled on and rode to where we had landed the day before. We arrived at the landing, piled off the truck and unloaded the truck to make room for the canoes. Two maintenance men supervised the loading operation. We had everything loaded in about an hour and a half but we had to wait on Doc. Jim Hastings and Dean Potter spent their spare time trying to knock each other off a couple of

telephone poles lying where we had beached our canoes. It was a close battle except for the times Jim spent falling off the logs and getting back on. "Rare" Miller also made several candid shots of the loading operation and the antics which followed. We all then broke up and headed for the cafeteria for dinner. We met back at the barrack around 1:00 for our tour of the Naval Base. Chief Howard was our guide.

We boarded the minesweeper U.S.S. Affray where Lt. Com. Kennedy explained the different types of sweeps his craft was able to perform. He explained all operations and then led us on a tour of his craft. We then left the Affray and boarded the U.S.S. J. C. DREW, a destroyer. A couple of Ensigns and Junior Grade officers talked to us but the noise from the paint chippers was so loud that we could hear very little. We were shown the big guns on the ship and the nerve center of the ship. All the tracking equipment and radar was explained to us and demonstrated. This day had been a strenuous one but very informative and interesting. The Navy treated us like the sailors that we were and we really enjoyed our tour. We all wished that we had had more time to talk with the individual sailors and officers and to explore the ships but time and security reasons did not permit us to do this.

We left the waterfront and made our way back to the barracks to prepare for our short trip, comparatively, back to Spartanburg. Doc went back with the truck and several cars left that afternoon. Also, six of us went back to Spartanburg on the roughest Trailways Bus ever driven. Those on the bus arrived in Spartanburg at 11:00 p.m., January 21, 1969. Thus ended a canoe trip of some 350 water miles and 13 days from its origin. A happy group, yet sad; happy, to know that we had made a trip few others have made; sad, because of the many memories and good times we had on the river.

All that remained now was cleaning up and returning the borrowed equipment, the dividing up of the little food that was left, and finishing the individual projects started at the beginning of the trip. This is the way we spent the remaining few days of the 1969 Wofford College Interim Project 71, "River Voyagers." A small group of the Wofford students, and their leaders, now have something to tell their children and grandchildren about the days when they were in college. A happy project, yet difficult, was finished but it will never be forgotten, especially by those who made the trip.

Interim Project 71 "River Voyagers" was a project of tremendous physical accomplishment which required a great deal of endurance on the part of its participants. It was a great success because of the fact that every goal which was set was reached. We feel a trip of this nature gives a sense of physical wholeness. It brings about a togetherness, as well as an independence. Certainly, some felt many times, "What am I doing here?" Yet not one of us was willing to give up. This was a trek that had not been accomplished in many years. It afforded to the students a phase of education that can not be obtained in a classroom. The voyagers themselves will long remember the experiences, discussions around the campfire, aside from the daily routine of paddling, eating, setting up and breaking camp.

The trip seemed to bring a oneness to the group, as compared to the seventeen individuals at the first meeting. It changed from who is he? and what's his name? to a compact group of one, with a sense of humor, and the ever cutting of the person who said something. None of the group was free from these cuts and digs, and every one passed them out freely; but never was the respect for authority disregarded or lost.

The Voyagers conclude that this trip was a great experience. It was not only a great physical accomplishment, but was also mentally stimulating because of the individual projects undertaken. These included the fields of Biology, Geology, History, Sociology and Physical Education. As one Voyager stated, "The trip down the river was something I'll never forget. I am ready to go again anytime." This is the sentiment of the majority of the participants in this project.

If anything resembling a conclusion can be made, it would have to consist of short remarks and/or statements by the Voyagers meaningful only to the Voyagers themselves. Some of these are: The matchless (your hair is burning) comma: - - Dead is a long: - - Start unloading the canoes, we have to find the peanut butter and jelly sandwiches: - - What's a "Coo Coo Coo?" - - Let's get the hell out of Dodge: - - "Head 'em up and paddle them out:" - - The "last one up every morning award" goes to Gordon. - - Best Joke telling award goes to George. - - "Jam hungry" by Paul Y. - - Words heard the most: Girls; Food; Girls; Sock it to them: - - as a light rain was following that night someone said, "I believe I'll shave. - - What happened to the board growing contest? Too many started too soon or before the prescribed starting time. Someone had to shave anyway to look good for his public. Those who did, were rewarded, they had a scratching good time. The cave dwellers. - - Dooley in the rapids, "Right, I mean left, no right, oh, hell, Stop!!" - - Crooner Hasting, sing a solo- "so low we can't hear you." - - Paul loves to play on big toys: - - "I got a good picture of the sun rise, (six to be exact) - - Lets go wading in the mud. There's a better place to camp than here, - - "Rare" proclaims a "world's record" at the Wampee Plantation, Dooley agroud. Congratulations. What a waste! Many more statements could be added to these, but only one will: "Good night, David; Good night, Chet."



INTRODUCTION

The purpose of this project was to study the distribution of strontium-87 in the rivers and lower basins of the Colorado and Rio Grande basins. The project was carried out by the participants in various meetings, including those held at the University of Colorado, Boulder, in 1964, and at the University of Colorado, Boulder, in 1965. The project was carried out by the participants in various meetings, including those held at the University of Colorado, Boulder, in 1964, and at the University of Colorado, Boulder, in 1965. The project was carried out by the participants in various meetings, including those held at the University of Colorado, Boulder, in 1964, and at the University of Colorado, Boulder, in 1965.

**INDIVIDUAL STUDENT PROJECTS**

Several studies were carried out by the participants in various meetings, including those held at the University of Colorado, Boulder, in 1964, and at the University of Colorado, Boulder, in 1965. The project was carried out by the participants in various meetings, including those held at the University of Colorado, Boulder, in 1964, and at the University of Colorado, Boulder, in 1965.

A general outline of study was presented from various reports for the study. There was no detailed outline, however, from a study of these reports. The outline was presented from various reports for the study. There was no detailed outline, however, from a study of these reports. The outline was presented from various reports for the study. There was no detailed outline, however, from a study of these reports.

The participants in various meetings, including those held at the University of Colorado, Boulder, in 1964, and at the University of Colorado, Boulder, in 1965. The project was carried out by the participants in various meetings, including those held at the University of Colorado, Boulder, in 1964, and at the University of Colorado, Boulder, in 1965.

METHODS

The first method of sampling was to pour a volume of five gallons of water through a glass-wool plankton net of standard mesh into a clean, dry, five-gallon container. The water was filtered in the first part of the net and a standard container was collected in this manner in the final and lower basins. It must be noted that the samples were in plastic for the first part of the study. Total suspended matter was determined on the basis of the weight of the sample. The results of the analysis showed that the sampling method was adequate. The water collected from the river was not sufficient for an accurate study.

The second method of sampling was to use a concentration of plankton from five gallons of water. The plankton was used in a standard plankton net of lower mesh size. This procedure also proved unsatisfactory. The second method was used in the Rio Grande and lower basins and part of the study.

The method of sampling used proved adequate for studying the distribution of strontium-87 in the rivers and lower basins. The results of the analysis showed that the sampling method was adequate. The water collected from the river was not sufficient for an accurate study.

The Distribution of Plankton Algae at Nine Points  
Along the Rivers and Lakes Connecting Pacolet,  
South Carolina and Charleston, South Caro-  
lina in January, 1969.

### INTRODUCTION

The purpose of this project was to study the distribution of plankton algae in the rivers and lakes traveled by the participants in Wofford College Interim Project #71. The voyagers coursed a river route from the upper piedmont, Pacolet, South Carolina, to the coastal plain, Charleston, South Carolina, by way of the Pacolet, Broad, Wateree, and Santee Rivers, Lake Marion, Lake Moultrie, Tailrace Canal, and the Cooper River. These waters are used primarily for industrial water supply and municipal and industrial waste disposal. Chemical information was not available for this report. The algae studied were the cold weather growth since the trip took place in January. This report presents taxonomic identification of most species found in the collected samples and a quantitative analysis of the distribution of the four most abundant species at selected localities.

A general outline of study was prepared from similar reports for other areas. There was no material available, however, from a study of these particular waters. Therefore, the method of study had to be varied to fit the region and prevailing conditions. In addition, the physical demands of the canoe trip limited the scope of the study somewhat.

The assistance and cooperation of Dr. E. G. Patton, Wofford College Biology Department; Mr. James Huggins, Aquatic Biologist, South Carolina Public Health Department; Mr. Duane Stober, Wofford College Physical Education Department; and the South Carolina Wildlife Resources Department is gratefully acknowledged.

### METHODS

The first method of sampling was to pour a volume of five gallons of water through a cone-shaped plankton net of standard mesh silk bolting cloth. A 10-cc collection bottle was fixed to the free end of the net by a threaded connector. The algae were preserved in a 12% formaldehyde solution. The samples were collected in this manner on the Pacolet and Broad Rivers. It should be noted that the voyagers were in rapids for two days on the Broad River. These conditions made sampling procedures quite difficult. These samples were taken to the Water Pollution Laboratory of the South Carolina Public Health Department in Columbia for analysis. The results of the analyses proved that the sampling methods were inadequate. The data collected from the samples were not sufficient for an accurate report.

The second method of sampling was also a concentration of plankton from five gallons of water. The plankton net used was a Wisconsin plankton net of finer nylon mesh. This procedure also proved unsatisfactory. This method was used on the Wateree and Santee Rivers and part of Lake Marion.

The method of sampling that proved successful was dragging the cone-shaped silk net while the canoe was in motion. These samples were quite rich with plankton, but the amount of water being filtered could not be measured. This method was continued for the remainder of the trip.

The results of this survey are compiled from nine samples. The locations of these sites are depicted on maps 1 and 2. (The samples were taken only once due to the nature of the trip. Each sample was sub-sampled for taxonomic identification and a quantitative comparison of the four most abundant species.) At the present time the identifications of the species have not been verified by a taxonomist, but arrangements are being made for such verification. Table 1 outlines the occurrence and the distribution of the known plankton algae in the nine samples. Refer to plates I-VI and micrograph pages 1-3 for identification.

The quantitative sub-samplings of the four most abundant species was calculated by the use of a Sedwick-Rafter counting cell and a Whipple ocular micrometer. The use of these instruments is outlined in Limnological Methods, pp. 200-281.

The sub-sample was sampled by counting by algae in sixteen squares of the Whipple ocular micrometer. Two slides were counted twice at random (total four counts). Refer to table II for raw data.

A computer program was written to calculate the mean value of the four counts for each sample and the standard deviation from the mean. The program and computed values are included in this report. A terminal for a G. E. Time Sharing Computer is located on the Wofford College campus. Refer to Graph pages 1-3 for a comparison of the counts. It should be noted that although the counts were taken from two slides, the data are treated as though they came from the same slide.

#### DISCUSSION AND CONCLUSION

Plankton Algae were studied on a canoe trip down the major rivers that connect Pacolet, South Carolina and Charleston, South Carolina. There were nine samples taken from these waters below Columbia, South Carolina. A study of the graphs and tables should yield a complete understanding of the findings. It is interesting to note that there is little deviation in the number of each species found in each sample.

The significance lies in the fact that equal distribution of species A, B, C, D, and H were found in each of the nine samples. These five are evidently abundant from Lake Moultrie to Strawberry Landing.

Having found 5 species in abundance in these nine areas, it can be concluded that the water of the lakes and rivers of lower South Carolina contain suitable environmental materials as to allow the growth of those species. These species are of extreme importance being part of a food chain cycle and through their growth and abundance the ecosystem of a man made lake, Lake Moultrie, and its lower drainage is maintained in a natural balance.

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- (3) Needham, J.G., and P.R. Needham: "A Guide to the Study of Fresh-water Biology," 5th ed., 107pp. San Francisco, Calif., Holden-Day, Inc., 1962.
- (4) Palmer, C.H. : "Algae in Water Supplies," 88pp. Washington, D.C., Public Health Service Publication No. 657, 1962.
- (5) Reid, G.K. : "Ecology of Inland Waters and Estuaries," 375pp. New York, N.Y., Reinhold Publishing Corp., 1961.
- (6) Welch, P.S. : "Limnological Methods," 381pp. New York, N.Y., McGraw-Hill Book Co., 1948.

TABLE I

ALGAE	1	2	3	4	5	6	7	8	9	TOTAL SITES OF SPECIES
A. Ulothrix	X	X	X	X	X	X	X	X	X	9
B. Xygnema	X	X	X	X	X	X	X	X	X	9
C. Fragilaria	X	X	X	X	X	X	X	X	X	9
D. Diatoma	X	X	X	X	X	X	X	X	X	9
E. Asterionella	X	X	X	X	X	X	X	X	X	9
F. Pinnularia	X	X	X	X		X	X	X		7
G. Periastrum				X			X			2
H. Tabellaria	X	X	X	X	X	X	X	X	X	9
I. Synedra		X	X	X	X	X	X	X	X	8
K. Aphanocapsa		X	X	X	X	X	X	X	X	8
L. ?		X			X	X				3
N. Anacystis					X		X			2
O. Spirogyra							X		X	2
P. Dodogonium									X	1
R. Scenedesmus				X						1
S. Staurostrum				X						1
TOTAL SPECIES										(1)
PER SITE	7	10	9	12	10	10	12	9	10	

TABLE II

## RAW DATA

	1	2	3	4	5	6	7	8	9
SLIDE #1									
COUNT #1	37	56	35	76	68	73	48	36	30
B	7	12	14	28	30	25	4	8	17
C	0	0	34	18	10	6	77	31	12
D	5	15	19	8	6	10	9	10	9

## SLIDE #1

COUNT #2	52	38	28	90	52	52	45	29	47
B	15	14	15	32	24	28	9	14	12
C	21	26	0	0	18	23	36	0	32
D	9	10	22	24	38	12	18	11	19

## SLIDE #2

COUNT #1	39	42	33	94	74	79	49	23	33
B	12	19	12	24	26	31	19	12	23
C	0	11	11	0	0	22	0	0	0
D	8	16	4	25	8	8	11	12	12

## SLIDE #2

COUNT #2	43	36	20	74	62	62	55	27	37
B	14	16	16	28	14	24	14	16	15
C	43	0	19	0	16	21	94	26	24
D	9	12	25	18	8	9	10	24	18

NOT DRAWN TO SCALE

B.



ZYGNEMA

D.



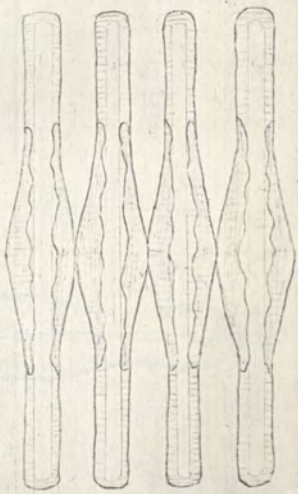
DIATOMA

A.



ULOTHRIX

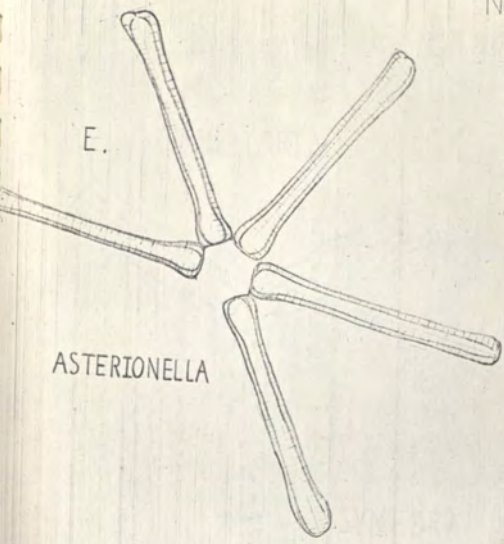
C.



FRAGILARIA

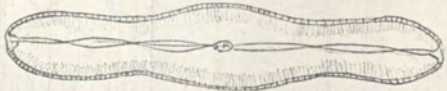
NOT DRAWN TO  
SCALE

E.



ASTERIONELLA

F.

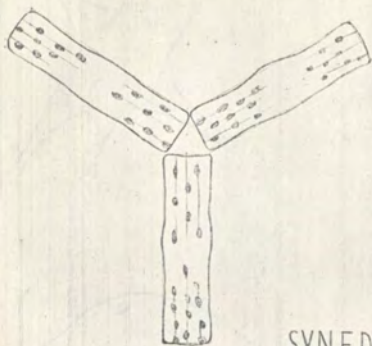


PINNULARIA



NOT DRAWN TO SCALE

H.  
TABELLARIA



SYNEDRA



G.

PERIASTRUM

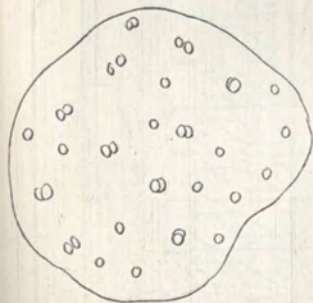
J.





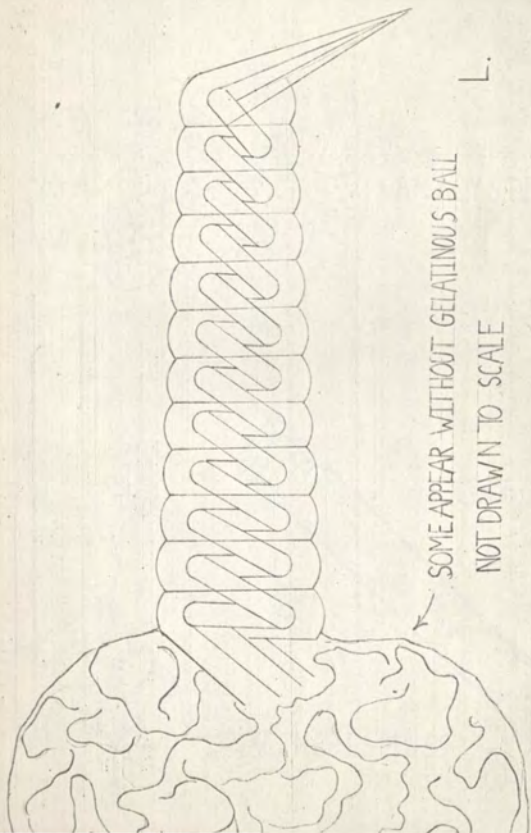
STAURASTRUM

S.



APHANOCAPSA

K.

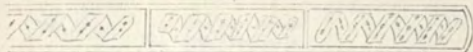


L.

SOME APPEAR WITHOUT GELATINOUS BALL  
NOT DRAWN TO SCALE



O. SPIROGYRA

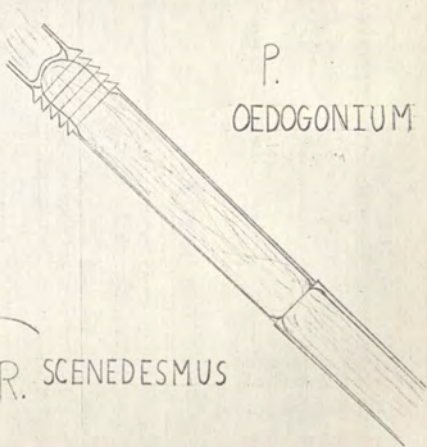


N.

ANACYSTIS

NOT DRAWN TO SCALE

P.  
OEDOGONIUM



R. SCENEDESMUS



MICROGRAPH LEGENDS

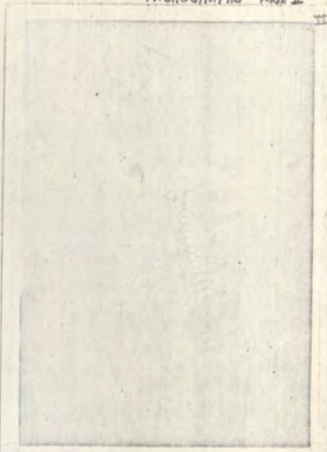
- Page I.
- I. Note Periastrum
  - II. Note Fragilaria
  - III. Note Zygnema
  - IV. Note Species A and Asterionella
- Page II.
- I. Note Staurostrum
  - II. Note Species L
  - III. Note Aphanocapsa
  - IV. Note Diatoma
- Page III.
- I. Note Species B
  - II. Note Scenedesmus
  - III. Note Species B
  - IV. Photographic Field at 100X



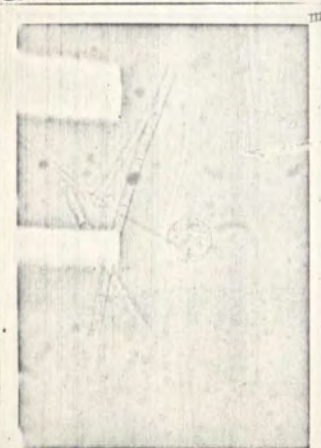




x 200 x 85



x 200 x 85



x 200 x 85



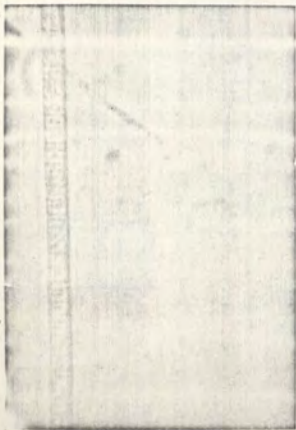
x 200 x 85



• 100 • 88



• 100 • 88



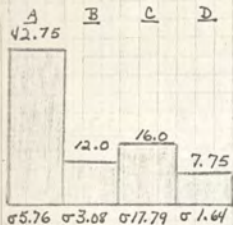
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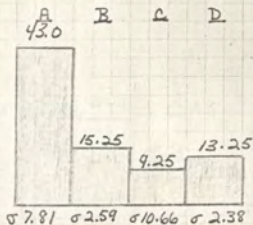
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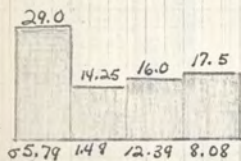
# Comparative distribution of the four most abundant species



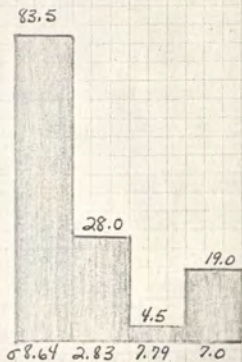
Sample I



sample II



sample III



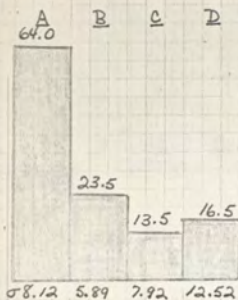
sample IV

A = Ulothrix

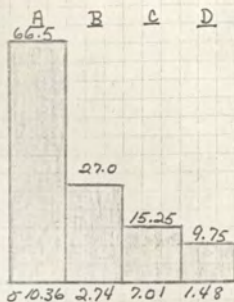
B = ZYGNEMA

C = Fragilaria

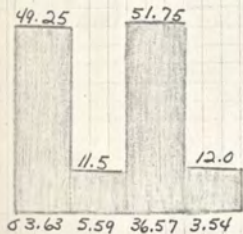
D = Diatoma



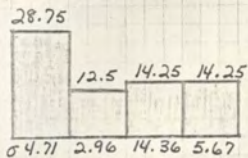
Sample V



Sample VI



Sample VII



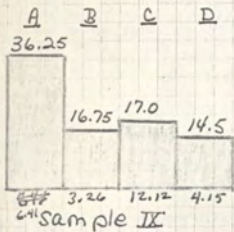
Sample VIII

A = Ulthrix

B = ZvsNEMA

C = Fragilaria

D = Diatoma



A = Ulothrix

B = Zygnema

C = Fragilaria

D = Dintoma

```

5 PRINT "THIS PROGRAM COMPUTES STANDARD DEVIATION OF ALGAE "
6 PRINT "SUB-SAMPLES."
7 PRINT" INTERIM PROJECT 71          JANUARY, 1969 "
8 PRINT "X= MEAN,  Y= STANDARD DEVIATION"
9 READ A,B,C,D
10 DATA 37,52,39,43,7,15,12,14,0,21,0,43,5,9,8,9,56,38,42,36,
11 DATA 12,14,19,16,0,26,11,0,15,10,16,12,35,28,33,20,14,15,
12 DATA 12,16,34,0,11,19,19,22,4,25,76,90,94,74,28,32,24,28
13 DATA 18,0,0,0,8,24,26,18,68,52,74,62,30,24,26,14,20,18,0,16,12
14 DATA 38,8,8,73,52,79,62,25,28,31,24,6,23,11,21,10,12,8,9,
15 DATA 48,45,49,55,4,9,19,14,77,36,0,94,9,18,11,10,36,29,23
16 DATA 27,8,14,12,16,31,0,0,26,10,11,12,24
17 DATA 30,47,33,37,17,12,21,15,12,32,0,24,9,19,12,18,
18 LET X=(A+B+C+D)/4
19 PRINT "X=" ,X
20 LET Y=((A-X)+2+(B-X)+2+(C-X)+2+(D-X)+2)/4
21 PRINT "Y=" , SQR(Y)
22 GO TO 10
23 END

```

RUN  
WAIT.

RIVALG 09:05 WED. 04-09-69

THIS PROGRAM COMPUTES STANDARD DEVIATION OF ALGAE-  
SUB-SAMPLES.

INTERIM PROJECT 71 JANUARY, 1969.  
X= MEAN, Y= STANDARD DEVIATION

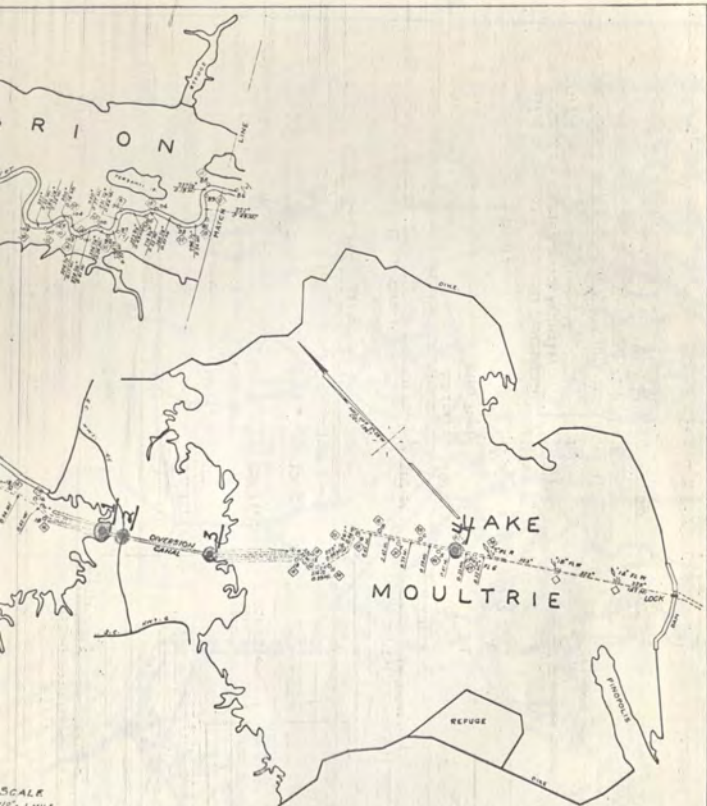
X=	42.75
Y=	5.76086
X=	12
Y=	3.08221
X=	16
Y=	17.7904
X=	7.75
Y=	1.63936
X=	43
Y=	7.81025
X=	15.25
Y=	2.58602
X=	9.25
Y=	10.6624
X=	13.25
Y=	2.38485
X=	29
Y=	5.78792
X=	14.25
Y=	1.47902
X=	16
Y=	12.3895
X=	17.5
Y=	8.07775
X=	83.5
Y=	8.64581

X=	28
Y=	2.82843
X=	4.5
Y=	7.79423
X=	19
Y=	7
X=	64
Y=	8.12404
X=	23.5
Y=	5.89491
X=	13.5
Y=	7.92149
X=	16.5
Y=	12.52
X=	66.5
Y=	10.3562
X=	27
Y=	2.73861
X=	15.25
Y=	7.01338
X=	9.75
Y=	1.47902
X=	49.25
Y=	3.63146
X=	11.5
Y=	5.59017
X=	51.75
Y=	36.5676
X=	12
Y=	3.53553
X=	28.75
Y=	4.71036
X=	12.5
Y=	2.95804
X=	14.25
Y=	14.3592
X=	14.25
Y=	5.6734
X=	36.75
Y=	6.41775
X=	16.25
Y=	3.26917
X=	17
Y=	12.1244
X=	14.5
Y=	4.15331

OUT OF DATA IN 10

TIME: 2 SECS.





SCALE  
 1/2" = 1 MILE  
 (APPROXIMATE)

NOTES -

BOUNDARIES BETWEEN WARDERS  
 IN MARSHY AREAS  
 STATION NUMBERS ON RIGHT  
 ARE 500' AND ON LEFT  
 ARE 1000'  
 IN SQUARES

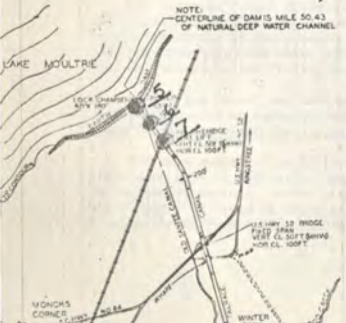
NOTE: WATER TO LAKE LEVEL AT 100' AMSL.  
 THIS MAP WAS TAKEN AS THE MARSH AND  
 NOT NECESSARILY REPRESENT CHANGE

January 1948

4-1517



NOTE:  
CENTERLINE OF DAM IS MILE 50.43  
OF NATURAL DEEP WATER CHANNEL



- 40 -

Distribution of Ten Forest Tree Species  
Along  
The Santee River System

**Abstract:** Twenty-two recorded observations were made in January 1969 covering the presence or absence of ten species of trees along the Pacolet, Broad, Wateree, Santee, and Cooper Rivers ranging from the northern piedmont to the southern coastal plains of South Carolina. Salix nigra, Betula nigra, Celtis laevigata, and Platanus occidentalis were recorded from the Pacolet Hills on the Pacolet River to where the Santee River enters Lake Marion and were found in geological areas consisting of Sericite schist, Granitoid gneiss, Granite undivided, Amphibolite, Coarse-grained granite, Tuscaloosa Fm., Diabase, Black Creek Fm., fine-grained granite and Homblend schist. Maecolia grandiflora and Rhodium ascendens were found to occupy the area between Lake Marion and the Atlantic Ocean and were found in geological areas consisting of Black Creek Fm., Tuscaloosa Fm., Castle Hayne limestone and Santee limestone, Waccaman Fm., and Flint River Fm. formations. The Slex opaca was seen on the Pacolet River and again on the Vampee Plantation on the Cooper River. It was found in geological formations consisting of Sericite schist, Tuscaloosa Fm., and Flint River Fm. Chamaecyparis thuyoides, Populus deltoides and Nyssa aquatica were not found.

**Purpose:** To show the distribution of ten tree species from the northern piedmont to the southern coastal plains of South Carolina beginning in Spartanburg and following the Pacolet, Broad, and Wateree Rivers through the Santee System down the Cooper River to Charleston. A map is drawn to correlate if possible these distributions.

**Procedure:** The trip we took exposed us to the range of ten trees. The voyage began at Pacolet Hills on the Pacolet River and followed this river to its junction with the Broad River. The Broad River was then followed to Columbia where a portage was made to the Wateree River at the point where Highway 76 bridge crosses it. In turn the Wateree River was followed to its junction with the Santee River. The trip proceeded down the Santee through Lake Marion and Lake Houltrie to the Cooper River and on to Charleston.

Two to three formal observations were taken daily. We actually beached our canoes and examined the trees at close range, taking note of the bark, branch formation, or the presence of berries or cones. A total of 22 of these observations were taken along with specimens which have been identified and stored in the Biology Department of Wofford College.

A detailed report was written showing distribution of each tree from our observed data as compared with a map of recorded tree distributions found in the Manual of the Vascular Flora of the Carolinas.

Two maps adapted from William C. Overstreet, Henry Bell III, and G. E. Siple were used in indicating the route taken, observation points, and geological formations. Along with the map's plotted observation points a short report is found at these points. The entire report will be kept on file in the Wofford College Biology Department.



## Results

1. Celtis laevigata - I was originally looking for the Celtis occidentalis but did not find one. (A) According to "Map One" this tree was found in Spartanburg County (1), (3), in Richland County (4), (5), and in Fairfield County (6), (7). According to "Map Two" this tree was found in Richland County (1), (2), (6). (B) According to our geological "Map One" the tree was found in an area consisting of Sericite schist (1), Hornblende schist (3), Granitoid gneiss (4), Granite Undivided (5), Diabase (6), and Coarse (grained granite) (9). On "Map Two" it was found in Tuscaloosa F.M. (1), (2), and (6).
2. Magnolia grandiflora - (A) This tree was found at the Mulberry Plantation in Berkeley County (11), "Map Two". (B) According to the geological "Map Two" this tree was found in an area consisting of Flint River Fm (11) formations.
3. Plantanus Occidentalis - (A) According to "Map One" this tree was found in Spartanburg County (1), (3), in Richland County (4), (5), in Fairfield County (6), (7), (9). According to "Map Two" this tree was found in Richland County (1), (2), (6). (B) According to geological "Map One" the tree was found in areas consisting of Sericite schist (1), Hornblende schist (3), Granitoid gneiss (4), Granite Undivided (5) Diabase (6) Amphibolite (7), and Coarse-grained granite (9). According to "Map Two" the tree was found in Tuscaloosa Fm. (1), (2), (5), and in Castle Hayne limestone and Santee limestone (7), (9).
4. Slex opaca - (a) According to "Map One" this tree was found in Spartanburg County (1). According to "Map Two" this tree was found in Richland County (2), (6), and Berkeley County (10). (B) According to geological "Map One" this tree was found in areas consisting of Sericite schist (1). On "Map Two" this tree was found in areas consisting of Tuscaloosa Fm. (2), (6), and Flint River Fm. (10). (C) At observation point (1) "Map One" I took a specimen finding the leaf composed of two spines as compared to its multi-spined brothers. The Slex opaca found in observation (1) "Map One" in the northern part of the state were in the form of small shrubs where in observations (2), (6), and (10), "Map Two" in the southern part of the state were in the form of small trees.
5. Taxodium ascendens - I was originally looking for the Nyssa Aquatica but did not sight one. (A) This tree was found according to "Map Two" to be located in Richland County (4), (5), which is a new record because of its absence in the Manual of Vascular Flora of the Carolina's, in Orangeburg County (8), and in Berkeley County (9), (2), (13). (B) According to geological "Map Two" this tree was found in areas consisting of Black Creek Fm. (4), Tuscaloosa Fm. (5), Castle Hayne limestone and Santee limestone (8), (9), and Vaccaman Fm. (12), (13).
6. Chamaecyparis thyoides - This tree was not found during our trip. According to the Manual of Vascular Flora of the Carolina's the only reported finding near our route was in Lexington County to the west of our course. According to the Manual of Vascular Flora of the Carolina's this tree is native to the coastal swamps and yet Lexington County is located on the Fall Line.
7. Populus deltoides - This tree was not found during the trip although it is located in Berkeley County through which we passed.

8. Salix nigra - (a) This tree was found according to "Map One" in Spartanburg County (1), (2), and in Fairfield County (4), (5), (7), (8), (9). On "Map Two" this tree was found in Richland County (3), (4), (6), which is a new record according to its absence in the Manual of Vascular Flora of the Carolina's, in Sumter County (7), and in Berkeley County (9), (13).

(B) According to the geological "Map One" this tree was found in areas consisting of Sericite schist (1), Granitoid gneiss (2), (4), Granite undivided, (5), Amphibolite (7) and Coarse-grained granite (8), (9). According to "Map Two" this tree was found in Tuscaloosa Fm. (3), (6), Black Creek Fm. (4), Castle Hayne limestone and Santee limestone (7), (9), and Vaccamon Fm., (13).

9. Betula Nigra - (A) This tree was found according to "Map One" in Union County (1), (2), which is a new record; Fairfield County (4), (5), which is a new record; and in Richland County (7), (8), (9), which is also a new record. On "Map Two" this tree was found in Richland County (3), (4), (6), and in Sumter County (7), which is a new record. (B) According to the geological "Map One" this tree was found in areas consisting of Sericite schist (1), Granitoid gneiss (2), (4), Granite undivided (5), Amphibolite (7), and Coarse-grained granite (8), (9). According to "Map Two" this tree was found in Tuscaloosa Fm. (3), Black Creek Fm. (4) Tuscaloosa Fm. (6), and Castle Hayne limestone and Santee limestone (7).

10. Taxodium distichum - This tree was not found, Specimens were taken and found through close analysis of bark, buds, and twig formation to be the Taxodium ascendens. These specimens are found on file in the Wofford College Biology Department.

#### Acknowledgements

Thanks to the help from the Botany Professor, Dr. Patton, along with Dr. Harrington, Professor of Geology, and the Professor of Physical Education, "Doc" Stober, this report was made possible. It will be made available to anyone interested. This report, along with specimens taken, will be kept on file in the Wofford College Biology Department.

- Coker, William Chambers, and Totten, Henry Roland, Trees of the Southeastern States, Chapel Hill, University of North Carolina Press, 1945.
- Harlow, William H. and Harrar, Ellwood S., Textbook of Dendrology, New York, McGraw-Hill Book Co., Inc., 1950.
- Petrides, George H., A Field Guide to Trees and Shrubs, Boston, Houghton Mifflin Company, 1958.
- Radford, E. Albert, Ahles E. Harry and Bell C. Ritchie, Manual of the Vascular Flora of the Carolinas, Department of Botany, Chapel Hill, The University of North Carolina Press, 1964.
- Overstreet, William C., and Bell III, Henry, Geologic Map of the Crystalline Rocks of South Carolina, 1965.
- Siple, G. E., Geology from Bulletin No. 24, Division of Geology, State Department Board, U. S. Geological Survey Washington D. C. 20242, 1959.

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## Key to Geologic Symbols

Py - Yorkville quartz monzonite - medium to dark gray, fine-to-coarse, grained, porphyritic, massive to gneissic biotite-quartz monzonite.

MO<sub>5</sub> - Sericite schist - white, gray on bluish black, fine grained, laminated sericite schist, sericite phyllite, and quartz-mica schist; outliers of the Kings Mountain belt.

MO<sub>11</sub> - Hornblende schist - green, dark green, and black, fine to coarse grained hornblende schist, hornblende gneiss, actinolite schist, and chlorite schist; Outliers of the King's Mountain belt.

MO<sub>5</sub> - Sericite schist - white gray, or bluish black, fined-grained, laminated sericite schist, sericite phyllite, quartz-mica schist, biotite schist, biotite gneiss.

EpEg - granitoid gneiss - white, gray, and dark gray, fine-to-medium grained, undivided granitoid gneisses, gneissic granodiorite, gneissic granite, biotite-gneiss; Includes much albite epidote amphibolite facies gneiss and migmatite derived from sedimentary and pyroclastic rocks.

Rd - Diabase - black fine grained diabase dikes

PO<sub>1</sub> - coarse-grained granite - light gray, massive biotite granite, biotite-muscovite granite, and quartz monzonite.

PO<sub>2</sub> - Fine-grained granite - light gray and red gray, fine-grained, massive biotite granite, biotite-muscovite granite, and quartz monzonite.

PO<sub>3</sub> - granite, undivided - gray to dark gray, medium-grain, massive to gneissic biotite granite and biotite-quartz monzonite.

MO<sub>10</sub> - amphibolite - dark green, gray, and black, fine-to-coarse-grained amphibolite, hornblende schist, hornblende gneiss, actinolite schist, and chlorite schist; Includes some diorite, metagabbro, biotite gneiss, and numerous basic dikes of several ages.

MO<sub>10</sub> - mica gneiss - light to dark gray, fine to medium-grained, layered biotite gneiss, biotite schist, hornblende gneiss, hornblende schist; granitic layers common; stratigraphic equivalent of the argillite, MO<sub>10</sub>, and muscovite schist, MO<sub>10</sub>, units of the Carolina slate belt, but of the albite-epidote amphibolite facies instead of the greenschist facies characteristic of the argillite and muscovite schist units.

MO<sub>10</sub> - Argillite - white, gray, and brown, fine grained, laminated argillite, tuffaceous argillite, and gray wacke; includes felsic and mafic agglomerates, breccias, tuffs, and volcanic flows.

MO<sub>10</sub> - muscovite schist - gray, greenish gray, and white, fine-grained muscovite - biotite-chlorite schist, sericite phyllite; Includes some intensely sheared rocks, possibly some phyllonite and blastomylonite.

## KEY TO MAP

+++++ - Railroad } Red  
 91 - Public Highway }  
 Blue Lines are Geologic

Daily Observation Findings For Map Number One

1. Date: Jan. 9  
Species: *Platanus occidentalis*, *Celtis laevigata*, *Ilex opaca*,  
*Betula nigra*, and *Salix nigra*  
Location: two miles past Pacolet Hills on the Pacolet River
2. Date: January 9  
Species: *Betula nigra* and *Salix nigra*  
Location: two miles below Highway 18 bridge on the Pacolet River
3. Date: January 9  
Species: *Platanus occidentalis* and *Celtis laevigata*  
Location: where Pacolet River enters the Broad River
4. Date: January 10  
Species: *Platanus occidentalis*, *Salix nigra*, *Betula nigra*, and  
*Celtis laevigata*  
Location: one-fourth mile up from Henderson Island on the Broad River
5. Date: January 10  
Species: *Platanus occidentalis*, *Celtis laevigata*, *Betula nigra*,  
and *Salix nigra*  
Location: a little town called Blair on the Broad River
6. Date: January 11  
Species: *Celtis laevigata* and *Platanus occidentalis*  
Location: ten miles past Blair
7. Date: January 11  
Species: *Betula nigra*, *Salix nigra*, and *Platanus occidentalis*  
Location: Richtex where Little River enters Broad River
8. Date: January 12  
Species: *Betula nigra* and *Salix nigra*  
Location: one mile below Little River and Broad River junction
9. Date: January 12  
Species: *Platanus occidentalis*, *Betula nigra*, *Celtis laevigata*,  
and *Salix nigra*  
Location: four miles below Little River and Broad River junction

Key to Geological Symbols

Tuscaloos Fm. - gray, buff, and red ankosic cross-bedded sand and gravel, interbedded with lenses of white and purple clay and daolin. Mixed continental and marine environment characterized by fluvial, deltaic, and littoral deposits.

Black Creek Fm. - Light gray sand and dark clays interbedded with green sand and marine clay. Transitional zone between the deeper marine Poedoe formation and the more shallow marine Black Creek deposits.

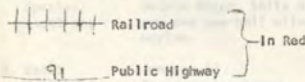
Congaree Fm. - well to poorly sorted sand, fullers earth, brittle siltstone, and light-gray to green shale alternating with thin-bedded fine-grained sandstone.

Castle Hayne limestone and Santee limestone - buffy-gray trough on crumbly fossiliferous limestone underlain by soft fine-grained granular limestone. Fore reef deposit. The Santee limestone is a nearly pure white to creamy-yellow fossiliferous and partly glauconitic limestone containing numerous Bryozoa. Fore-reef deposit.

Flint River Fm. - Broken lumps of yellow vitreous chert in reddist-yellow sand. Chert is sparingly fossiliferous.

Waccaman Fm. - Blue-gray to yellow and brown sandy shell marl.

Key To Map



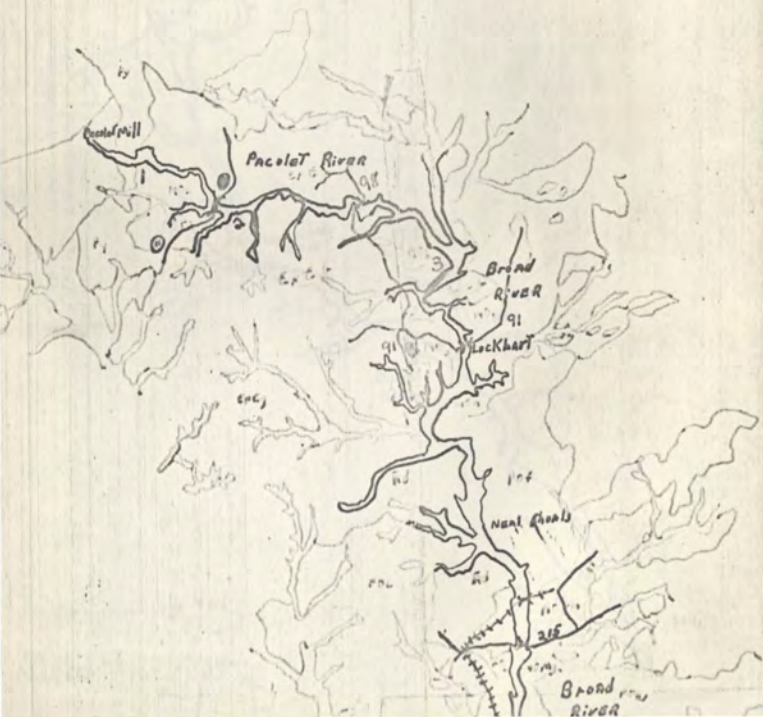
Blue Lines Are Geologic

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1. Date: January 14  
Species: *Platanus occidentalis*, and *Celtis laevigata*  
Location: one-half mile past Highway 76 bridge on the Wateree River
2. Date: January 14  
Species: *Celtis laevigata*, *Platanus occidentalis*, and *Ilex opaca*  
Location: one and one-half miles past hwy. 76 bridge on Wateree River
3. Date: January 14  
Species: *Salix nigra* and *Betula nigra*  
Location: below the first railroad bridge near a new power plant, under construction, on the Wateree River
4. Date: January 15  
Species: *Salix nigra*, *Betula nigra*, and *Taxodium ascendens*  
Location: refer to map for accurate reading as there are no land marks available
5. Date: January 15  
Species: *Taxodium ascendens* and *Platanus occidentalis*  
Location: one-half mile past a burned out railroad bridge on the Santee River
6. Date: January 16  
Species: *Celtis laevigata*, *Betula nigra*, *Ilex opaca*, and *Salix nigra*  
Location: eight miles before Highway I-95 bridge on the Santee River
7. Date: January 17  
Species: *Betula nigra*, *Salix nigra*, and *Platanus occidentalis*  
Location: one and one-half miles below I-95 bridge on upper Lake Marion
8. Date: January 17  
Species: *Taxodium ascendens*  
Location: eight miles past I-95 bridge on Lake Marion
9. Date: January 17  
Species: *Taxodium ascendens*, *Platanus occidentalis*, and *Salix nigra*  
Location: Canal Hotel at beginning of Diversionary Canal between Lake Marion and Lake Moultrie
10. Date: January 17  
Species: *Ilex opaca*  
Location: Wampoe Plantation on Lake Moultrie
11. Date: January 18  
Species: *Magnolia grandiflora*  
Location: Mulberry Plantation on the Cooper River
12. Date: January 18  
Species: *Taxodium ascendens*  
Location: five miles past Mulberry Plantation
13. Date: January 19  
Species: *Taxodium ascendens* and *Salix nigra*  
Location: Bushy Park on the Cooper River about 10 miles before Charleston

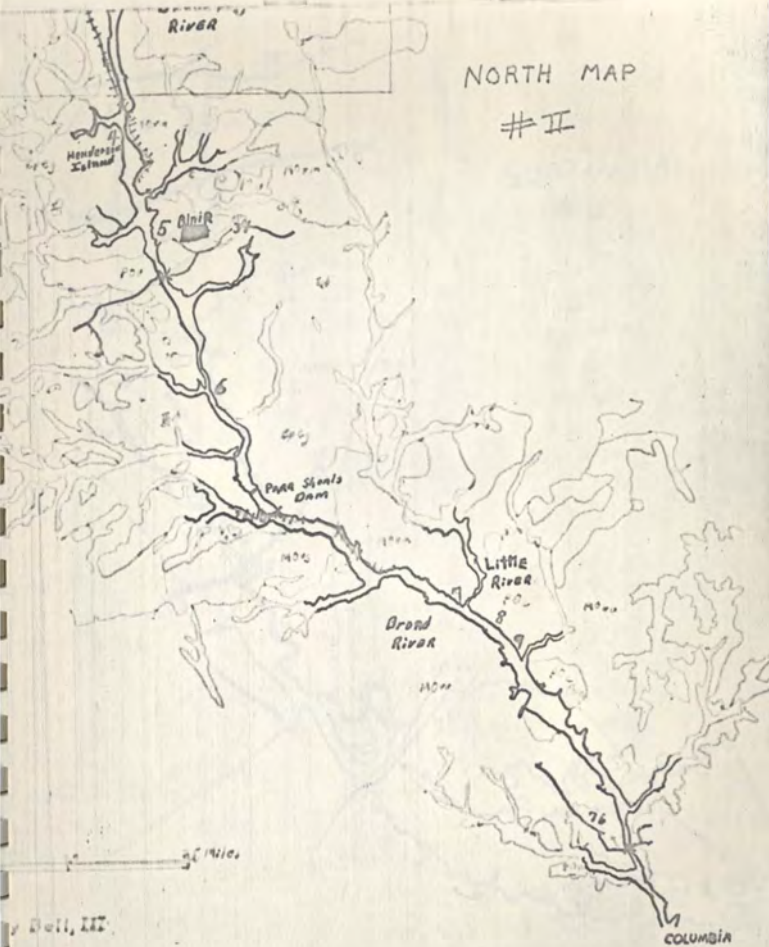
# NORTH MAP





NORTH MAP

# II



SOUTH MAP  
# I





# SOUTH MAP # II

Wampee  
Plantation

LOCK

52

402

11 North Mulberry

12

South Mulberry

13

Narragansett  
Station

Point No. 10  
17.4

W. S. M. M. A.  
17.4

W. S. M. M. A.  
17.4

South, etc., etc. and ... of ... to ...

3rd  
1867

My project was to measure the velocity of the water at certain intervals on our canoe trip to Charleston.

To obtain the velocity I recorded the time (in seconds) required by a drifting object to move from one end of the canoe to the other, a distance of 17 feet. Then, using the formula  $V=d/t$  where  $d$  = the distance and  $t$  = the time in seconds, I was able to determine the speed at which the water was moving.

We began our trip the morning of January 9th just below the dam at Pacolet Hill on the Pacolet River. This is where my first time was recorded. The water was running fairly swiftly, as the water gates had just been opened. We were just above a slight race over some rocks.

Time = 6.2 sec.

Distance = 17 feet

Velocity =  $d/t$  = 2.07 ft. per second

My next time was taken when we stopped for lunch, as were all of my midday times. We were still on the Pacolet River and the water was running rather quickly.

Time = 9.9 sec.

Distance = 17 ft.

Velocity =  $d/t$  = 1.71 ft. per second

When we stopped that afternoon, we were on a sandbar where the Pacolet runs into the Broad river. Because of the Pacolet coming in on our side, the swifter current was on the other side of the river, so the time I recorded was extremely slow.

Time = 19.4 sec.

Distance = 17 ft.

Velocity =  $d/t$  = 0.87 ft. per second

That night we camped below Lockhart right above a pretty bad race. This time was taken before we left the morning of the 10th.

Time = 10.2 sec.

Distance = 17 ft.

Velocity =  $d/t$  = 1.66 ft. per second

When we stopped for lunch that day it was because Doc had gotten hung up on a rock and we were waiting for him. This time was taken right below the race where Doc hung up.

Time = 7.0 sec.

Distance = 17 ft.

Velocity =  $d/t$  = 2.43 ft. per second

The worst rapids we hit were at the end of Henderson Island that afternoon. These were from  $\frac{1}{4}$ - to  $\frac{1}{2}$ -mile long, and this is where I got my third time that day. After hanging up at the head of the rapids my partner and I made it through all right, but the canoe behind us hung up on the last race. When we went back to aid them, I got this time in the rapids.

Time = 6.0 sec.

Distance = 17 ft.

Velocity =  $d/t = 2.85$  ft. per second.

We spent the night in an old house on the river at Blair. We spent the next day reaching a dam and a portage. The water was very slow all day.

Time = 13.0 sec.

Distance = 17 ft.

Velocity =  $d/t = 1.23$  ft. per second.

We did not stop for lunch that day. We reached the dam about 2 p.m., and the Wildlife people portaged us around two bad shoals to the point at which The Little River comes into the Broad. The next morning I took a time at the intersection of the two rivers.

Time = 6.4 sec.

Distance = 17 ft.

Velocity =  $d/t = 2.66$  ft. per second.

About  $\frac{1}{4}$ -mile from the campsite was an exceptionally bad race. Doc's canoe was swamped here and we spent the morning drying him and his equipment out. My partner and I went ahead to pick up loose equipment and my next time was taken about a mile down river in the midst of a few small races around a small island.

Time = 8.4 sec.

Distance = 17 ft.

Velocity =  $d/t = 2.02$  ft. per second.

The rest of the afternoon was the best paddling of the whole trip. The rapids were no more than  $\frac{1}{4}$ -mile apart for about six miles, and everyone, but Doc, who was still rather gun shy, had a great time. This time was taken about half-way through this stretch.

Time = 8.0 sec.

Distance = 17 ft.

Velocity =  $d/t = 2.12$  ft. per second.

Although the last few miles that we covered that day were without many good races, there was a good current and we were only a few minutes late getting to Columbia. This time was taken just above the canal gate and the water was still rather swift.

Time = 8.8 sec.

Distance = 17 ft.

Velocity =  $d/t = 1.93$  ft. per sec.

The next day, January 13th, was spent touring Columbia and we spent no time on the water. Upon reaching our campsite on the Wateree River that afternoon, Henry Savage, author of The River of the Carolinas, the Santee, dropped by and talked briefly with us.

This is where I recorded my next time. The Wateree was rather swift and we made good time.

Time = 7.6 sec.

Distance = 17 ft.

Velocity =  $2.2\frac{1}{4}$  ft. per second.

We stopped to eat somewhere around Holly Hill, S.C., and this time was taken here.

Time = 8.4 sec.

Distance = 17 ft.

Velocity =  $d/t = 2.02$  ft. per second.

After we left the broad we did not hit any rapids or runs, but the water was swift. This time was taken at the junction of the Wateree and Congaree Rivers.

Time = 7.9 sec.

Distance = 17 ft.

Velocity =  $d/t = 2.15$  ft. per second.

Now on the Santee the water began to slow down. We camped just above the back waters of Lake Marion and the current had slowed down considerably.

Time = 10.7 sec.

Distance = 17 ft.

Velocity =  $d/t = 1.59$  ft. per second.

The Wildlife Resources people towed us completely across Lakes Marion and Houltrie, and I was not able to get times while we were in tow. We camped the next night about a mile south of I-95 bridge on Lake Marion. This time was taken in the channel on Lake Marion.

Time = 37.3 sec.

Distance = 17 ft.

Velocity =  $d/t = 0.45$  ft. per second.

The next night we camped at the Canal Motel, on the diversion canal between Lake Marion and Lake Houltrie. On the canal the water did not appear to be very swift, but we found out differently.



Time = 9.0 sec.

Distance = 17 ft.

Velocity =  $d/t = 1.73$  ft. per second

The next day we got to the Wompeo Plantation, which is about a mile from the locks on Lake Houltrie. Because of the rough water I was not able to get a reading here.

The next day we went through the locks and down the Tailrace Canal toward the Cooper River. This time was taken in the canal.

Time = 13.0

Distance = 17 ft.

Velocity =  $d/t = 1.23$  ft. per second

For lunch we stopped at the Hulberry Plantation on the Cooper River. The tide had not yet begun to pull us, but we did not have to fight it.

Time = 13.2 sec.

Distance = 17 ft.

Velocity =  $d/t = 1.28$  ft. per second.

As the tide began going out, we gained speed.

Time = 9.7 sec.

Distance = 17 ft.

Velocity =  $d/t = 1.73$  ft. per second.

That night we camped at Dushy Park about twelve miles out of Charleston. Here I got my first negative time, due to the tide.

Time = -13.3 sec.

Distance = 17 ft.

Velocity =  $d/t = -1.20$  ft. per second.

We spent Sunday at Dushy Park and Monday morning started into Charleston. For the first couple of hours we had to fight the tide.

Time = -11.9 sec.

Distance = 17 ft.

Velocity =  $-1.43$  ft. per second.

As the tide turned we made the best time of the trip, practically flying through the shipyards. We pulled into the small craft landing at the Naval Base early on the afternoon of the 20th.

Time = 7.1 sec.

Distance = 17 ft.

Velocity =  $d/t = 2.39$  ft. per second.

Almost all the current in the Cooper River is controlled by the tides. The river drops only about six feet between the locks at Lake Moultrie and the Charleston Harbor. On this stretch, the tides either helped or hurt us tremendously.

During, upon returning from this project, I found that my own thoughts during this period of interaction with individuals a period that was not unusual in verbal interaction because of the hardships in cooperation, was far more than any one different than had I not been out of my national environment.

Therefore, I found my own reactions and what they taught me after realizing that there is no such sure thing if I were to study what drastic change might mean to a personality.

When there are portions of our personalities, which varied, my name is given to me. It is therefore necessary for me to be exposed to various situations which will show a definite unaltered stage in these fields in which we are involved.

That it was with this observer, I was not only able to observe those normal changes of my personality and conclude that society's expectations create these changes is probably, but there were two fields of observation which led me personally by this rough sailing that I had not been thoroughly exposed to. That portion of my personality that was most prevalently changed was my opinion on leadership.

Before making this trip I had always felt that I had qualities of leadership, but until I went with this group of young men there were not as many qualities of leadership as I had thought. Only after observing Dr. Fisher and various instructors, our faculty advisors, did I learn that being a leader was more than giving orders.

Being older than the other students on this expedition, I concluded myself older than they and a natural leader. This I had done attributed only to my age and size. However, as I look back I realize that without the guidance of my instructors my thoughts of self-worth would have been lost. We have much to learn from those of experience.

My major problem seemed to lie in what George C. Homans says of "The leader, the leader is the man who, on the whole, best lives up to the standard of behavior that the group values." The leader must stand in more activities in which the group participates. The leader must live up to the demands of himself and better than the rest of the group and is dependent upon by the group to meet his personal obligations.

It seems now to me that in order for the leader to remain solvent in the matter of energy, the leader is careful not to be under obligation to one of his followers.

Conversely on the way that it is of necessity that the followers to create some obligation to the leader so that a balance of duty can be obtained by



## INTERACTION

### INTRODUCTION

In January of 1969 I accompanied a group of Wofford College students and two faculty advisors on a canoe trip through Pacolet, Broad, Wateree, Santee System and Cooper rivers, a portion of the South Carolina river system.

Prior to leaving on this two week outing, it was my purpose to study the group from a sociological perspective and correlate my findings with those of noted theorists.

However, upon returning from this project, I found that my own thoughts during this period of interaction with individuals; a period that was not conducive to normal interaction because of the hardships we encountered, were for the most part, no different than had I not been out of my cushioned environment

Therefore, I found my own reactions and what they taught me after analyzing them to be much more direct if I were to study what drastic change might cause in a personality.

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Often there are portions of our personalities, which untried, may never be evident to us. It is therefore necessary for one to be exposed to various situations which will cause a certain enlightened state in those fields in which one has not ventured.

Thus it was with this observer. I was not only able to observe those normal portions of my personality and conclude that society necessitates certain norms where-ever it prevails, but there were new fields of adventure opened for my personality by this rough outing that I had not been thoroughly exposed to. That portion of my personality that was most prevalently changed was my reaction to leadership.

Prior to making this trip I had always felt that I had qualities of leadership, but until I went with this group of young men there were not as many qualities of leadership as I had thought. Only after observing Dr. Stober and Captain Swearingen, our faculty advisors, did I learn that being a leader was more than giving orders.

Being older than the other students on this expedition, I considered myself wiser than they and a natural leader. This I must have attributed only to my age and size. However, as I look back I realize that without the guidance of my instructors my thoughts of self-esteem would have been lost. We have much to learn from those of experience.

My major problem seemed to lie in what George C. Homans says of "the leader", the leader is the man who, on the whole, best lives up to the standard of behavior that the group values." The leader must excel in those activities in which the group participates. The leader must live up to the demands of mutual aid better than the rest of the group and is depended upon by the group to meet his personal obligations.

Homans goes on to say that in order for the leader to remain solvent in the matter of favors, the leader is careful not to be under obligation to one of his followers.

Conversely we can say that it is of necessity that the followers be under some obligation to the leader so that a balance of debts can be obtained by

the leader. That is to say that the individual feels a necessity to do the bidding of the group leader. This I tried to accomplish by doing myself, or helping those under me, small chores for the individuals that were demanded as one's own task. The simple gesture of helping one of the men put up his tent before mine was up seemed to promote gratitude, but not servility. There was always an arrogant air of accomplishment present in those that had taken upon themselves to combat nature. Each man was definitely haughty, for he was out of his environment, but still overseer of his condition. This certain amount of autonomy acted as a buffer between the personalities of myself and those under my command. Social normality prevailed in the sense that there was necessity for a subjection to rules but an ability to remain singular.

Although I thought of myself as an adequate leader, there were instances when my ability as a follower lagged.

I was under direct command of our advisors. At times the order I received from these men would conflict with specifics already given by me to those in my command. I may have delegated several men to do one chore only to find that Dr. Stober wanted them to do another. At first I would make it appear as though I was complying with his orders and go on doing as I had planned originally. With this type of planning I found that we did not get all of our work done in time. Therefore I found it necessary to change my strategy. When jobs conflicted, I found that it was much easier for me to begin to work rather than trying to be only a giver of orders.

It was evident in several cases that the course of thought which was presented by Dr. Stober was more often the most desirable approach to what ever aspect of leadership was involved.

I must conclude that it is of necessity for an individual not to be so bigotted in his ideals or ways that he finds it impossible to change when interaction may present an alternative view to his own.

From 1790 to 1840, South Carolina appropriated almost two million dollars for improvement of the internal waterways of the state. Much of this tremendous sum went to the construction of locks, dams, and canals to avoid shoals and other obstacles that hindered the navigation of South Carolina's rivers. This paper is a concise report dealing with those locks and canals that were located on the Pacolet, Broad, Congaree, Santee, and Cooper rivers which Interl project 71 traversed by canoe during the month of January 1969. Our route was similar to that which the boats and barges of the Piedmont took to reach the Holy City, Charleston, the largest port in the Carolinas during the late 19th century. These vessels were loaded with cotton and other raw materials from the Piedmont and mountains of South Carolina and part of North Carolina.

The first and perhaps the most important canal to be built was the Santee Canal. This canal was built between the Santee and Cooper Rivers which is a lowland estuary of the Atlantic Ocean at Charleston. This canal made it possible for boats bringing goods from the interior not to have to exit at the mouth of Santee River on the coast and then take the perilous trip by sea to reach Charleston.

The Santee Canal was constructed to provide for Charleston a shorter, safer, and more direct route to Charleston, where the goods could be sold and exported. The company that constructed the Santee Canal was incorporated in 1786. The canal was planned to reach a length of 21 miles. A series of locks would raise a vessel in the Santee 34 feet above the level of the river and lower it 69 feet to the level of the Cooper River. The first lock was a single one of 10 feet lift. The canal was 20 feet wide at the bottom and 35 feet at the top. About four feet of water flowed into it as an average. The locks were constructed to pass boats 56 feet long and 9 feet wide, drawing about 3 feet of water.

This canal improved the existing system of the connected rivers, but it did not open up the more remote sections of the state. The remaining locks and canals constructed at this period were built to provide a way for boats and barges to bypass the natural barriers, shoals, and falls at the fall line.

At Columbia, where the Broad and the Saluda rivers meet (see Map # 1) there exists the fall line, a natural drop caused by the recession of the sea many centuries ago. In 1819 there was a proposal to build the Broad River Canal, better known as the Saluda Canal. This canal was built from a point at the bend (Saluda Dam) in the river above Senn's Falls to just above the mouth of the Saluda River. To do this a dam was to be built while the canal, which ran along the left bank of the Saluda River, was constructed. The canal was about 2 miles long, overcoming a series of falls of 32 feet. It had four lifting locks and one guard lock of granite. This canal is connected to the Broad River almost directly across from the Columbia Canal.

The Columbia Canal was built to overcome the falls on the Congaree River at Columbia. It ran along the left bank of the Congaree River down to Granby, a distance of three miles. It overcame a fall of 34 feet with four lifting locks and one guard lock, three of which were brick and the other two of granite. A dam had to be built across the Broad to supply the water to operate the locks of the Columbia Canal.

When relating the details about the Columbia Canal, one must add the Bull Sluice on the Broad River. This was a small canal having only one lock of eight feet lift and one guard lock connected with the natural canal between Guignard's Island to the left bank of the Broad River.

With the completion of these two canals, the Broad River was open to navigation to about a hundred miles above Columbia. Boats could then travel from just below Lockhart all the way to Charleston without having to make a portage around rapids along the Broad River.

At Lockhart the Broad River falls 47 feet in 2 miles. A canal was built with locks at both ends with a stretch of deep water between the two series of locks. The canal had one guard lock and six lifting locks of granite. This canal opened up the Broad River and its tributaries, including the Pacolet, which is the river on which Project 71 began its voyage. Since the Broad extends into North Carolina, it was possible for the people to transport their goods all the way to Charleston.

On January 9, 1969, The River Voyageurs set forth down the Pacolet River following a route that many a barge had followed carrying its goods to Charleston. Our first portage was Lockhart. Robby Taylor and I looked for signs of the old canal, but found nothing except a dam and canal which were too new to have been part of the old canal and locks used for transporting boats around the falls. This dam and canal used the water for a different purpose, generating power. What happened to the old canal and its locks?

I asked some of the old men at a nearby country store if they knew where we could find the old Lockhart Canal? One man told us that the old canal once ran the same course as the new one but it was smaller. In fact, he told us that one could see part of the walls of the old canal before water was released into the new canal. He said he believed that there was part of the old canal left intact below the power dam. When we reached the powerhouse, we asked if they knew where the old canal was. A Mr. Warren told us that he believed some remains existed on the right side of the river going down stream about a hundred yards away from the dam. What we found turned out to be three granite locks and the overgrown banks of the old canal. The river seemed much too far away from our find to have been part of the canal, but the years have done much to alter the course of the river.

We traveled on down the river to Columbia over shoals and we wondered if those boats with 3 foot draft had as much difficulty as we had in canoes.

The next set of locks and canals were at Columbia, but due to many unfortunate circumstances, we were not able to search for these canals and locks.

We continued down to where the Wateree and the Congaree meet to form the Santee. As we paddled down the Santee, we noticed it got slower and slower as we moved into the backwater of Lake Marion.

Lake Marion and Lake Moultrie hold the supply of water to power the hydroelectric generators of the Santee-Cooper Electric Cooperative. These two lakes have covered much of the Santee River including the Old Santee Canal.

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<sup>1</sup>All the above information has been extracted and based upon a paper by Mr. Daniel W. Hollis, "Costly Delusion: Inland Navigation in the South Carolina Piedmont," and the book Internal Improvements in South Carolina, 1819-1828, compiled and edited by David Kohn.

Only a short section of the Santee Canal can be found today, near the town of Pineville (see Map # 11).

The canal is overgrown with shrubs and trees which make it hard to find. A small creek still flows down the canal, through and around the old locks and gates that once passed boats filled with products to Charleston. Now almost covered by leaves and trash, it is just a part of South Carolina's historic past.

All the canals have been destroyed in one way or another except for the parts that we found. Before going on the Interim river voyage, we never realized that South Carolina had such a rich history connected with the modes and means of transportation that marked this era of our time. I hope that some historical organization will take time, the money, and the effort to preserve these parts of South Carolina history. We learned quite a bit about something we know little or nothing about.

Our paper has tried to concern itself with the history of the canals along the rivers which we traveled from the Pacolet to the Cooper. We have tried to present a short sketch of the canals as they once were and have shown what we found in searching for their remains. We have seen how Man has changed the rivers and the surrounding area with his progress, some good, some bad. Finally, we have enjoyed searching for the remains of South Carolina's canals.



1. Columbia Canal
2. Saluda Canal
3. Bull Sluice Canal

# LEXINGTON DISTRICT

## SOUTH CAROLINA

SURVEYED by M. COAT

IMPROVED FOR MILL

1825.

MAP # I

Scale 2 Miles to an Inch.

Eng'd by S.S. TAYLOR & ASSOCIATES

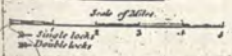




R-I-V-E-R S-W-A-M-P

S-A-N-T-E-E R-I-V-E-R

Sketch  
of the  
**SANTEE CANAL.**



MAP # II

## SANTEE - COOPER

"Santee, river of S. C., is formed in the center of the state by the junction of the Congaree and Wateree. It flows S.E., and empties into the Atlantic Ocean. It is about 150 miles long and is navigable for steamboats to Columbia and to Camden."<sup>1</sup>

Between fifty million and twenty million years ago the sea repeatedly moved up to the Piedmont and then receded again to far beyond its present location. "When the sea receded, the Congaree and Wateree meandered to a merger in what had been the alluvial bottom of the ocean, and the great Santee became a river."<sup>2</sup>

The Santee has its source in the brooks that drain the frequent rains from Grandfather Mountain. These mountain brooks join to form the Linville River. Just out of Linville, North Carolina, a small town about ten miles from the Tennessee line, the river turns southward into Linville Gorge where it falls ninety feet over the lower falls and moves on between Jonas Ridge and the Linville Mountains entering the box canyon of Linville Gorge. Emerging from the canyon, the Linville, now merged with the Catawba, continues as the Catawba passing through Rhodiss Island Lake, Catawba Lake, Lake Hickory, Lookout Shoals Lake, Mountain Island Lake, Fishing Creek Pond, and the Dearborn and Cedar Creek reservoirs. After passing through these various points, the Catawba suddenly becomes the Wateree. The Wateree flows through Wateree Lake and down to the Congaree, where these two become the Santee. A few more miles and the Santee enters the Santee Reservoir, or Lake Marion, the largest artificial lake east of the Appalachians.

Along the Santee is adventure. The watershed area that is drained by the Santee River appears on a map as a great oak tree. The tree bends to the north by a south wind and is rooted on the coast between Bull's Bay and Winyah Bay. The Cooper River is also included in the Santee's watershed. About seventy-five miles inland the tree branches out to form the Congaree and Wateree watersheds. From here, the tree branches out into tiny branches representing the mountain brooks and streams that drain the Blue Ridge Mountains.

One can explore along the Santee-Cooper the near and the past. Such historic sites as Eutaw Springs battleground and the tomb of "The Swamp Fox", General Francis Marion, are close at hand. The Battle of Eutaw Springs was an engagement of the American Revolution, fought on September 8, 1781, near the village of Eutawville, S.C. The battle was an important victory for the Americans, successfully closing General Nathanael Greene's southern campaign and compelling the British to remain within Charlestown. Francis Marion was an American soldier who at one time was in command of Fort Moultrie.

The Santee-Cooper area is packed with history. Phillip II was determined to take possession of this area in the spring of 1585. By June he successfully entered the rivers of the Carolinas. After stopping at Santa Elena on Port Royal Sound, he went up the coast past Cape Saint Romain and entered the village. The region was later claimed for the Spanish Majesty.

On an eight-year tour of the Carolinas, John Lawson wrote on his observations of the Santee area and dedicated it to the Lords Proprietors of England in 1709. He enjoyed the hospitality of several French Huguenot families who had moved into the area several years before his journey. On his way up the river he saw the huts or "miserable holes" that the Santee-Indians lived in. Lawson sympathized with the Indians and wanted to help them, but like others he died by the violent hands of the people he loved.



For a hundred years after the Europeans arrived in this country, they made no means for navigating the rivers of the Carolinas. The Santee river then flowed directly into the Atlantic Ocean over a treacherous bar instead of into Charleston Harbor. This made it impossible for boats to travel directly between the capital and the back country. A canal was needed to permit river traffic to leave the Santee and proceed directly to Charleston. A Lieutenant-Governor William Bull made tours of the region and saw the need for a canal. He talked to the people along the rivers of such a project. This item appeared in the South Carolina Gazette and Public Advertiser of November 12, 1785.

Thursday last a number of gentlemen met at the State House in this city, to take into consideration the proposed plan of opening a communication by locks between Cooper and Santee Rivers.<sup>3</sup>

Many meetings followed and fifteen years later this item appeared in the Times:

'We are happy in being able to announce to the public that Mr. William Buford, an enterprising citizen, who lives on the banks of the Broad River near Pinckney Court House, which is more than ninety miles above Granby (near Columbia), arrived in this city, through the Santee Canal, on Tuesday the 25th.'<sup>4</sup>

Thus the Santee Canal was built, and today we are able to see the remains of the canal.

In recent years with the coming of accelerated prosperity and rapid industrial expansion in the Carolinas, the demand for electric power has grown. By 1953 but a ninth of the power produced came from hydro plants.<sup>5</sup> Hydroelectric development in the Santee system began with the Saluda. Far up that tributary, at Pelzer, stands the first dam to generate electricity for use in another location. Downstream from Pelzer begins the twenty-five-mile long reservoir of Lake Greenwood. Just below Lake Greenwood is the Dreher Shoals development of the Lexington Water Power Company. Here is located one of the world's largest earthen dams, Saluda Dam. Saluda Dam impounds the Saluda to form Lake Murray, one of the largest power lakes in the world. These power developments add up to supply the electricity of the Carolinas.

The Santee - Cooper area has brought great wealth to South Carolina. 'Without ever investing a single penny in it, South Carolina now possesses Santee - Cooper, an efficiently managed and operated utility to be worth more than two hundred million dollars. This asset of the people of South Carolina was started during the 30's at depression prices and provides numerous services to the people and the state in the form of recreation, navigation, flood control, health improvement, reforestation, etc.'<sup>6</sup>

In an unceasing effort to conceal the fact that their great project has proved itself a monumental white elephant, the men in charge of operating Santee - Cooper, ever on the defensive, are shameless in their official propaganda. They repeatedly represent it as a 'taxpaying project' although no taxes whatsoever are paid on the development.'<sup>7</sup>

South Carolina owns Santee - Cooper, thus all its profits belong to South Carolina. The State General Assembly has provided its people an income-producing facility that did not cost them a single cent.

In 1934, the South Carolina General Assembly said concerning the Santee - Cooper project:

"...is in all respects for the benefit of all the people of the state of South Carolina, for the improvement of their health and welfare and material prosperity, and is a public purpose, and being a corporation owned completely by the people of South Carolina and operated by said authority for the benefit of all the people of the state..."<sup>10</sup>

Electric power is always in demand. Santee - Cooper provides low cost electric power for approximately 150,000 farms and homes.<sup>9</sup> Twelve major South Carolina industries depend on Santee - Cooper for their electrical supply.<sup>10</sup> Not only does Santee - Cooper serve the home, the industry, and the municipalities, but it also serves the national defense. The Charleston Air Force Base, the Charleston Naval Ship Yard, and the Myrtle Beach Air Force Base all depend on Santee-Cooper power is distributed by approximately 1,800 miles of high voltage transmission lines, many of which were constructed by Central Electric Power Cooperative, Inc. and are operated by the Authority on a least-purchase agreement.<sup>11</sup><sup>12</sup>

Santee - Cooper has proved itself successful. For fishing, its reservoirs are the best found. About seventy-five thousand fishermen were licensed to fish those waters in 1967. In education, Santee - Cooper has proved a sufficient demonstration.

Let's go back up the Santee, beyond the Santee Dam itself. "The bulk of its substance is now, by government order, and decree, drawn off to the south to turn the wheels of industry."<sup>13</sup> Approaching tidewater, the Santee divides into the North and the South Santee. Below the South Santee lies Cape Romain, a long sea island. The wide coastal plain that the Santee flows through is a relatively "featureless land". Most of the plain is nothing but forests and fields.

So far, most of my work has concerned the Santee River. What about the Cooper River. "The old channel of the Cooper has long been called the 'dead river'. It was often so slow at the ebb that a schooner's yawl could not go through, one old authority says. But it could give added trouble to the tortuous course of the Cooper at night."<sup>14</sup> Although the Cooper does not flow like many other large streams in other parts of the world, "...through captivating, and picturesque scenery, winding by turns through mountains of sublimity, or fair scenes, like the Eurotas, fringed with the laurel, the myrtle, and the olive, and peopled innumerable white swans..."<sup>15</sup>, it is entitled to some consideration, as it bands its course "through verdant forests, and dark swamps, reclaimed by the genius and enterprise of our fathers, into rich and fruitful fields--the proud and honorable sources of agricultural wealth to our country, if not of poetical inspiration to our poets!"<sup>16</sup>

Ascending the Cooper River, Daniel's Island is on the east, between Wando River and Clument's Ferry. Daniel's Island took its name from the original proprietor, a Mr. Daniel, Governor of the Province of South Carolina. Opposite to Daniel's Island, on the west side of the Cooper, is a neat settlement built by the late Judge Gaillard.

On the east side of Goose Creek, is a house that was build many years ago. This house is about a mile from the entrance of Goose Creek into the Cooper River. It was built on the foundation of another house, and in consequence has gone to ruin, from a rumor telling that it was haunted. The house was built by the late Mr. W.N. Johnson.

About three miles higher up Goose Creek, is Mount Pleasant. Mount Pleasant was once a happy hospitable mansion of Mr. W. Withers.

On the west side of the Cooper is Mulberry, built in 1714. The old house at Mulberry stands now very much as it was built. In 1916, a very careful restoration of the house was begun, and finished in 1917.

The Cooper River divides into an Eastern and Western branch. On the eastern branch is the Hagan plantation and the lands of Comingtaw. On a high bluff of the Cooper stands Pomplion Hill Chapel, or the Parish Chapel. The first church built on this spot was in 1703. It was the first Episcopal Church in the Province erected out of the City of Charleston. A few years ago the chapel was in grave danger of being undermined by the river. Thanks to revetments constructed by the Colonial Dames, and John Maybank, the trouble was solved.

This is "Santee - Cooper." This is where excitement is. This is the country we passed through on our canoe trip and what I just passed on to you is a brief picture of what it is like and what keeps it going.

In conclusion, I would like to comment on my experiences while traveling by canoe through Santee - Cooper. It was a land filled with excitement. On it's "sparkling waters" there was never a dull moment. The days were hard and long, and the nights were all but warm, but the feeling you had inside when you got up and watched the warm sun rise was your reward. Being out in the middle of a foreign land with no one around but my fellow river voyageurs made me feel like an explorer of long ago.

The soft wisper of the rustling leaves, the fresh scent of the tall pine trees, and the clean look of the crystal waters around me made Santee - Cooper a great place to camp. Being able to live for two weeks in a land unknown to me, in a tent I pitched myself, feeding on the meals prepared by my fellow men, and traveling through dangerous rapids with the help of only the man in the bow, is an experience I can not put in words. It was an adventure you would have to make yourself in order to capture the true meaning. I fine it impossible to pass on to you the feeling I held when I and my canoeing partner tried to pick our way through the first group of rapids.

Santee - Cooper is a land abounding in pheasant, duck, and dove. Everywhere these wild birds could be seen, especially wild duck, as we adventured over the clear waters during the winter month of January. Occasionally we would pass a couple of camouflaged hunters looking for signs of duck or geese. From what I understand, the game limit was usually easily obtained.

The people who live along the Santee are of the finest. The aid we received was by far more and better than what we ever expected. When we came to a dam and found it impossible to canoe any further, the people who lived near by where there waiting to help. Without the portages they gave us, our trip would never have stayed on schedule.

If the sound of Santee - Cooper has embraced you, perhaps you'll want to make the same voyage I made this year, next year. Any of the students who made the trip with me will tell you that it was a rewarding but challenging experience. If you like the great outdoors, Santee - Cooper is the place to go.

No matter what your interests are, Interim project #71 will attract you. If you're a biologist, there are a variety of specimens along the river side to study. If your major is history, you can explore both the near and the past along the Santee. No matter what you like, the life of a river voyageur is one of excitement.