

12-2000

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Publication Info

Published in *Legacy*, Volume 5, Issue 2, 2000, pages 16-16.

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Remote Sensing Survey of the Great Pee Dee River To Inventory Underwater Archaeological Sites

By James Spirek

In November of 1999, the Underwater Archaeology Division in collaboration with Dr. Ernest L. (Chip) Helms, III, an ART Board member, and other local individuals inaugurated the Great Pee Dee River Survey. The purpose of the survey is to document shipwrecks, landings, and other underwater archaeological sites between Mars Bluff and Cheraw, South Carolina. When completed, the survey will have covered over 58 miles as the fish swims. Our research strategy to accomplish our objective includes using electronic equipment, interviewing local informants, and reviewing prior historical and archaeological research. Our remote sensing ensemble, the ADAP III system, consists of a cesium magnetometer (to locate ferromagnetic metal, i.e., iron and steel), a side scan sonar (to acoustically picture the river bottom), a fathometer (to determine river depth), all tied together to a Differential Global Positioning System (DGPS). Ongoing interviews with local informants will help to build a database of potential archaeological sites along this stretch of the river. We also drew on data from the state archaeological site files to determine previously recorded sites in and adjacent to the river. Historical materials from the files of Dr. Linda Stine proved helpful in learning about past riverine traffic on the river. Data obtained from the survey will be used to inventory sites to the state archaeological site files and to aid in planning future work in the river and other riverine areas in South Carolina.

The survey on the Great Pee Dee

River was our first deployment of the electronic equipment in a Piedmont riverine environment. Riverine perils included submerged logs, sandbars, rapids, and the twists and turns of the river. All of these obstacles were more or less successfully negotiated while towing the costly array beside and behind us. We surveyed three different stretches of the river: upriver from Mars Bluff, around Society Hill, and downriver from Cheraw for a combined total of approximately 24 miles. This leaves us with approximately 34 miles remaining to complete the survey. During the course of the survey we encountered a number of potential archaeological sites ranging from sections of unidentified wooden structures to the remains of historic fish weirs. A local landowner showed us the fragment of a prehistoric canoe, as well as the sandbar on which he found it.

Following the fieldwork, we returned to the comfort of the office to post-process and analyze our data.

The survey lanes and magnetic data were overlaid on 7.5 USGS topographical maps of the river for visual representation of our work. We are still analyzing the data to identify magnetic and acoustic anomalies that

might relate to significant historical or archaeological submerged cultural resources. We were greatly assisted in post-processing our electronic data into a Geographical Information System (GIS) format by "Buz" Kloot and Elzbieta Covington from the Center for Manufacturing and Technology at USC. We also received assistance from Chris Gillam and Holly Gillam at SCIAA.

Perhaps the best part of the survey was meeting the many individuals that Dr. Helms rounded up to support and to assist in our venture. There are simply not enough ways to express our appreciation for the hospitality afforded to us by our hosts and the local communities during our first three-week phase of the survey. Additional work is slated during the spring of 2001, to complete the survey. Hopefully, during these next survey legs we will find the water high, the currents lazy, the weather optimal, and our hosts' arms wide open to receive us back into their homes.



Survey boat on the Great Pee Dee River. (SCIAA photo)