CHAPTER VI

THE MITIGATION PLAN AND OTHER RECOMMENDATIONS

Introduction

The goal of the 1977 field survey was to develop an initial picture of the archeological record of the area to be impacted by the proposed Richard B. Russell Dam and Lake. The survey team faced numerous difficulties requiring field methods that are considered to be less than ideal by most segments of the archeological profession. We believe that these problems have been adequately discussed above in chapters II and III. Given these conditions, and the temporal and financial constraints imposed, it was felt that the opportunistic access and visibility strategy would best facilitate the immediate management concerns locating and identifying the range of cultural resources present. The survey methodology does not permit easy generalization of the sample population to the properties of the universe. This goal was to be too ambitious at this time because of the state of knowledge of the archeological record of this area of the Piedmont of Georgia and South Carolina. To be sure, a rigorous sampling program could have been employed, but it is now apparent that the use of such strategies in a heavily vegetated area like this one commits most of the time and effort involved in complying with features of the design, at the expense of discovering and evaluating the cultural resources present. Historical factors also played a role. The proposed Russell Dam and Lake will inundate the last stretch of the Piedmont Savannah River. The construction and inundation of the Clark Hill Lake to the south and Hartwell Lake to the north were accomplished in the absence of a systematic program of cultural resource management. This means that the present instance is our only opportunity to mitigate those research and cultural values which we have suggested to be present. A program of mitigation in this area would ideally attempt to address two concerns. The first of these concerns would be programs of research that would be of immediate utility to increase our understanding and knowledge of cultural adaptations in this region, and by extension, in other regions as well. The second concern is more troublesome, because it requires consideration of research and cultural values that may be present, but not identified or recognized at the present time, as fruitful areas of inquiry. These are, of course, those research domains of the future which have not been formulated.

Proper consideration of these two concerns necessitates that the program of mitigation employed be regional in scope, with the identified research domains integrated with each other. This program should be in place at the beginning of the mitigation phase. The potential for these cultural resources would be diminished greatly by instituting a series of efforts that concentrated on narrow aspects of the research and cultural values present. A series of cultural-historical period studies, for example, with investigators concentrating on the "Middle Archaic," or the "Creamware" period in isolation would perhaps result
in useful knowledge, but the results would be far less than those achieved by programs that attempted to integrate and relate a series of research domains.

**Sampling Considerations for Mitigation Planning**

A seminal article on archeological research design was published by Lewis R. Binford in 1964. In it he suggested the utility of a "regional approach" in understanding past cultural phenomena--"the detailed and systematic study of regions that can be expected to have supported cultural systems" (1964: 426). Further, the crucial research objective is the determination of the content, the structure, and the range of a cultural system, together with ecological relationships (1964: 426). The call for use of the regional unit of study for sets of sites, such as the Russell area offers, has been seconded many times since (e.g. Struever 1968; Judge, et al. 1975). Naturally, the emphasis upon examining the entire spatial range of a culture type is an ideal only. For the Southeast in general, it is well known that some native cultures ranged over tens of thousands of square miles in the course of their annual subsistence round. However, as was briefly suggested in a preceding section, the Russell area offers significant environmental variability in the marked differences between bottomland and ridgetop settings, so that a significant segment of intracultural variability in resource exploitation and site type may be expected to be recorded in the archeological record.

The thrust of recent discussions of the regional approach appears to be that past cultural systems, as they are represented by distributions of several different site types, cannot be studied or sampled solely at the site level. The planning and execution of a field study must employ the wider spatial context of a region so that the maximum representation of the total range of cultural variability is assured.

Both the current state of the archeological art and practical considerations, such as limits on time and money, also have effects on the overall form of large-scale research strategies. Neither the current theoretical machinery of the discipline nor the still poorly known local archeological record allows the specification of detailed plans for operations at individual sites. The solution is phased, or multistage, regional strategy entailing "the intensive investigation of smaller proportions of the total universe or region at each successive stage of research" (Redman 1973: 63-64). The feature which increases the efficiency of such fieldwork--the decreasing proportions intensively studied at each phase--is made possible by programmatic and analytical feedback between the different phases of an ongoing operation.

An integral part of such phased, regional fieldwork is the application of probabilistic sampling techniques in a judicious mix with judgemental or purposive sampling (Gowgill 1975: 260). Several reasons for the importance of probabilistic sampling can be cited. Most importantly, perhaps, "a quantitative knowledge of the risks of error can be derived from statistics" (Judge, et al. 1975: 84;
Binford 1964: 427; Ragir 1967: 180; Vesceluis 1960: 464). Read suggests that use of sampling forces an explicit evaluation of knowns and unknowns (1975: 47-48). Sampling is preferred to simple selection when more potential observations exist than resources permit; when there is reason to feel that all observations are not necessary for a specific purpose; or when one has no indication as to which of the possible observations are not important or not necessary (Cowgill 1975: 260-261.

So far this discussion has been directed mostly at the regional level of fieldwork and analysis. Two basic sampling universes appropriate for use with the regional approach (Binford 1964: 433) exist. Populations of sites are to be studied in the regional universe, but population of artifacts and features should be referred to the context of the site. Sampling within this latter universe, the site, has received much less attention than it deserves because of a past tendency to sample artifacts within what effectively is a regional frame rather than at the more appropriate site level (Binford 1964).

Treatments of intrasite sampling have generally been two-dimensional in orientation, with attempts to isolate such culturally meaningful conceptual entities as "activity sets" (Struever 1968: 144) from an occupation area. Sites described as surface scatters lacking depth are nearly ubiquitous in the study area. But the problem of defining activity loci at these sites is exacerbated by 1) the marked tendency for project sites to be re-occupied by prehistoric and historic people (see section on settlement patterns and evaluations of significance), and 2) historic erosion, which has eliminated any possible stratification indicative of the separation of assemblages of different occupations at many upland sites. The discrimination of overlapping, two dimensional occupations is a problem only recently receiving some attention (Vierra and Taylor 1977).

For mitigation planning, the distinction to be made between surficial sites and those with depth has significance in more than a theory-of-archeology sense, of course. Pointed out in an adjacent section of this report is the fact that the level of intensity of effort at a given site (i.e. time and money expenditures) depends upon the degree to which the third dimension becomes a factor.

Relatively little methodological discussion of sampling a stratified site has appeared (Brown 1975; Asch 1975). An important issue has been addressed by Redman and Watson (1970), who sought to test the hypothesis that "The proportions and kinds of different artifacts distribution on the surface are directly related to their distribution in the subsurface matrix in any circumscribed area" (1970: 289). For their test sites the first 50 cm of cultural deposit were almost identical to the surface collection; below that, the correlation depended on how rapidly the subsurface assemblages themselves changed. While indications exist that this happy outcome may not be expected everywhere (Rohn n.d. as cited by Cowgill 1975), it is clear that intensive surface collections offer much promise for the efficient study of at least shallow stratified sites.

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A prime dictum of recent discussions of archeology is that spatial sampling units, whether squares in a two-dimensional controlled collection or excavation units at a stratified site, cannot hope to yield an adequate representation of cultural features which exceed the size of the sampling unit (Cowgill 1975; Asch 1975). If we expect houses 10 m in diameter, then our sampling unit must be of this scale or larger. Test excavations in a stratified randomized distribution may disclose the natural and cultural depositional history of a site, the range of formal variation in all classes of debris, and distribution and relative frequencies of artifact and feature types over the site surface. But they cannot adequately sample larger cultural features such as tentatively defined activity areas or houses (Struver 1968: 144). For specific interpretation of the activities once carried out in each area of the site, a larger "block excavation" is necessary.

It is recommended that sites in the sample to be mitigated be ranked according to the level of intensity of the effort potentially required. We will stratify the sites according to whether or not they are prehistoric or historic. This stratification implies nothing about the research potential differences between these two classes, but does recognize that the historic period sites, in the majority of instances are those where structures were or are present. The presence of structures at these sites suggests that the spatial distributions of artifacts and features are accommodated to the structures. This prior knowledge dictates different sampling approaches (larger sampling units, for example), than would be characteristic of a prehistoric lithic or ceramic scatter.

**Investigation of Prehistoric Sites**

The three levels of effort for investigation of prehistoric sites have been discussed above. The primary feature that will be used to distinguish sites will be depth of deposit. Size of the site is not used because survey conditions prevented the accurate determination of this parameter. As discussed in Chapter III, maximal estimates of site size were provided in the appropriate column in A. This was done to insure that this parameter was not grossly underestimated. It was felt that this parameter could be determined more accurately during the intensive, controlled surface collection phase, when labor could be expended to determine site boundaries by extensive ground-clearing or subsurface testing. This would be necessary to establish the limits of the sampling frame.

Based on depth of deposit, three classes of sites have been identified:

1) Surface scatters--these are artifact scatters on areas where erosion has exposed the B horizon. These are identified as SS in the site type column of Appendix A.

2) Sites with deposits less than 40 centimeters--these are sites which still have some part of the A horizon present. These are distinguished because of the potential presence of features, such as hearths or postmolds below the plow zone. These are identified as
3) Deep sites--these are sites with cultural deposits in excess of 40 centimeters below the surface. These are distinguished from Class 2 sites because of the potential for stratification of cultural deposits. As is well known (Brown 1975), these sites present an interesting challenge for sampling.

An ideal scenario of investigation of a site would be as follows:

1) For a Class 1 site, intensive, controlled, surface collection, perhaps applying more than one sampling design.

2) For a Class 2 site, intensive, controlled surface collection as for Class 1, but followed, based on the results of the surface collection, by a test excavation sampling scheme. The results of this phase could be used to determine whether it would be feasible for research purposes, to conduct contiguous block excavations in order to recover information useful for intrasite spatial analysis.

3) For a Class 3 site, intensive, controlled, surface collection would be followed by a test excavation program of two parts. The first part would be a test excavation sampling design used to evaluate the upper stratum of the site. Based on the field situation, this part could be extended to use the units selected as loci for sampling the deeper strata, or an entirely new design, perhaps based on geomorphological evidence, could be used to test the deep strata.

The Class 3 sites in the reservoir have the best potential for yielding intact deposits. Investigation of these sites will provide the baseline against which the sites of lesser integrity will be evaluated. The major contributions to eastern United States archaeology are also likely to come from these sites, as they will provide data from sealed contexts on Archaic, Woodland, and Mississippian adaptations. The focus of investigation in stratified sites should not be to recover information on cultural chronologies. Rather, the focus of investigation in these sites should be on the determination of spatial patterns of artifacts. This focus requires contiguous block excavation strategies in order for this to be accomplished. Data of this kind would be a major research contribution that would add to our knowledge of both regional (southeast) and areal (eastern United States) adaptations during the different stages of cultural change. Data from block excavations will also permit a better diachronic assessment of the direction and magnitude of change during the period of human occupation of this area. Class 3 sites are not uniquely identified in Appendix A. They are listed as SD in the site type column and as having greater than 40 centimeters of deposit in the Depth of Site column. For this reason, a list of Class 3 sites is provided: 9EB76, 9EB85, 9EB86, 9EB91, 9EB259, 9EB348, 9EB387, 9EB388, 9EB414, 38AB9, 38AB22, 38AB101 and 38AN36.
The level of intensity of effort concept can also be usefully applied to the investigation of sites of the historic period. Three phases of effort can be identified. The first phase is intensive, controlled surface collection that includes determination of site boundaries. The second phase would involve test excavations based on the results of the surface collection. Recalling the discussion of South's (1977) Carolina and Frontier Artifact pattern in Chapter V, it can be suggested that surface collected data may provide a clue to the presence of structures which would guide the efforts of the second phase. The third phase would be contiguous block excavation of structures or activity areas. These efforts would provide the information necessary to fully evaluate the generality of the Carolina and Frontier Artifact patterns, which were defined on the basis of data from whole site excavations (South, personal communication). These patterns were defined from sites about 100 years older than the majority of the sites in the Russell sample, so that it is possible that a new pattern may be identified in these studies.

Three classes of historic sites can be identified based on a relative measure of structural complexity, which refers to the number and types of structures presumed to be present.

1) Surface scatters—historic artifact scatters on sites where erosion or heavy equipment damage has exposed the ground surface down to the B horizon. These sites are identified as SS in the site type column of Appendix A. It is presumed that there is little evidence of structural remains present on such sites, or that they may be refuse deposits independent of a structure.

2) Homesites—these are sites where there is evidence of one or more structures present. These were presumably yeoman farmsteads of the nineteenth century or tenant residences occupied in the fragmented plantation period. Here it is assumed that the domestic structure will be accompanied by some outbuildings. There will be substantial variability in this class as it will range in content from a tenant residence to a site like 38AB280, the Abbeville Mineral Springs, which was a resort hotel. Also included in this class will be the grist mills, of which there are three and nondomestic standing structures (SN).

3) Large, multistucture sites—sites in this class include plantations and hamlets, which are identified as PL and PV, respectively, in the site type column of Appendix A. Investigation of this class of sites will require the greatest amount of effort because these sites include different kinds of structures. A plantation, for example, could be expected to have the planter's residence, the overseer's residence, slave cabins, tool sheds, barns, and the gin house; and this list is not exhaustive. Phase 1 and 2 efforts on such a site would be devoted to identifying the expected range of structure types and associated activity areas. Phase 3 efforts would then be involved in the examination of a sample of these structure types and activity areas.
Rationale for the Phased Approach
to Mitigation of Resources in the Project Area

The three phase strategy of investigation was chosen because survey conditions did not permit the evaluation of these resources in terms of the cost of the mitigation effort, even though the survey methodologies did permit the evaluation of the research and cultural values present. This phased approach can be thought of as a process of defining the archeological potential of each individual resource in a timely and cost-efficient manner. If the results of the first phase warrant additional research efforts, in the judgement of the archeologists and the sponsors, then a second phase can be explicitly defined for a particular site. If additional research efforts appear to be necessary the process can be repeated. This strategy could also be termed one of "frequent" feedback which would cause the investigators involved to be goal-oriented in a shorter time frame than that involved for the entire mitigation phase. "Frequent" feedback also implies that research results will be forthcoming during the conduct of the mitigation effort and thus would expose these results to the professional community for scouting and criticism. These results can then be considered in later stages of the research. The phased approach also provides everyone involved with the maximum amount of flexibility to assess research questions and efforts in a more current time frame. The "frequent" feedback of data and research from the sample of sites being investigated allows for mid-course refinement of goals and strategies. This situation would also undoubtedly result in the identification of new sites where efforts would be better spent.

The Need for Additional Surveys

It is strongly recommended that further data recovery operations include additional surveys of portions of the project area. In Chapter III, it was mentioned that certain areas were not visited because of access problems relating to the density of vegetation, location, and permission of entry. In areas where we were allowed access, it was not possible to conduct investigation at the required levels, i.e., subsurface testing in active pastures. It is also necessary to conduct special purpose surveys to locate certain kinds of historic sites. Information has been made available to us since the field phase indicating the location of a number of historic cemeteries. Our survey did locate some of these cemeteries, but it is clear that a substantial number were not found. In these instances, it is not the cemeteries themselves which are of interest, but the potential for associated sites. An effort should be made to locate as many of these as possible because their association with cemeteries (especially White), gives an independent means of estimating occupation dates. There is an excellent chance that our sample of historic sites substantially underrepresents the occupations of the earlier part of the nineteenth century. Further survey could correct this shortcoming.
A survey of the islands in the river is necessary. In Chapter III, reasons were given as to why the islands were not surveyed during the field phase. Safety and the presence of toxic vegetation were the primary ones. Survey of these islands could be performed in the winter, which would be a far safer time to undertake this aspect of the proposed research. It would also be possible to place survey crews on these islands for 3 or 4 day periods, reducing the amount of time and risk involved in gaining access to these islands.

Survey of densely vegetated areas could also be done in the winter. As was mentioned above, the presence of toxic vegetation in bottomland areas precluded intensive investigation of such areas. Because site location is, at best, a difficult task in these settings, additional locational efforts are warranted. These settings also have the best probability of containing intact, deeply buried sites, which are poorly represented in the survey sample.

Sedimentology, Geomorphology and Palynology

These areas of mitigation phase concern are treated together because all have the potential to be key factors in the establishment of the paleo-environmental background for past human occupations of the Russell project area. Sedimentological and palynological studies are currently underway, but these are best regarded as feasibility assessments only, particularly in the case of pollen. It should be noted that research such as this will address problems not only of archeology, but of such other disciplines as hydrology, botany and geology.

The archeological potential of this sort of study can be judged as great. Since the Piedmont is an erosional surface, likely sites for paleoenvironmental investigations are expected to occur primarily in the major alluvial basins which have been little studied (Chapter I). Butzer's work in the lower Illinois River valley (1977) has shown the importance of such work in another area of the forested East. Closer at hand, in the Georgia Piedmont, preliminary indications are that the Oconee basin is yielding significant geomorphological information (Paul Fish, personal communication). The Russell project achieves additional special significance because it is the last unmodified stretch of the Piedmont Savannah River on which such studies may be conducted.

While the regional perspective from about 5,000 B.P. to the present is one of little environmental change, it is quite likely that this reflects the current crudity of available data, as well as its spareness, more than it discredits the idea of significant local environmental change. Another problem which sedimentological research can help solve would be directly valuable to evaluating a possible strong bias in our survey data. This is the recovery of data on depositional processes of the eighteenth, nineteenth and twentieth centuries (House and Ballenger 1976: 153).
Limited augering, backhoe trenching that crosscuts alluvial zones, and profiling of portions of the walls of the backhoe trenches are measures likely to be undertaken in consultation with qualified specialists of the disciplines mentioned.

A program of interdisciplinary investigation of the Holocene environment of the Russell area is recommended. These investigations should be integrated among themselves and with the ongoing archeological program, but this integration should be at the conceptual and synthetic levels. Partial operational and analytical segregation of these researches will enable each discipline to make its fullest contribution to the understanding of the archeological record of the study area.

Relevant classes of paleo-environmental data include: 1) the stratigraphy of the floodplain sediments, 2) the structure of any buried soil horizons, 3) pollen in good stratigraphic context, 4) plant macrofossils, 5) the texture and mineralogical content of sediments, and 6) radiocarbon dates of any macrofossil remains (House and Ballenger 1976: 159).

In addition to these steps, soil profiles should be placed in a soil monolith repository. This would provide two major benefits. Future scientists would be able to use these data, possibly employing techniques not now available. These profiles would also serve as controls in future studies of inundation effects upon archeological sites.

**Oral History**

A very important part of the future understanding of the Russell area's history will derive from the compilation of an oral history of the area. At least two considerations make the identification and employment of a qualified oral historian for such work important. First, the paucity of written records of any kind dealing with the Black history of the area is notable. Local compilations of data such as county histories and church records are quite uninformative in this regard. Naturally, interviewing descendants of European ethnic groups will also be of considerable service, because most of the land has historically been under their control.

Second, the oral history data base will tie into the local archeological record with a synergistic effect, enhancing the significance of each sort of information. For example, the chief mode of entry into local archives concerning a given site is knowledge of the name of the current landowner, which is most expeditiously gained by questioning a local informant. In a converse fashion, the archeological study of a site can extend our knowledge beyond living memory at places for which no documentation exists. The immense potential of oral history for this area is only suggested by the unsystematic efforts of untrained personnel on the 1977 survey (Appendix F).
Guidelines for interviewing, record keeping, auditing, transcribing, editing, and indexing the records generated are available in the historic preservation literature (Baum 1974, 1977). In addition to standard techniques outlined in such sources, consideration should be given to the use of videotape recording techniques which would allow the fullest preservation of relevant aspects of the area's "memory culture" as well as its archeological material culture.

Architectural History

The current structure of historic preservation in this country recognizes several special themes in the conservation of our heritage by providing special offices whose duty it is to keep track of the sites which are relevant to the theme. Technological and architectural history are two of these themes. The inventory of historic buildings is the task of the Historic American Building Survey (HABS) of the Heritage Conservation and Recreation Service. Typical information required includes measured drawings, photographs, and documentary data.

The evaluation and recording of architectural sites was not within the competence of the field survey team for the 1977 survey; however, the relevance of careful recording at some of the 33 sites where standing structures are reported is evident from examination of Appendix G.

At this time we cannot specify which of these structures merit detailed recording to HABS standards (McKee 1970), but it appears that certain sites are prima facie eligible for HABS. These include the partially standing Pearl Mill, site 9EB201.

Engineering and Industrial History

The rather special status of certain sites with a significant bearing upon the technological history of the locality, region, or nation has been recognized by the creation of the Historic American Engineering Record (HAER), in 1969 (King, Hickman and Berg 1977: 69). Similar in conception to the Historic American Building Survey, this program records engineering works. Several sites identified by the 1977 survey may merit special attention (including photography, measured drawings, and documentary research) during the mitigation program, with consideration for HAER in mind. Survey personnel did not include a person trained in the recording and evaluation of sites of engineering and technological interest. It is believed that such a qualified engineering historian will be required for mitigation phase activity. A few sites of obvious engineering significance may be mentioned here. We have been unofficially informed that the S.C. 72 and S.C. 18 highway bridges (Figure 1) may be eligible for HAER inclusion due to their early twentieth century construction techniques. It is of interest to note that Informant 12 (Appendix F) participated in
the construction of the S.C. 72 bridge. Accounts by a participant of construction techniques and of the impact of these bridges on local life would be of interest to historians of technology and of society.

As the first hydroelectric power facility on the Savannah River, and as a representative of regional technology of the first decade of this century, the Gregg Shoals dam - powerhouse - "company town" complex (sites 38AN36 and 38AN5) appears to be a significant structure. The dam and foundations of the powerhouse are largely intact, although little remains of the watchkeepers' homes. Other sites with the possibility of relevance to the special techniques of the engineering historian include the mills definitely identified in the project area (Appendix A).