ANNUAL REVIEW OF CULTURAL RESOURCE INVESTIGATIONS BY THE SAVANNAH RIVER ARCHAEOLOGICAL RESEARCH PROGRAM

FISCAL YEAR 2007

Prepared by
the staff of the

SAVANNAH RIVER
ARCHAEOLOGICAL RESEARCH PROGRAM

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SAVANNAH RIVER ARCHAEOLOGICAL RESEARCH PROGRAM
SOUTH CAROLINA INSTITUTE OF ARCHAEOLOGY AND ANTHROPOLOGY
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MANAGEMENT SUMMARY

The United States Department of Energy-Savannah River Operations Office (DOE) Policy 141.1, *DOE Management of Cultural Resources,* identifies 24 major laws, regulations, executive orders, and guidance that apply to cultural resources management (CRM). Cultural resources include archaeological sites and artifacts, historical structures, and natural resources and sacred objects of importance to American Indians. DOE management responsibilities include identification, evaluation, and protection of archaeological/historical sites, artifact curation, and other mitigation measures.

The Savannah River Archaeological Research Program (SRARP) continued through Fiscal Year 2007 (FY07) with DOE to fulfill a threefold mission of CRM, research, and public education at the Savannah River Site (SRS). This report covers the CRM compliance, research, and outreach activities conducted by the SRARP from August 2006 through August 2007. However, due to DOE security concerns, parts of this report do not contain material (exact project area size, map scales, etc.) typically contained in standard archaeological documents.

In FY07, 494.5 acres of land on the SRS were investigated with 1,961 Shovel Test Pits (STPs) for CRM. This activity entailed 31 field reconnaissance or testing surveys along with the recording of 18 new sites. Seven previously recorded sites were revisited during FY07, and the site file records were updated. Geographical Information System (GIS) and Global Positioning System (GPS) technology was incorporated into all compliance projects to aid in maintaining and processing survey and site location information. In addition, SRARP staff continued support to DOE Cold War Cultural Resources Management Plan (CRMP) efforts through participation on DOE's Artifact Selection Team and at Heritage Tourism Board meetings.

Research conducted by SRARP personnel was reported in nine professional articles and reports published during FY07. The SRARP staff presented research results in 23 papers and posters at professional conferences. SRARP archaeological research included 15 field survey and excavation programs. Five grants were acquired to support both on- and off-site research, and employees served as consultants on 18 projects in off-site CRM and research activities. The SRARP staff held 40 offices and appointments to committees in various educational, avocational, and professional organizations.

In the area of heritage education, the SRARP continued its activities in FY07 with a full schedule of classroom education, public outreach, and on-site tours. Seventy-six presentations, displays, and tours were provided for schools, civic groups, and environmental and historical awareness day celebrations. Additionally, the SRARP staff taught eight anthropology courses at Augusta State University and the University of South Carolina, Columbia.

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INTRODUCTION

Since 1990, Savannah River Site (SRS) CRM compliance has been based on a programmatic memorandum of agreement (PMOA) among the Department of Energy (DOE), the South Carolina State Historic Preservation Office (SCSHPO), and the Advisory Council on Historic Preservation (ACHP). Through this PMOA, DOE commits to conduct an integrated CRM program at SRS that features research, public outreach, and compliance components. In return, the SCSHPO waives most DOE project-by-project compliance requirements that fall under Section 106 of the National Historic Preservation Act (NHPA) in favor of one annual compliance report. The PMOA also serves to meet general DOE regulatory responsibilities under Section 110 of the NHPA, Archaeological Resources Protection Act (ARPA), Native American Graves Protection and Repatriation Act (NAGPRA), and other CRM laws and regulations.

SRARP provides DOE with the technical expertise to help DOE meet its PMOA commitments. The specific elements of the SRARP compliance, research, and outreach effort are identified within a cooperative agreement between DOE and the South Carolina Institute of Archaeology and Anthropology (SCIAA), at the University of South Carolina. The cooperative agreement also allows for compliance work to be performed using an SRS-specific archaeological testing model that reduces compliance costs. The result has been quicker, more cost efficient CRM reviews of individual SRS projects.

The following section (Part I) regarding CRM contains the results of the FY07 surveys, in addition to updates on other compliance related activities. According to the PMOA (SRARP 1989:185), annual survey results are provided in summary and tabular form in this report. Detailed information regarding artifact assemblage and environmental data for new and previously recorded sites located during FY07 is available upon request from the SRARP.

Research activities of the SRARP are summarized in Part II and include prehistoric, historic, and geoarchaeologic studies conducted on the SRS and in the surrounding region. An extra-local perspective is necessary for understanding the effects of regional processes on local conditions and, hence, enables the more effective management of the cultural resources on the SRS.

Public education activities of the SRARP are summarized in Part III, which highlights the heritage education program, volunteer excavations, and involvement with avocational archaeological groups. An Appendix at the end of the report lists all professional and public service activities of the SRARP staff.

PART I. CULTURAL RESOURCES MANAGEMENT

RESULTS OF FY07 SITE USE AND TIMBER COMPARTMENT SURVEYS

Survey Coverage

Archaeological survey of Site Use Permit Application and Timber Compartment Prescription projects by SRARP staff continued through FY07 according to procedures outlined in 1990 (SRARP 1990:7-17). During FY07, archaeological survey was conducted on 494.5 acres with 1,961 Shovel Test Pits (STPs) for 30 project surveys[1] (Figure 1). Altogether, 18 new sites were recorded and delineated, and 7 previously recorded sites were revisited during FY07 (Tables 1 – 2). Based on the level of survey sampling conducted at all new and previously recorded sites, adequate information was not obtained for most sites to allow National Register of Historic Places (NRHP) eligibility determinations (Table 3). As these sites are due to be impacted by future undertakings, the SRARP will conduct the appropriate level of archaeological investigation to resolve eligibility determinations. Finally, a total of 7 isolated artifact occurrences was recorded during FY07 surveys (Table 4). Summary information concerning specific aspects of all new and existing sites, as well as isolated artifact occurrences, is provided in Tables 1 - 4.

Over the past 18 years, the SRARP has conducted compliance survey according to a predictive locational model for archaeological sites, as established in the Archaeological Resource Management Plan (SRARP 1989:39-54, 71-79). This Management Plan was developed in agreement with the DOE, the SCSHPO, and the ACHP. The predictive model, with refinements, has proven thus far to be a scientifically sound and efficient method with which to locate and manage archaeological resources on the SRS. Additionally, the predictive model is a cost-effective means of conducting survey, especially in these austere times of federal government financial reductions. For these reasons, the development of predictive models is encouraged by regulatory guidance to federal landholders who manage archaeological resources on a daily basis. In this way, the SRARP primarily functions according to the Section 110 Regulatory process. In using the predictive model, the SRARP surveys are meeting the inventory and management responsibilities outlined in Section 110. If the undertaking could potentially impact archaeological sites, the SRARP follows the 106 Regulatory process of intensive, systematic, shovel test survey to delineate and evaluate the significance of any sites present. Then, if an eligible site cannot be avoided, the SRARP mitigates the adverse effect by way of data recovery through the 106 process.

SR-88 Site Use Permit Application Surveys

A total of 40 Site Use Permit Applications was received by the SRARP during FY07. Each Application underwent review by SRARP management for proposed land

[1] A field survey project is defined as subsurface inspection for a DOE Site Use Application or all subsurface investigations within a US Forest Service-Savannah River Timber Compartment Prescription.

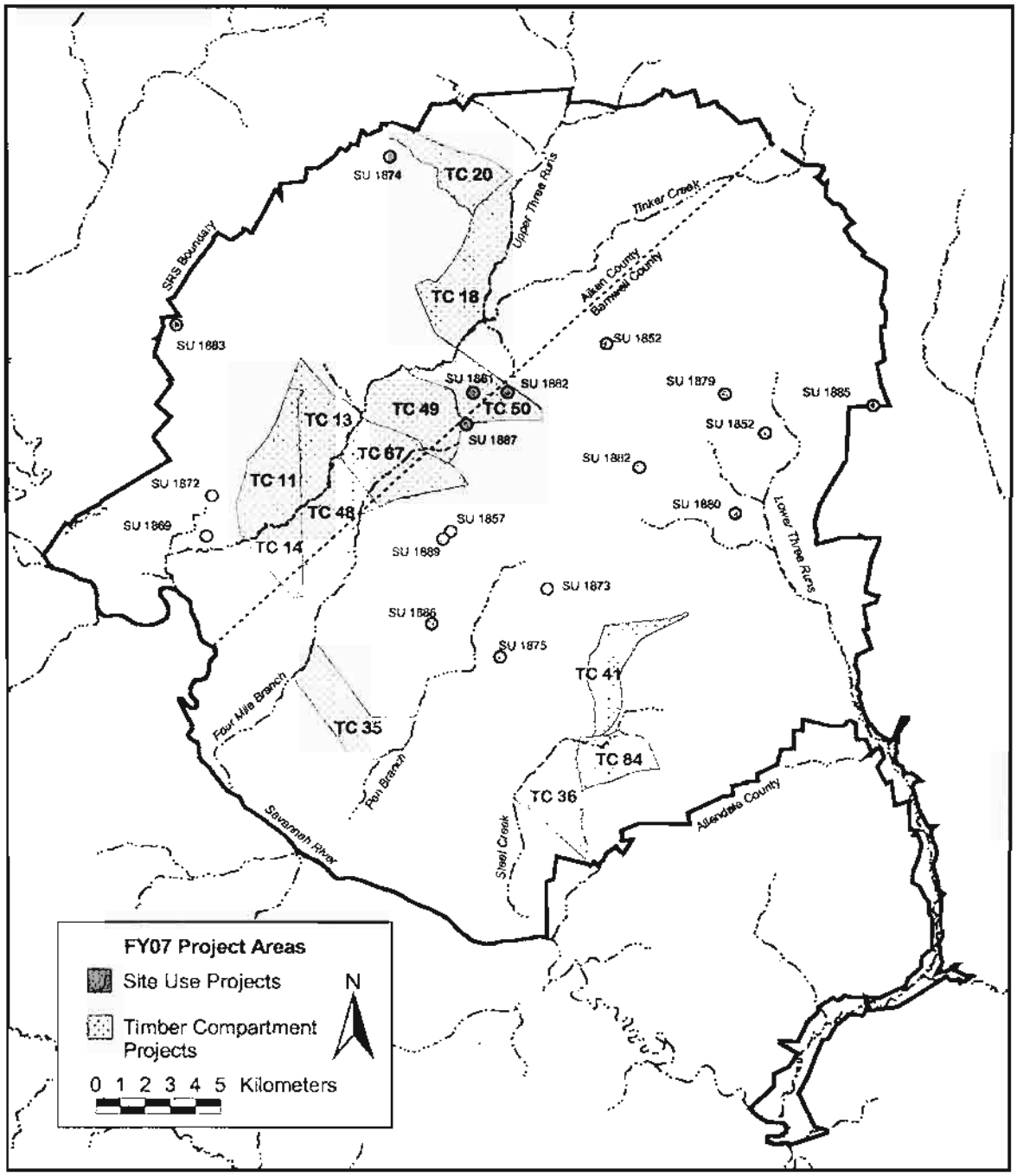


Figure 1. Location of FY07 project areas on the SRS.

modification. Of these, 18 required archaeological reconnaissance or survey (Table 5). These Site Use projects comprised 53 acres (10.7%) of the total survey coverage in FY07.

The following summaries describe Site Use projects and survey results during FY07 (Figure 1). Certain aspects of archaeological work were standard for all projects.

Table 1. Data on the Extent, Depth, and Content of New Sites Located in FY07 Surveys.

STATE SITE NUMBER	SURVEY PROJECT	SURVEY METHOD	SITE SIZE (m)	SURF. VIS. (%)	SITE DEPTH (cmbs)	# STPs	POS. STPs	COMPONENTS
38AK962	SU 1872	Purposive	90 x 50	1-25	0-50	22	5	20th cent.
38AK963	TC 14	Predictive	30 x 10	0	0-90	10	2	Unk. Preh.
38AK964	SU 1872	Purposive	170 x 130	1-25	0-40	70	22	Unk. Preh., 20th cent.
38AK965	TC 14	Intensive	10 x 70	1-25	0-35	13	4	20th cent.
38AK966	TC 14	Purposive	520 x 160	1-25	0-90	128	55	Unk. Preh., 20th cent.
38AK967	TC 14	Predictive	30 x 20	0	0-60	11	3	Unk. Preh.
38AK968	TC 48	Predictive	115 x 60	0	0-110	20	10	Unk. Preh.
38AK969	TC 48	Predictive	40 x 25	0	0-60	10	2	Unk. Preh.
38AK970	TC 18	Intensive	30 x 50	0	0-60	11	3	Unk. Preh.
38AK971	TC 48	Predictive	30 x 8	0	0-90	10	2	Unk. Preh.
38AK972	TC 67	Purposive	90 x 32	1-25	0-40	21	4	Unk. Preh., 20th cent.
38AK973	TC 50	Predictive	100 x 80	1-25	0-40	35	14	Unk. Preh., 20th cent.
38AK974	TC 50	Predictive	60 x 40	1-25	0-40	16	7	Unk. Preh.
38BR1202	TC 41	Intensive	70 x 18	0	0-70	14	5	Unk. Preh.
38BR1203	SU 1857	Intensive	100 x 70	1-25	0-60	15	8	Unk. Preh., 20th cent.
38BR1204	TC 84	Intensive	30 x 10	1-25	0-10	10	2	Unk. Preh.
38BR1205	TC 84	Intensive	38 x 40	0	0-80	11	4	Unk. Preh., 20th cent.
38BR1206	TC 35	Intensive	10 x 10	0	0-40	7	1	Unk. Preh.

Unk. - Unknown
SU - Site Use
STPs - Shovel Test Pits
EA - Early Archaic
MA - Middle Archaic
LA - Late Archaic
EW - Early Woodland
MW - Middle Woodland
LW - Late Woodland
Miss. - Mississippian
Unk. Preh. - Unknown Prehistoric
Opp. - Opportunistic

Table 2. Data on the Extent, Depth, and Content of Site Revisits Located in FY07 Surveys.

STATE SITE NUMBER	SURVEY PROJECT	SURVEY METHOD	SITE SIZE (m)	SURF. VIS. (%)	SITE DEPTH (cmbs)	# STPs	POS. STPs	COMPONENTS
38AK166	TC 14	Purposive	100 x 180	1-25	0-90	27	12	Unk. Preh., 19th-20th cent.
38AK168	TC 50	Predictive		1-25	0-40	10	4	Unk. Preh.,19th-20th cent.
38AK427	TC 13	Purposive	95 x 25	0	0-90	26	8	Unk. Preh.
38AK596	TC 48	Purposive	160 x 200	0	0-70	9	3	Unk. Preh., 20th cent.
38AK598	TC 48	Purposive	40 x 200	1-25	0-80	10	3	Unk. Preh.
38AK917	SU 1869	Purposive	55 x 70	1-25	0-30	14	0	Unk. Preh., 20th cent.
38BR1093	SU 1857	Purposive	280 x 130	1-25	Unk.	31	9	Unk. Preh., 20th cent.

Unk. - Unknown
SU - Site Use
STPs - Shovel Test Pits
EA - Early Archaic
MA - Middle Archaic
LA - Late Archaic
EW - Early Woodland
MW - Middle Woodland
LW - Late Woodland
Miss. - Mississippian
Unk. Preh. - Unknown Prehistoric

Table 3. Evaluation and Recommendations for New and Previously Recorded Sites, FY07.

SITE NUMBER	SURVEY PROJECT	SURVEY METHOD	SITE COMPONENTS	SITE INTEGRITY	NRHP ELIGIBILITY	FURTHER WORK
38AK166	TC 14	Purposive	Unk. Preh., 19th-20th cent.	Moderate	Indeterminate	Testing
38AK168	TC 50	Predictive	Unk. Preh.,19th-20th cent.	Moderate	Indeterminate	Testing
38AK427	TC 13	Purposive	Unk. Preh.	Moderate	Indeterminate	Testing
38AK596	TC 48	Purposive	Unk. Preh., 20th cent.	Moderate	Indeterminate	Testing
38AK598	TC 48	Purposive	Unk. Preh.	Moderate	Indeterminate	Testing
38AK917	SU 1869	Purposive	Unk. Preh., 20th cent.	Moderate	Indeterminate	Testing
38BR1093	SU 1857	Purposive	Unk. Preh., 20th cent.	Poor	Not Eligible	None
38AK962	SU 1872	Purposive	20th cent.	Moderate	Indeterminate	Testing
38AK963	TC 14	Predictive	Unk. Preh.	Moderate	Indeterminate	Testing
38AK964	SU 1872	Purposive	Unk. Preh., 20th cent.	Moderate	Indeterminate	Testing
38AK965	TC 14	Intensive	20th cent.	Moderate	Indeterminate	Testing
38AK966	TC 14	Purposive	Unk. Preh., 20th cent.	Moderate	Indeterminate	Testing
38AK967	TC 14	Predictive	Unk. Preh.	Moderate	Indeterminate	Testing
38AK968	TC 48	Predictive	Unk. Preh.	Moderate	Indeterminate	Testing
38AK969	TC 48	Predictive	Unk. Preh.	Moderate	Indeterminate	Testing
38AK970	TC 18	Intensive	Unk. Preh.	Moderate	Indeterminate	Testing
38AK971	TC 48	Predictive	Unk. Preh.	Moderate	Indeterminate	Testing
38AK972	TC 67	Purposive	Unk. Preh., 20th cent.	Moderate	Indeterminate	Testing
38AK973	TC 50	Predictive	Unk. Preh., 20th cent.	Moderate	Indeterminate	Testing
38AK974	TC 50	Predictive	Unk. Preh.	Moderate	Indeterminate	Testing
38BR1202	TC 41	Intensive	Unk. Preh.	Moderate	Indeterminate	Testing
38BR1203	SU 1857	Intensive	Unk. Preh., 20th cent.	Poor	Not Eligible	None
38BR1204	TC 84	Intensive	Unk. Preh.	Moderate	Indeterminate	Testing
38BR1205	TC 84	Intensive	Unk. Preh., 20th cent.	Moderate	Indeterminate	Testing
38BR1206	TC 35	Intensive	Unk. Preh.	Moderate	Indeterminate	Testing

TC - Timber Compartment
SU - Site Use
Opp. - Opportunistic
EA - Early Archaic
MA - Middle Archaic
LA - Late Archaic
EW - Early Woodland
MW - Middle Woodland
LW - Late Woodland
Miss - Mississippian
Unk. Preh. - Unknown Prehistoric
Unk. Hist. - Unknown Historic

Table 4. Isolated Artifact Occurrences Located in FY07 Surveys.

ISOLATED FIND NO.	STPs	COMPONENT	SURVEY PROJECT
AK-OCC-114	6	Prehistoric	SU LOG 1861
AK-OCC-115	9	Prehistoric	TC 13 STD 57
AK-OCC-116	8	Prehistoric	TC 14 STD 12
AK-OCC-117	5	Prehistoric	TC 14 STD 15
AK-OCC-118	5	Prehistoric	TC 14 STD 15
AK-OCC-119	8	Prehistoric	TC 14 STD 11
BR-OCC-234	8	Prehistoric	SU LOG 1852

OCC – Artifact Occurrence STD – Timber Stand TC – Timber Compartment

Upon completion of each survey project, point data for all new and previously recorded sites, as well as all isolated artifact occurrences, were recorded using Global Positioning System equipment. Prior to all fieldwork, a review of 1951 aerial photographs was conducted to identify extant historic structures at the time of federal acquisition. The SRARP site files were consulted to identify previously recorded cultural resources. All

STPs were 35 x 35 cm and excavated to a depth of at least 80 cm below surface (cmbs), unless a gravel or clay substratum was encountered first. Exceptions to this fieldwork procedure included historic site locations identified from 1951 aerial photographs that were situated in low-probability areas for prehistoric sites (SRARP 1989). At these locations, STPs were excavated to just below the plowzone (usually between 20 - 40 cmbs). The reduced depth of STPs on historic sites is justified because late-period historic sites generally lack thick stratified deposits (Cabak and Inkrot 1997:29-31). The soil from STPs was sifted through a 0.25-in. wire mesh, and artifacts were collected and bagged by provenience.

Table 5. SR-88 Site Use Application Projects, FY07.

PROJECT	TOTAL PROJECT STPs	PROJECT AREA SURVEYED (ac)	NEW SITES	SITE REVISITS
SU Log No. 1852	201	22		
SU Log No. 1857	73	4	38BR1203	38BR1093
SU Log No. 1861	58	11		
SU Log No. 1862	na	na		
SU Log No. 1869	14	na		38AK917
SU Log No. 1872	100	na	38AK962 38AK964	
SU Log No. 1873	31	10		
SU Log No. 1874	12	na		
SU Log No. 1875	18	na		
SU Log No. 1879	na	na		
SU Log No. 1880	na	na		
SU Log No. 1882	na	na		
SU Log No. 1883	na	na		
SU Log No. 1885	50	na		
SU Log No. 1886	na	na		
SU Log No. 1887	na	na		
SU Log No. 1889	19	6		
SU Log No. 1893	na	na		
TOTALS	576	53	3	2

na – not applicable

SU Log No. 1852 – National Science Foundation Plant and Animal Corridor Study

This Site Use Permit, issued on July 6, 2006 by the United States Forest Service-Savannah River (USFS-SR) and North Carolina State University (NCSU), proposed the study of the effects of corridors on the abundances and movement of plants and animals in connected forest clearings. Two corridor locations were involved in the project (Figure 1). Land use for the project area included limited timbering and secondary access road construction. Review of the SRARP database showed no previously recorded sites in the project boundary. Intensive survey of the first corridor was completed and reported in FY06 (SRARP 2006). During FY07, USFS-SR and NCSU personnel reoriented the first corridor requiring additional survey coverage (Figure 2). Intensive survey was also conducted at the second corridor location (Figure 3). These efforts involved a total of 201 STPs (1 positive) excavated on 30-m grids and resulted in the recovery of one isolated artifact. This isolated find (BR-OCC-234) is not considered eligible for the NRHP. No further archaeological work was required for the project.

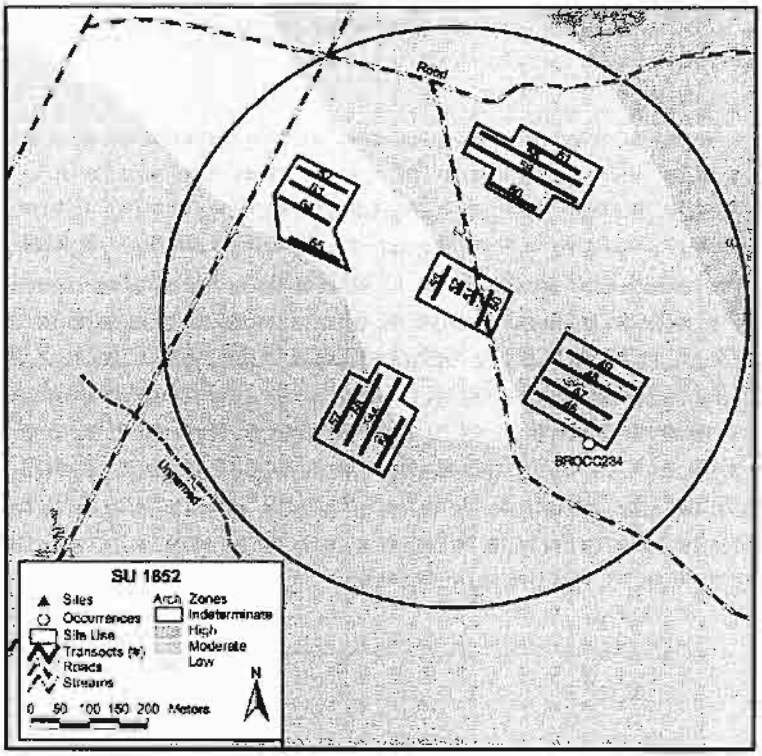


Figure 2. SU Log No. 1852 survey area.

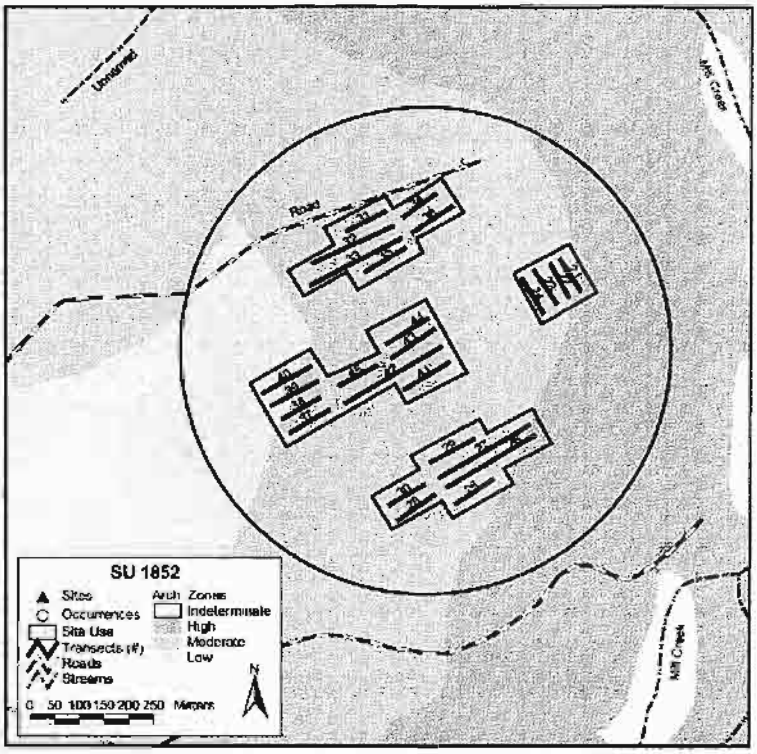


Figure 3. SU Log No. 1852 survey area continued.

SU Log No. 1857 – ECODS (Early Construction and Operational Disposal Sites) N-2 Removal Action

This Site Use Permit, initiated by Soil & Groundwater Closure Projects (SGCP), on September 6, 2006, proposed the excavation and removal of existing construction debris and rubble as well as merchantable timber harvesting followed by ground clearing and grubbing on a 4-acre tract (Figure 1). Review of the SRARP database showed one previously recorded site in the area (38BR1093). Fieldwork involved the excavation of 73 STPs (17 positive) along 7 transects on a 30-meter grid within the project area (Figure 4). These efforts resulted in the delineation of one newly recorded site (38BR1203) and one previously recorded site (38BR1093). Both sites consist primarily of a thin veneer of 20th-century historic debris, and both have been disturbed by early SRS bulldozing and dumping activities. As such, these sites are considered not eligible for nomination to the NRHP based on the situation of compromised subsurface integrity and the absence of research potential to contribute to the history of the region. Thus, there will be no adverse effect to these sites by the proposed project.

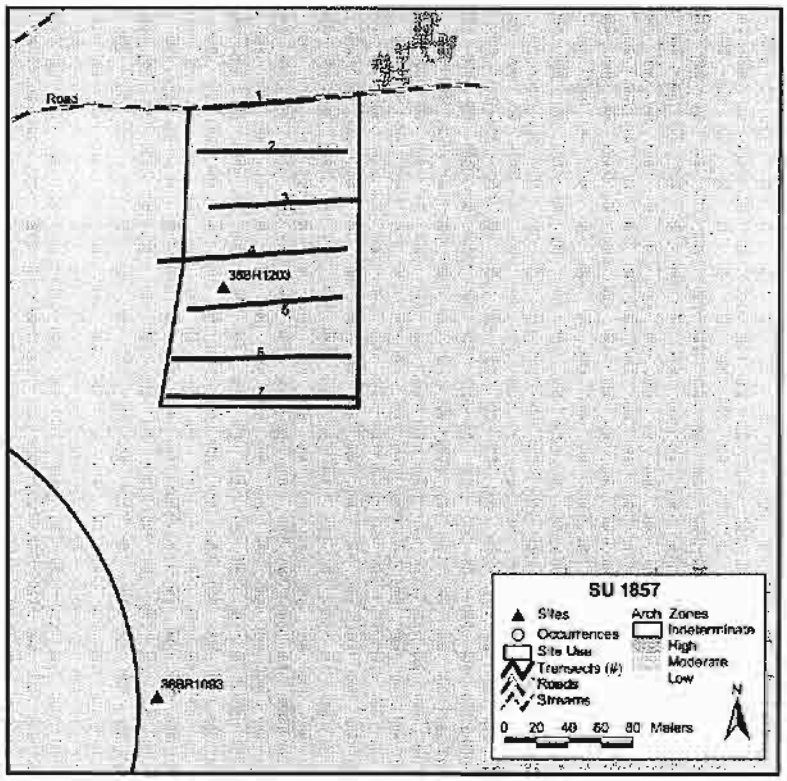


Figure 4. SU Log No. 1857 survey area.

SU Log No. 1861 – Tank Cleaning Demonstration Facility

This Site Use Permit, initiated by the Savannah River National Laboratory (SRNL) on October 3, 2006, proposed the construction of a Waste Tank Cleaning Demonstration Facility on the SRS (Figure 1). Review of the SRARP database showed

no previously recorded sites in the project area. Fieldwork involved the excavation of 52 STPs (1 positive) along 13 transects on a 30-m grid across the project area (Figure 5). An additional 6 STPs were excavated to delineate the positive STP. No other cultural materials were recovered. This isolated artifact occurrence (AK-OCC-114) is recommended as not eligible for the NRHP. No further management consideration of this isolated artifact location is recommended.

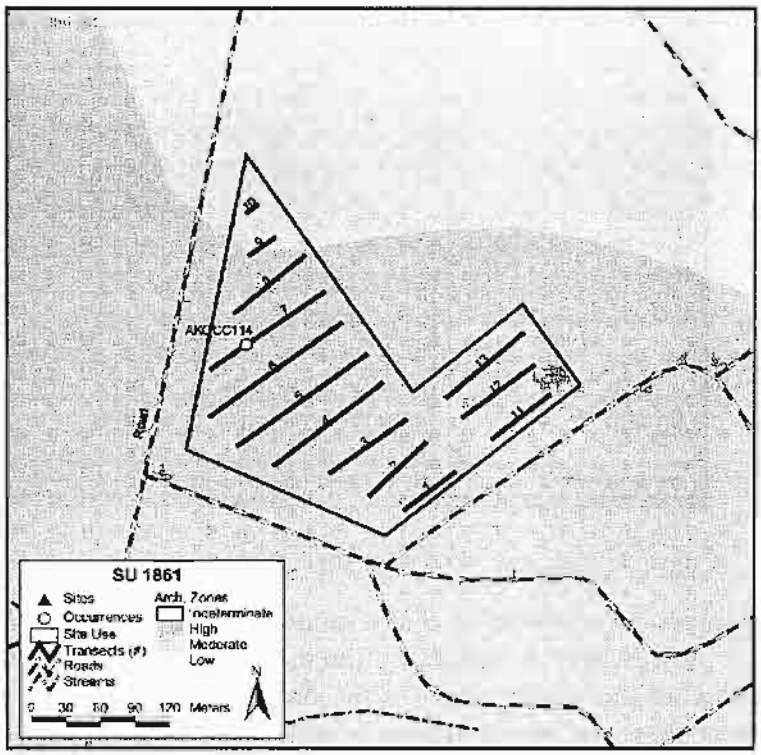


Figure 5. SU Log No. 1861 survey area.

SU Log No. 1862 – DSS (Decontaminated Salt Solution) Lag Storage Facility

This Site Use Permit, initiated on October 18, 2006 by the Salt Waste Processing Facility (SWPF), proposed construction of the Decontaminated Salt Solution Lag Storage Facility in close proximity to the SWPF (Figure 1). Field reconnaissance revealed previous disturbance to the project area from past SRS activities such as push piles, preexisting groundwater monitoring wells, and exposed areas of redeposited clay and gravel subsoil. Based on the findings of these ground surface conditions, no further archaeological work was required.

SU Log No. 1869 – Compartment 12 Resource Management Stewardship Plan

This Site Use Permit, initiated on December 19, 2006 by the USFS-SR, proposed road maintenance and development in Timber Compartment 12 (Figure 1). The proposed road construction was in proximity to an early SRS antiaircraft gun site complex (38AK917), which had been heavily disturbed by previous SRS activities (Figure 6).

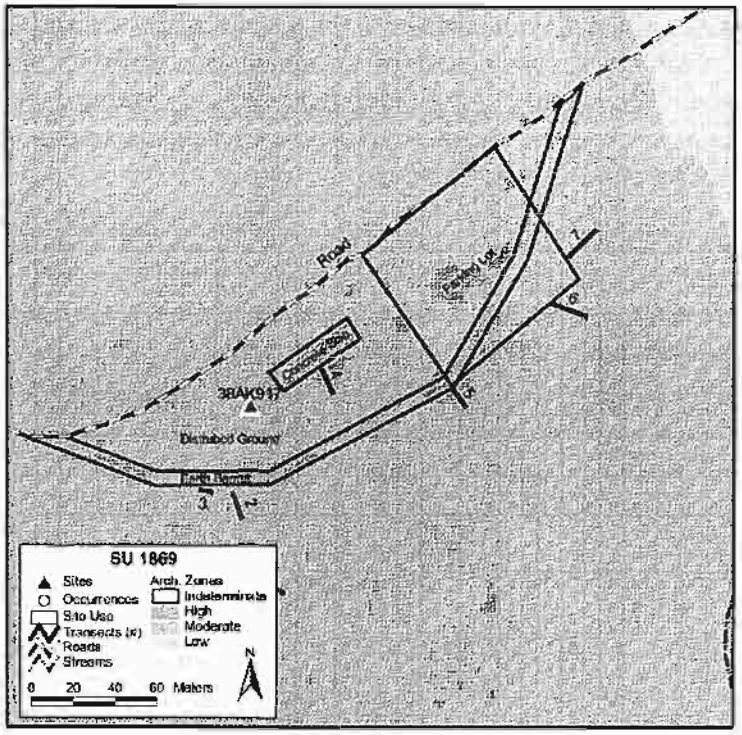


Figure 6. SU Log No. 1869 survey area.

Fieldwork consisted of 14 STPs excavated at 30-m intervals along 7 transects to determine if buried deposits would be threatened by road construction. All STPs were negative, showing that construction of the proposed road would not impact any cultural deposits. Thus, there will be no adverse effect to site 38AK917.

SU Log No. 1872 – Compartment 2 Resource Management Stewardship Plan

This Site Use Permit, initiated on January 18, 2007 by the USFS-SR, proposed construction of a road in Timber Compartment 2 (Figure 1). Review of the SRARP database showed one previously recorded site (38AK896) in the project area vicinity. Fieldwork consisted of 19 STPs (4 positive) excavated at 30-m intervals along the corridor (Figure 7). An additional 81 STPs (23 positive)were excavated to determine site boundaries. These efforts resulted in the delineation of two newly recorded sites (38AK962, 38AK964). After consultation with USFS-SR, the route for accessing timber in this stand was changed so that sites, 38AK962, and 38AK964 will be avoided completely. Site 38AK896 was not revisited as it is located well outside of the impact area. Thus, there will be no adverse effect to these sites.

SU Log No. 1873 – Construction of New 13.8 KV Power Line

This Site Use Permit, initiated on January 22, 2007 by the SRS Decommission and Deconstruction (D&D), proposed the construction of a KV power line on the SRS along an existing corridor (Figure 1). Fieldwork consisted of 31 STPs excavated at 30-m

intervals along bay margins where human occupation could have occurred (Figure 8). All STPs were negative, thus requiring no further archaeological work in the project area.

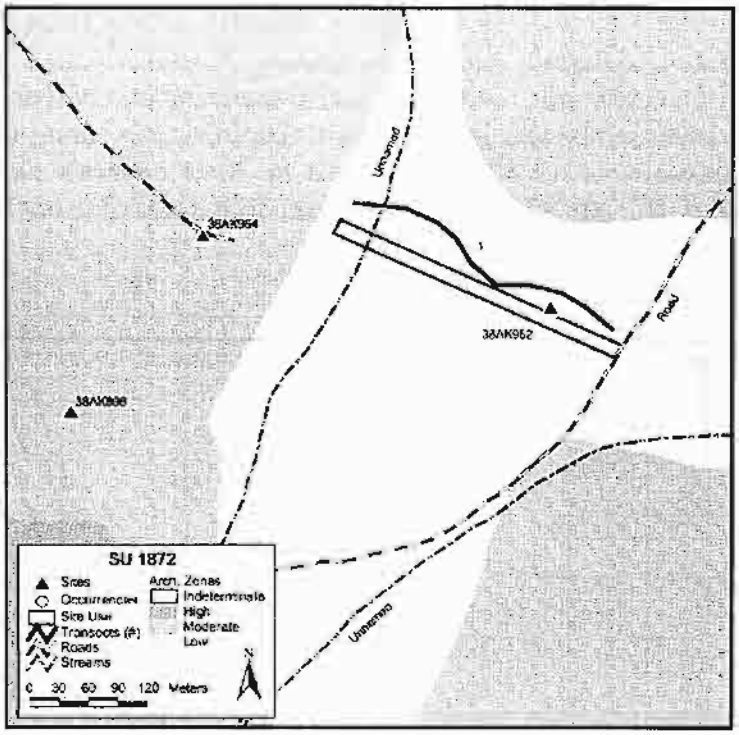


Figure 7. Site Use Log No. 1872 survey area.

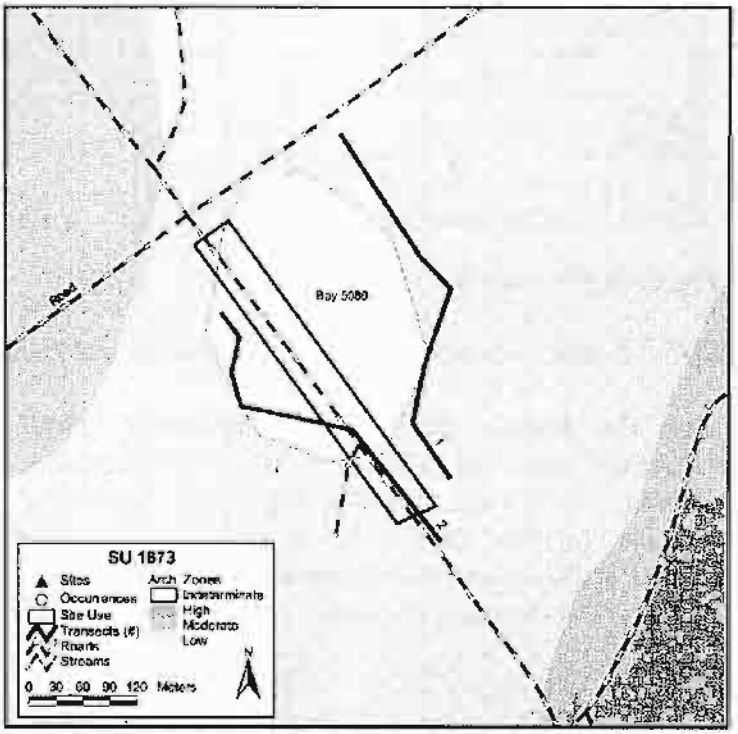


Figure 8. SU Log No. 1873 survey area.

SU Log No. 1874 – Construction of New Road for Ice Storm Salvage

This Site Use Permit, initiated on January 29, 2007 by the USFS-SR, proposed the construction of a 0.268 mile road for access to merchantable timber (Figure 1). Review of the SRARP database showed no previously recorded sites along the proposed corridor. Fieldwork consisted of 12 STPs excavated at 30-m intervals along the length of the corridor (Figure 9). All STPs were negative, thus requiring no further archaeological work in the project area.

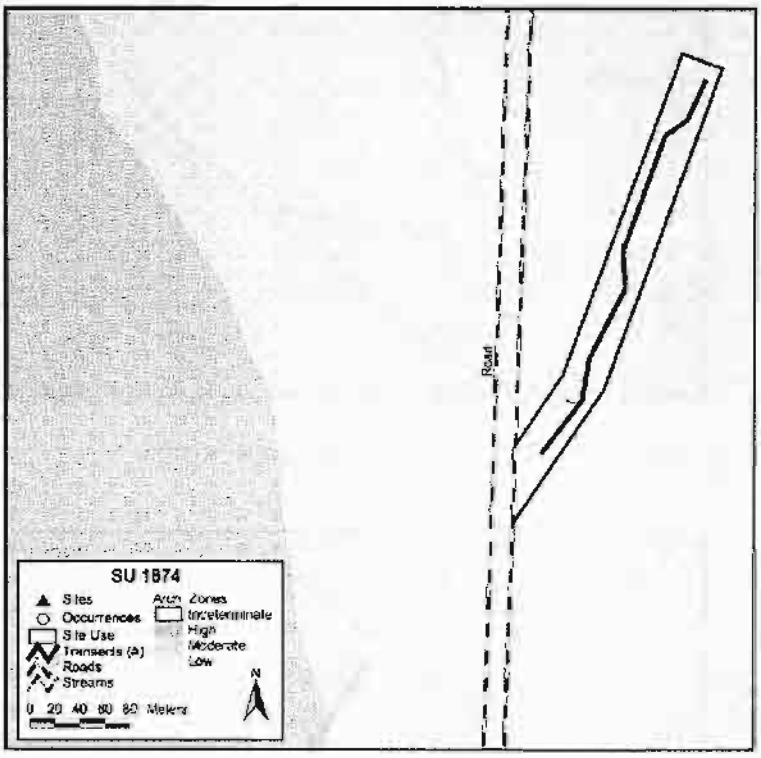


Figure 9. SU Log No. 1874 survey area.

SU Log No. 1875 – L Area Groundwater Characterization and Road Installation

This Site Use Permit, initiated on February 1, 2007 by L-Area Southern Groundwater (LASG), proposed the construction of a connector road to locations for groundwater sampling points on the SRS (Figure 1). Review of the SRARP database showed no previously recorded sites along the proposed corridor. Fieldwork consisted of 18 STPs excavated at 30-m intervals along the length of the corridor (Figure 10). All STPs were negative, thus requiring no further archaeological work in the project area.

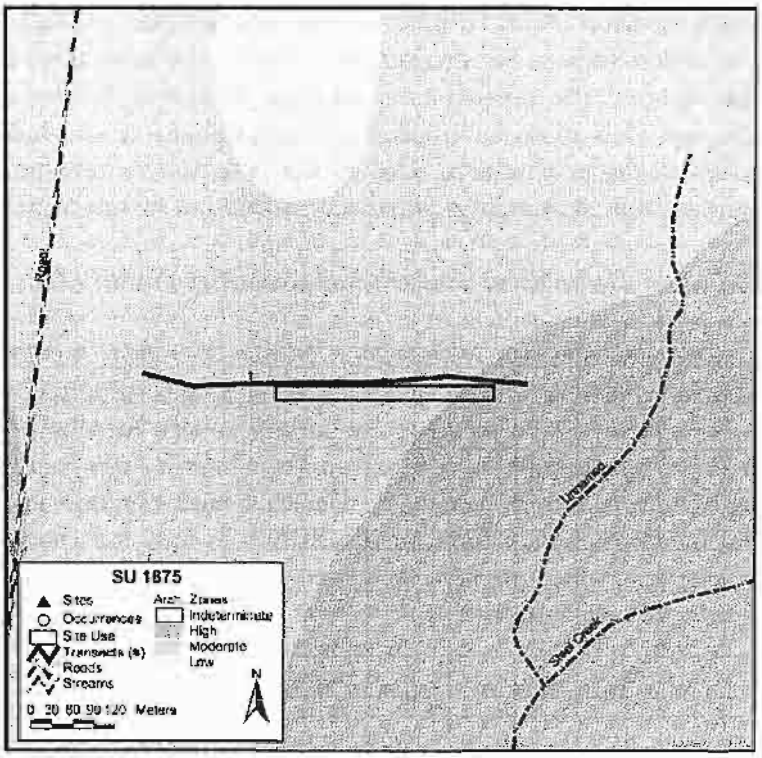


Figure 10. SU Log No. 1875 survey area.

SU Log No. 1879 – Gun Site No. 12 Soil Sampling and Characterization

This Site Use Permit, initiated on February 27, 2007 by the SGCP, proposed low impact, subsoil sampling and characterization with either a hand auger or small track rig in the vicinity of Gun Site No. 12, an early SRS antiaircraft complex (Figure 1). Field crew personnel met with project engineers for a reconnaissance of the gun site location. Due to the potential to encounter contaminated soils, it was determined that archaeological survey would not be appropriate for safety reasons.

SU Log No. 1880 – Gun Site No. 218 Soil Sampling and Characterization

This Site Use Permit, initiated on February 28, 2007 by the SGCP proposed low impact, subsoil sampling and characterization with a either a hand auger or small track rig in the vicinity of Gun Site No. 218, an early SRS antiaircraft complex (Figure 1). Field crew personnel met with project engineers for a reconnaissance of the gun site location. Due to the potential to encounter contaminated soils, it was determined that archaeological survey would not be appropriate for safety reasons.

SU Log No. 1882 – R-Area Isolated Contamination Area Characterization

This Site Use Permit, initiated on March 3, 2007 by the R-Area Operable Unit project team, proposed groundwater sampling and characterization activities, including

clearing of vegetation and groundwater well installations in an area identified as the Isolated Contamination Area (Figure 1). Review of the SRARP database showed no previously recorded sites in the project area. Field reconnaissance revealed Orange Balls staked in and around the project area alerting personnel to hazards of contamination. Additionally, Arc GIS maps of hydrologic contamination showed stream and wetlands were hazardous in the project area. Due to the potential to encounter contaminated soils, it was determined that archaeological survey would not be appropriate for safety reasons.

SU Log No. 1883 – Three River Solid Waste Authority Landfill Gas Pipeline Project

This Site Use Permit, initiated on March 29, 2007 by the Three Rivers Solid Waste Authority, proposed the construction of a gas pipeline (this project captures landfill gas and converts the gas into an energy source thereby preventing atmospheric release and reducing greenhouse gas) from the Three Rivers Landfill on the SRS to the Kimberly-Clark Corporation facility in Beech Island (Figure 1). Field reconnaissance revealed that the pipeline corridor on the SRS followed the road shoulder and pipeline installation would occur in the previously disturbed highway buffer. No further archaeological work was required.

SU Log No. 1885 – Carolina Bay Seismic Monitoring Site

This Site Use Permit, initiated on April 11, 2007 by Geotechnical Engineering, proposed the installation of seismic monitoring equipment on the northern margin of Carolina Bay 77 (Figure 1). Review of the SRARP database showed no previously recorded sites in the project area; however, 58 STPs were excavated along the northern bay perimeter in 1994 resulting in 9 positive STPs. These positive STPs were never delineated, and the southern half of the bay is not located on SRS property. Recent archaeological survey consisted of an additional 50 STPs excavated along the northern bay edge and in the area of proposed project activity on the eastern margin (Figure 11). All STPs were negative. No further archaeological work was required.

SU Log No. 1886 - Additional Tree Removal for Security Upgrades at K-Area

This Site Use Permit, initiated on April 17, 2007, requested the removal of trees adjacent to K-Area for security purposes (Figure 1). Field reconnaissance revealed that the project area had been disturbed through past SRS land altering activities, and some areas were labeled as contaminated. For these reasons, no further archaeological work was conducted.

SU Log No. 1887 – Corrective Action Plan for the H-Area Outfall

This Site Use Permit, initiated on May 23, 2007 by Project Design and Construction Services (PD&CS), proposed the installation of a gravity sewer line in the H-Area vicinity (Figure 1). Field reconnaissance revealed that the project area had been disturbed through past SRS land altering activities, and some areas were labeled as contaminated. For these reasons, no further archaeological work was conducted.

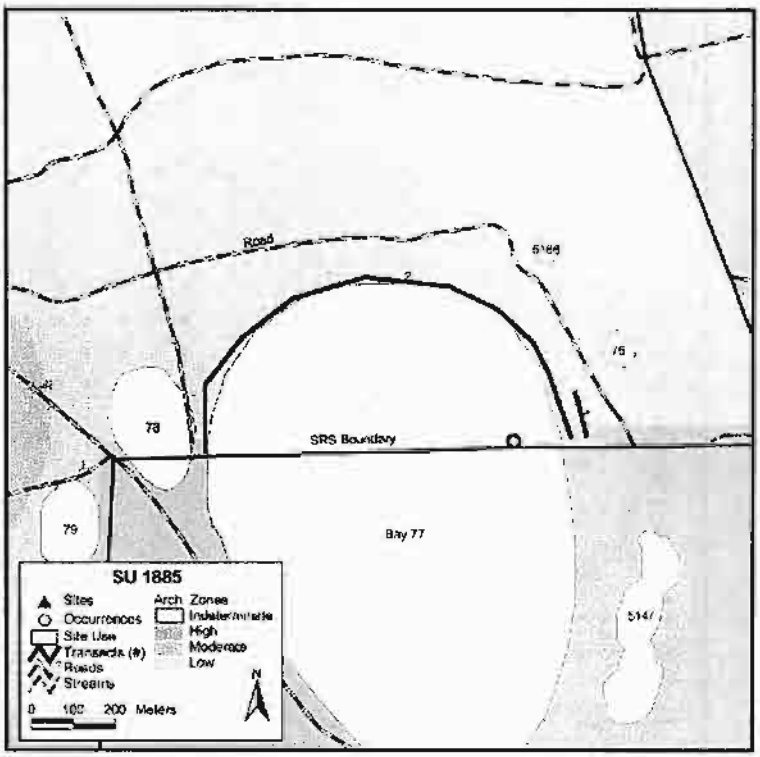


Figure 11. SU Log No. 1885 survey area.

SU Log No. 1889 – Carolina Bay Ecological Restoration Project

This Site Use Permit, initiated on June 20, 2007 by the USFS-SR, proposed restoration activities for Bay 125, including pine tree harvesting to enhance wetland habitat (Figure 1). Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of 19 STPs excavated at 30-m intervals along the bay margin (Figure 12). As all STPs were negative, no further archaeological work was required.

SU Log No. 1893 – Corrective Action Plan for the H-Area Outfall

This Site Use Permit, initiated on July 11, 2007 by the PD&CS, requested additional land for the proposed installation of a gravity sewer line in the H-Area vicinity (see above SU Log No. 1887). Field reconnaissance revealed that the project area had been disturbed through past SRS land altering activities and some areas were labeled as contaminated. For these reasons, no further archaeological work was conducted.

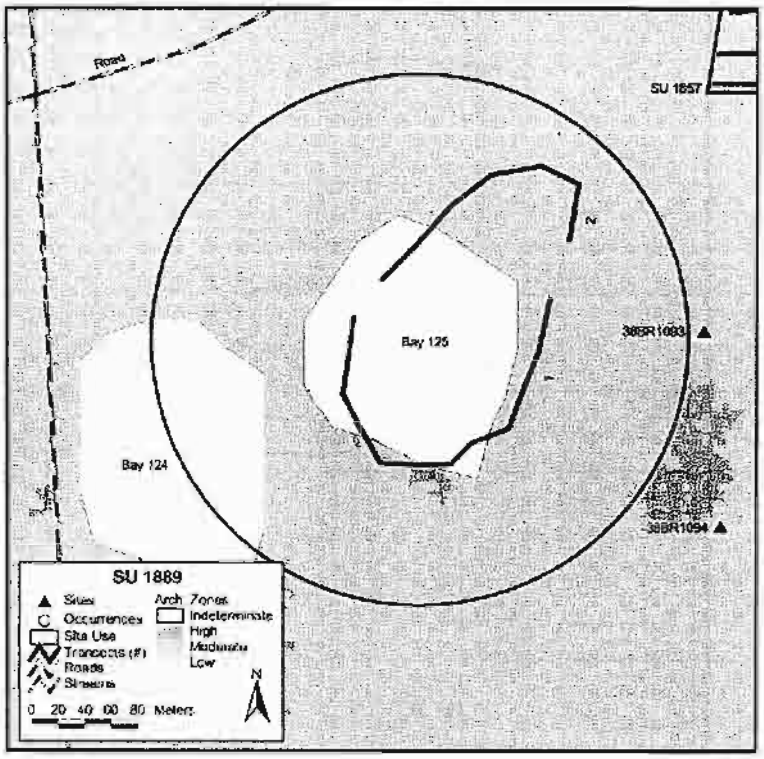


Figure 12. SU Log No. 1889 survey area.

Timber Compartment Prescriptions

The USFS-SR is the most extensive land user on the SRS, as this agency's primary function is one of research and forest management in support of silvicultural practices. Each year, the USFS-SR issues its list of Timber Compartment Prescriptions indicating those areas on the SRS where timber management activities are scheduled to occur. As a policy, the USFS-SR issues this list two to three years before the planned thinning or harvesting is scheduled. Using these yearly prescriptions, the SRARP identifies areas that must be surveyed prior to any land use activities. Because of the lead-time provided by this process, the SRARP has the opportunity to locate and evaluate all resources within the area of proposed land use at least one year in advance. Finally, the USFS-SR, in consultation with the SRARP, insures that all archeological sites deemed significant for research potential are avoided completely during the development of secondary roads and timber loading decks. Additionally, all historic sites with potential research significance are avoided completely during harvesting activities. As a result, all adverse effects to historic properties are mitigated through avoidance.

The SRARP management reviews each Timber Compartment Prescription to determine the level of survey required for each Timber Stand slated for timbering. The review process involves determining the potential for archaeological resources in each Timber Stand. This is accomplished by applying the predictive locational model of site discovery developed by the SRARP for management of cultural resources on the SRS

(SRARP 1989). Information from the SRS site files, previous survey records, and historic documentation are also incorporated into the review process to insure that all resources are located and previous survey efforts are not duplicated.

The following summaries describe Timber Compartment projects and survey results during FY07. Surveys of Log Decks and Timber Stands were conducted in 13 Timber Compartments, which involved 441.5 acres (89.3%) of the total survey area coverage in FY07. Table 6 provides a listing by Timber Compartment of all sites investigated.

Certain aspects of archaeological work were standard for all projects. Upon completion of each survey project, point data for all new and previously recorded sites, as well as all isolated artifact occurrences, were recorded using Global Positioning System equipment. Prior to all fieldwork, a review of 1951 aerial photographs was conducted to identify standing historic structures at the time of federal acquisition. The SRARP site files were consulted to identify previously recorded cultural resources. All STPs were 35 x 35 cm and excavated to a depth of at least 80 cmbs, unless a gravel or clay substratum was encountered first. Exceptions to this fieldwork procedure included historic site locations identified from 1951 aerial photographs that were situated in low-probability areas for prehistoric sites (SRARP 1989). At these locations, STPs were excavated to just below the plowzone (usually between 20 - 40 cmbs). The reduced depth of STPs on historic sites is justified because late-period historic sites generally lack thick stratified deposits (Cabak and Inkrot 1997:29-31). The soil from the STPs was sifted through 0.25-in. wire mesh, and artifacts were collected and bagged by provenience.

Table 6. Tabulation of Timber Compartment Prescriptions Survey Results, FY07.

PROJECT	PROJECT STPs	PROJECT AREA SURVEYED (ac)	NEW SITES	SITE REVISITS
Timber Comp 11				
Stands 2/64	9	1		
Timber Comp 13				
Stand 18	14	43		
Stand 31	18	2		
Stand 57	127	48		38AK427
TOTALS	159	93		1
Timber Comp 14				
Stand 2	9	1		
Stand 7	43	3		
Stand 11	83	33		
Stand 12	95	39		
Stand 15	175	24		
Stand 26	35	12		
Stand 43	9	1		
Stand 46	9	1		
TOTALS	458	114		
Timber Comp 18				
Stands 7	9	na	38AK970	
Timber Comp 20				
Stands 29	66	39		
Timber Comp 35				
Stand 7	9	1		
Stand 22	36	3	38BR1206	
Stand 27	18	2		

Stand 29	18	2		
Stand 30	9	1		
Stand 77	18	2		
Stand 78	9	1		
TOTALS	117	12	1	
Timber Comp 36				
Stand 7	9	1		
Stand 66	9	1		
TOTALS	18	2		
Timber Comp 41				
Stand 12	9	1		
Stand 18	25	1.5		
Stand 20	26	3		
Stand 58	18	2		
TOTALS	78	7.5		
Timber Comp 48				
Stand 4	150	64	38AK968 38AK969 38AK971	38AK596 38AK598
Stand 56	9	1		
TOTALS	159	65	3	2
Timber Comp 49				
Stand 5	27	11		
Timber Comp 50				
Stand 11	62	64		38AK168
Stand 12	53	2	38AK973	
Stand 18	9	1		
Stand 19	35	21	38AK974	
TOTALS	159	88	2	1
Timber Comp 67				
Stand 34	30	1		
Stand 53	18	2		
TOTALS	48	3		
Timber Comp 84				
Stand 3	9	1		
Stand 5	9	1		
Stand 20	9	1		
Stand 28	21	1	38BR1205	
Stand 48	21	1	38BR1204	
Stand 56	9	1		
TOTALS	78	6	2	
TOTALS	1385	441.5	9	4

na - purposive site survey, no acreage to report for project.

Timber Compartment 11.

Archaeological survey of Timber Stands slated for clearcutting in Compartment 11 was conducted and reported during FY00 (SRARP 2000). Current survey involved subsurface inspection for a proposed one-acre Log Deck located in Stands 2/64 (Figure 1). Fieldwork consisted of 9 STPs excavated on a 30-m interval grid (Figure 13). These efforts resulted in no positive STPs, and no further archaeological work was required in the project area.

Timber Compartment 13.

Archaeological survey involved the subsurface inspection of 2 Timber Stands slated for clearcutting and 4 proposed Log Decks for a total of 93 acres (Figure 1). Fieldwork consisted of 159 STPs (9 positive) excavated at 30-m intervals along 3 transects, and during site and artifact occurrence delineations (Figure 14). One previously

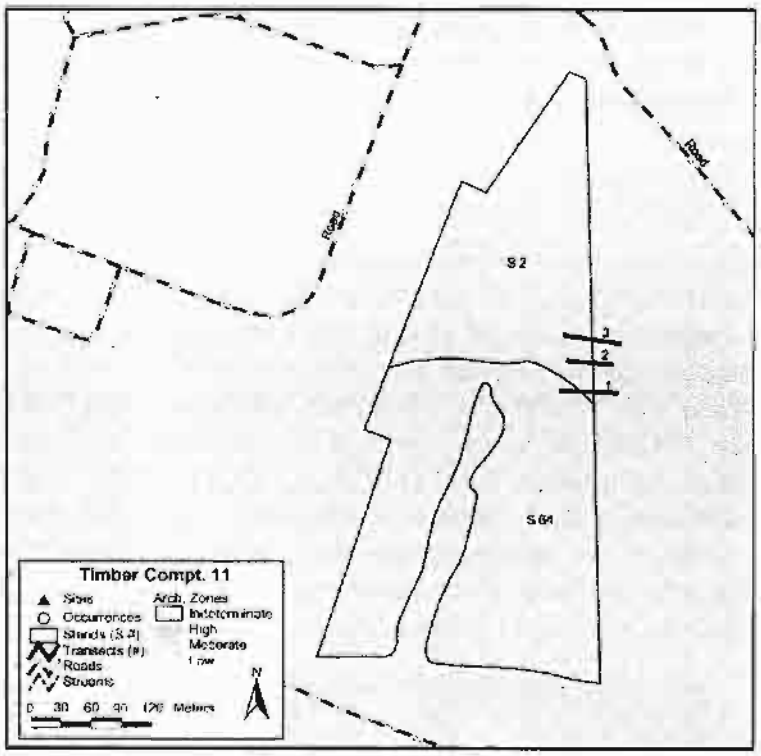


Figure 13. Timber Compartment 11 survey area.

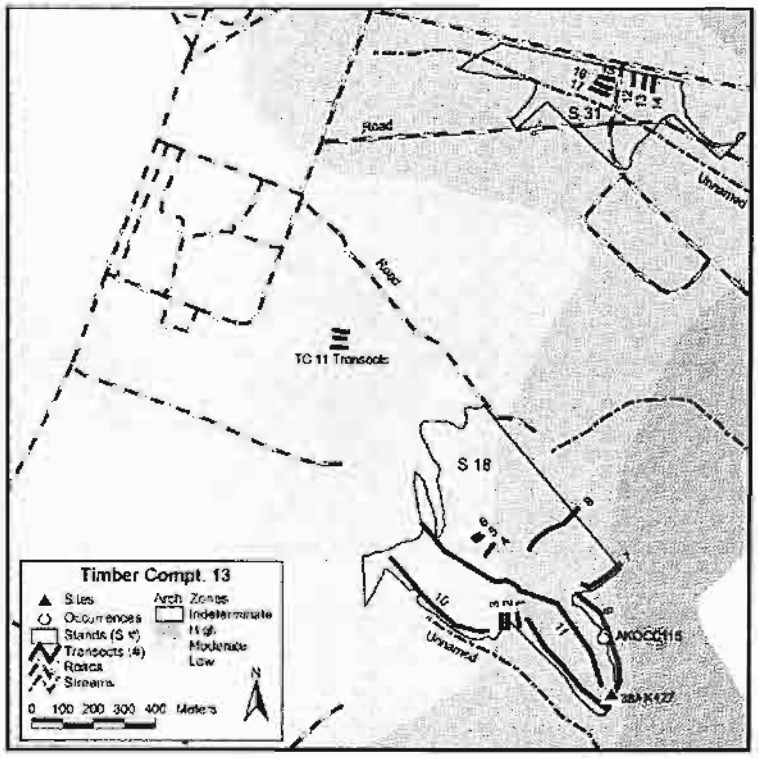


Figure 14. Timber Compartment 13 survey area.

recorded site (38AK427) was revisited for boundary definition, and one isolated artifact occurrence (AK-OCC-115) was delineated. Site 38AK427 has been assigned an indeterminate status regarding NRHP eligibility until further testing is required and will be avoided during current USFS-SR timbering activities. Thus, there will be no adverse effect to this site.

Timber Compartment 14.

Archaeological survey involved the subsurface inspection of four Timber Stands slated for clearcutting and 17 proposed Log Deck locations for a total of 114 acres (Figure 1). Fieldwork consisted of 458 STPs (80 positive) excavated at 30-m intervals along 62 transects and during site and artifact occurrence delineations (Figure 15). Four newly recorded sites (38AK963, 38AK965, 38AK966, 38AK967) and one previously recorded site (38AK166) were surveyed for boundary definition. Additionally, four isolated artifact occurrences (AK-OCC-116, AK-OCC-117, AK-OCC-118, AK-OCC-119) were delineated. Sites 38AK166, 38AK963, 38AK965, 38AK966, and 38AK967 have been assigned an indeterminate status regarding NRHP eligibility until further testing is required and will be avoided during current USFS-SR timbering activities. Thus, there will be no adverse effect to these sites.

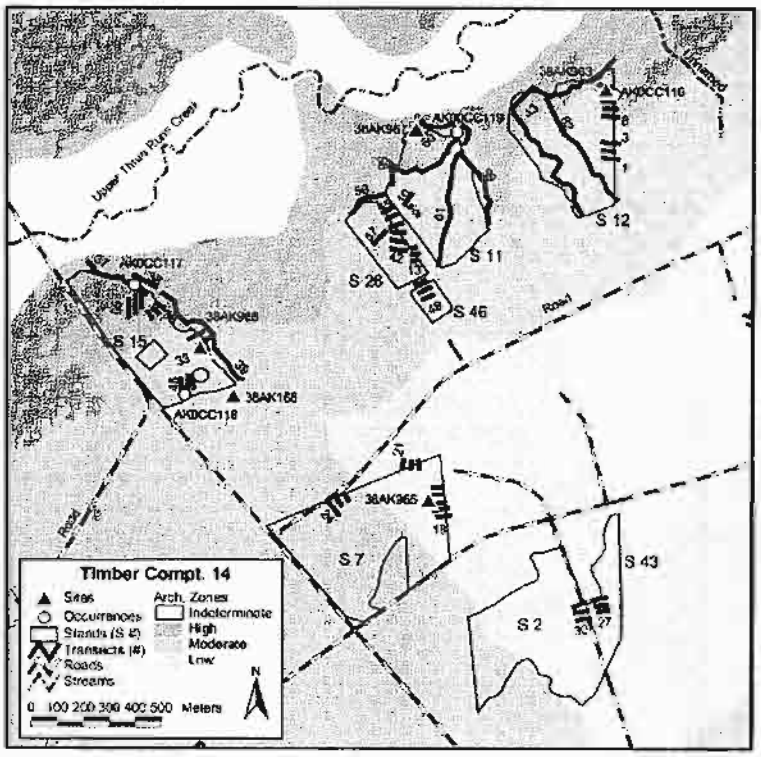


Figure 15. Timber Compartment 14 survey area.

Timber Compartment 18.

Archaeological survey of Stands slated for clearcutting in Timber Compartment 18 was conducted and reported during FY06 (SRARP 2006). Current survey involved the

delineation of a positive transect STP (Figure 1). Fieldwork consisted of 9 STPs (1 positive) excavated in a cruciform pattern. These efforts resulted in the discovery of one new site (38AK970). Site 38AK970 has been assigned an indeterminate status regarding NRHP eligibility until further testing and will be avoided during current USFS-SR timbering activities. Thus, there will be no adverse effect to this site.

Timber Compartment 20.

Archaeological survey involved the subsurface inspection of one Timber Stand slated for clearcutting totaling 39 acres (Figure 1). Fieldwork consisted of 66 STPs excavated at 30-m intervals along 5 transects (Figure 16). These efforts resulted in no positive STPs, and no further archaeological work was required in the project area.

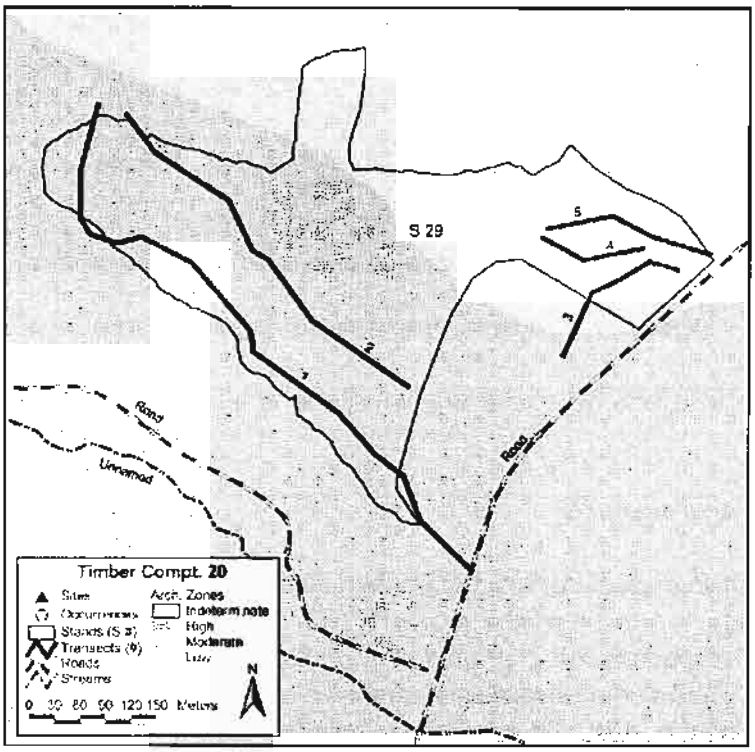


Figure 16. Timber Compartment 20 survey area.

Timber Compartment 35.

Archaeological survey of Timber Stands slated for clearcutting in Compartment 35 was conducted during FY04 (SRARP 2004). Current survey involved the subsurface inspection of 12 proposed Log Deck locations totaling 12 acres in seven Stands (Figure 1). Fieldwork consisted of a total of 117 STPs (1 positive) excavated at 30-m intervals along 37 transects and during site delineation (Figure 17). One newly discovered site (38BR1206) was recorded during survey. Site 38B1206 has been assigned an indeterminate status regarding NRHP eligibility until further testing and will be avoided

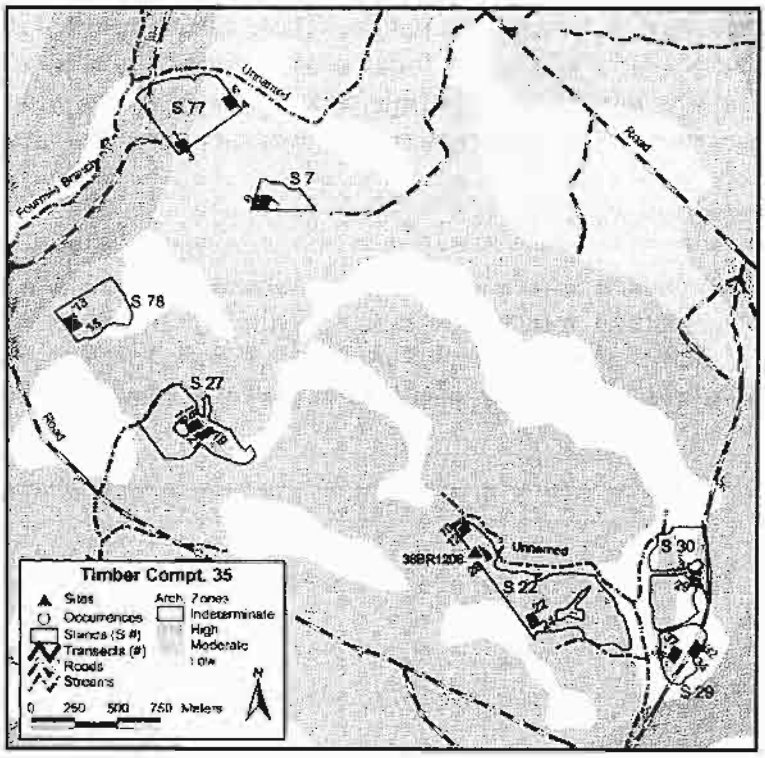


Figure 17. Timber Compartment 35 survey area.

during current USFS-SR timbering activities. Thus, there will be no adverse effect to this site.

Timber Compartment 36.

Archaeological survey of Timber Stands slated for clearcutting in Compartment 36 was conducted and reported during FY02 (SRARP 2002). Current survey involved the subsurface inspection of 2 proposed Log Deck locations totaling 2 acres in 2 Stands (Figure 1). Fieldwork consisted of a total of 18 STPs excavated at 30-m intervals along 6 transects (Figure 18). These efforts resulted in no positive STPS, and no further archaeological work was required in the project areas.

Timber Compartment 41.

Archaeological survey of Timber Stands slated for clearcutting in Compartment 41 was conducted and reported during FY01 (SRARP 2001). Current survey involved the subsurface inspection of 7 proposed Log Deck locations totaling 7.5 acres in 4 Stands (Figure 1). Fieldwork consisted of a total of 78 STPs (5 positive) excavated at 30-m intervals along single transects and during site delineation (Figure 19). One newly discovered site (38BR1202) was recorded during survey. Site 38BR1202 has been assigned an indeterminate status regarding NRHP eligibility until further testing and will

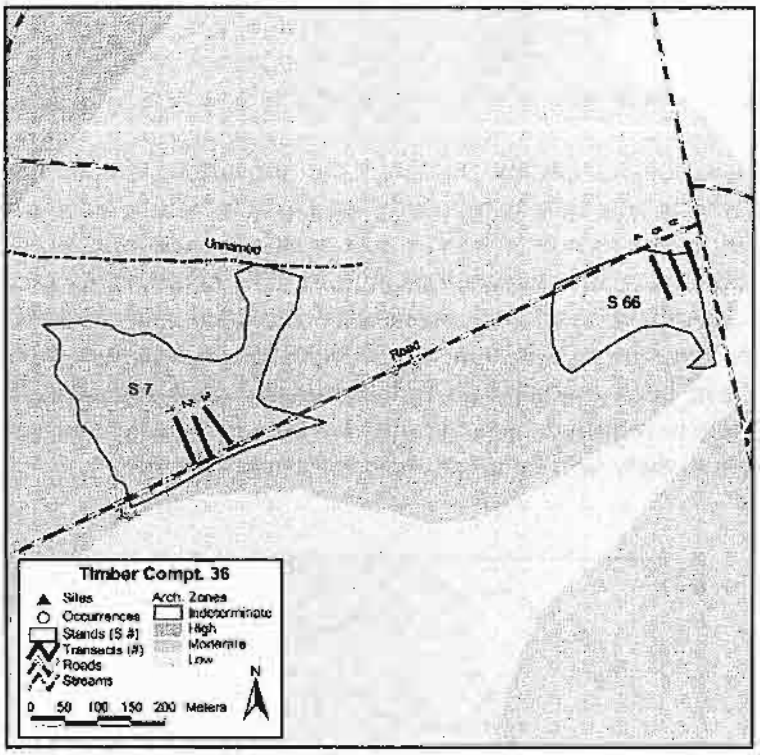


Figure 18. Timber Compartment 36 survey area.

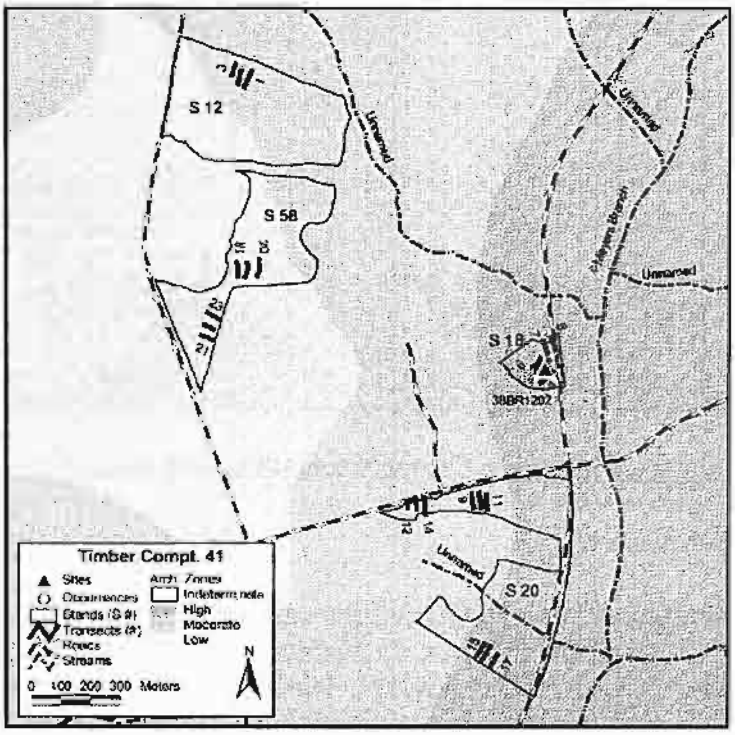


Figure 19. Timber Compartment 41 survey area.

be avoided during current USFS-SR timbering activities. Thus, there will be no adverse effect to this site.

Timber Compartment 48.

Archaeological survey involved the subsurface inspection of 2 Timber Stands slated for clearcutting and 3 proposed Log Deck locations for a total of 65 acres (Figure 1). Fieldwork consisted of 159 STPs (20 positive) excavated at 30-m intervals along 12 transects, and during site delineations (Figure 20). Three newly recorded sites (38AK968, 38AK969, 38AK971) and two previously recorded sites (38AK596, 38AK598) were surveyed for boundary definition. Sites 38AK596, 38AK598, 38AK968, 38AK969, and 38AK971 have been assigned an indeterminate status regarding NRHP eligibility until further testing is required, and all will be avoided during current USFS-SR timbering activities. Thus, there will be no adverse effect to these sites.

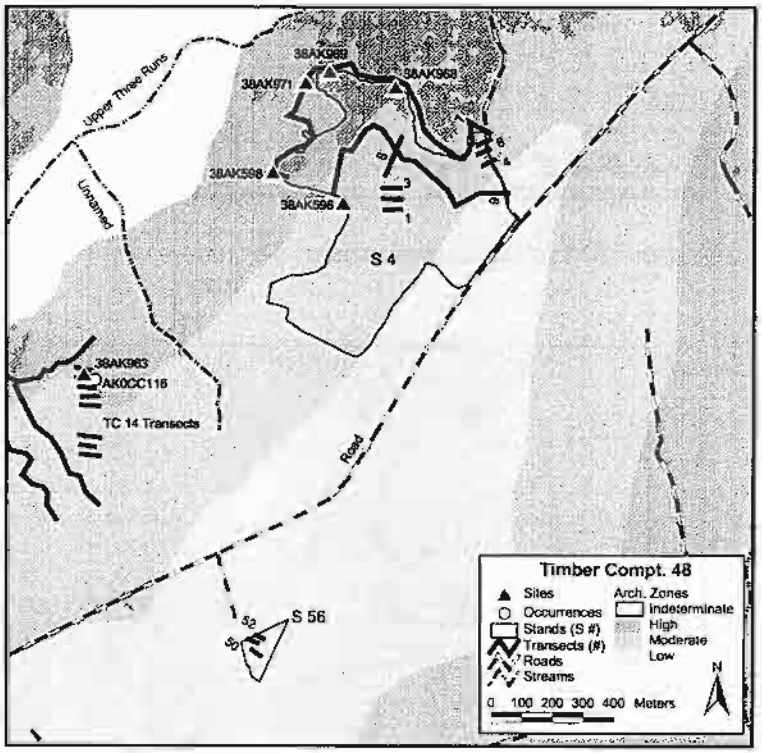


Figure 20. Timber Compartment 48 survey area.

Timber Compartment 49.

Archaeological survey involved the subsurface inspection of one 11-acre Timber Stand slated for clearcutting (Figure 1). Fieldwork consisted of 27 STPs excavated at 30-m intervals along 7 transects (Figure 21). These efforts resulted in no positive STPS, and no further archaeological work was required in the project area.

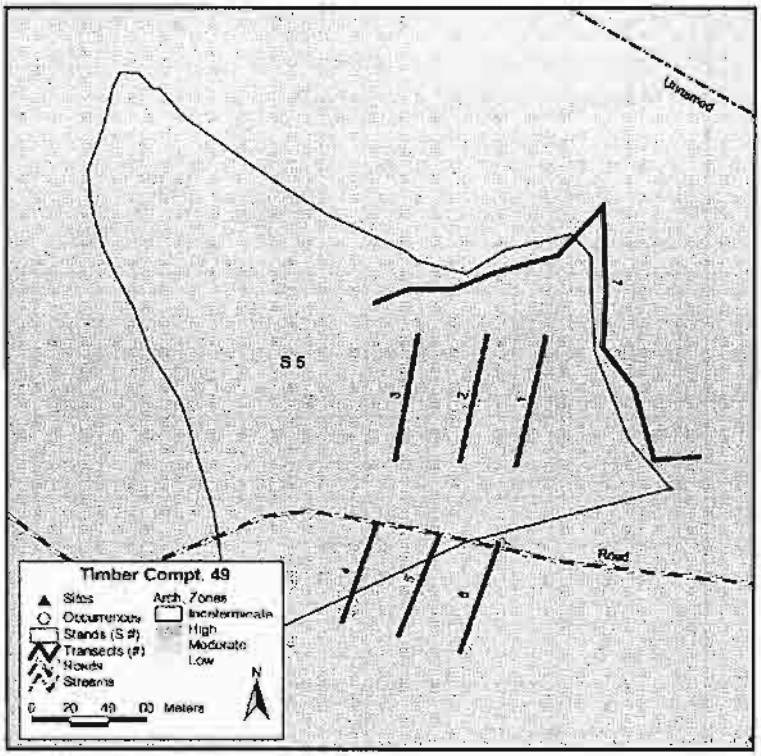


Figure 21. Timber Compartment 49 survey area.

Timber Compartment 50.

Archaeological survey involved the subsurface inspection of 4 Timber Stands slated for clearcutting and 6 proposed Log Deck locations for a total of 88 acres (Figure 1). Fieldwork consisted of 159 STPs (25 positive) excavated at 30-m intervals along 24 transects, and during site delineations (Figure 22). Two newly recorded sites (38AK973, 38AK974) and one previously recorded site (38AK168) were surveyed for boundary definition. Sites 38AK168, 38AK973, and 38AK974 have been assigned an indeterminate status regarding NRHP eligibility until further testing is required and will be avoided during current USFS-SR timbering activities. Thus, there will be no adverse effect to these sites.

Timber Compartment 67.

Archaeological survey of Timber Stands slated for clearcutting in Compartment 67 was conducted and reported during FY01 (SRARP 2001). Current survey involved the subsurface inspection of 3 proposed Log Deck locations totaling 3 acres in 2 Stands (Figure 1). Fieldwork consisted of a total of 48 STPs (4 positive) excavated at 30-m intervals along 9 transects and during site delineation (Figure 23). One newly discovered site (38AK972) was recorded during survey. Site 38AK972 has been assigned an indeterminate status regarding NRHP eligibility until further testing and will be avoided during current USFS-SR timbering activities. Thus, there will be no adverse effect to this site.

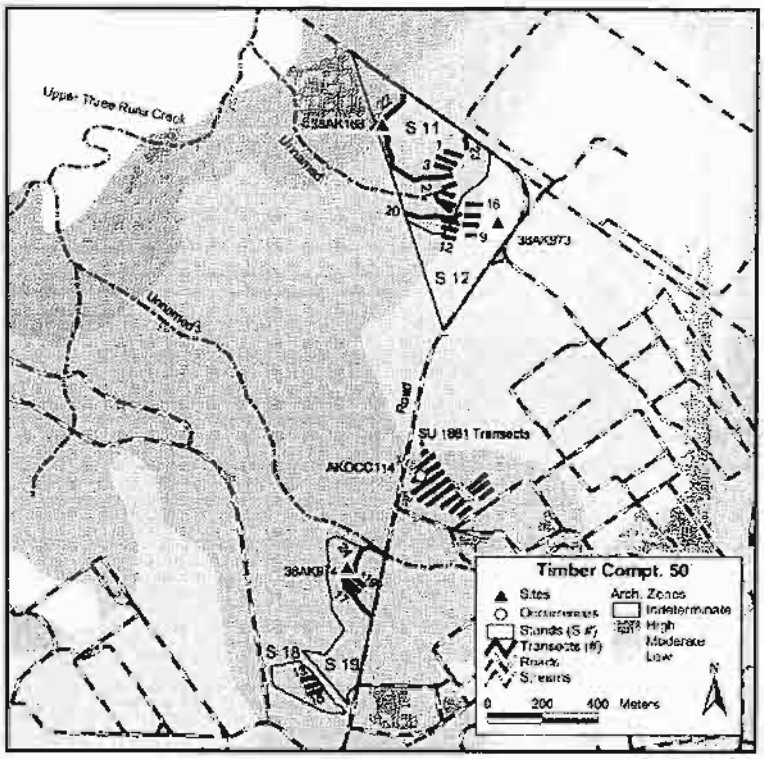


Figure 22. Timber Compartment 50 survey area.

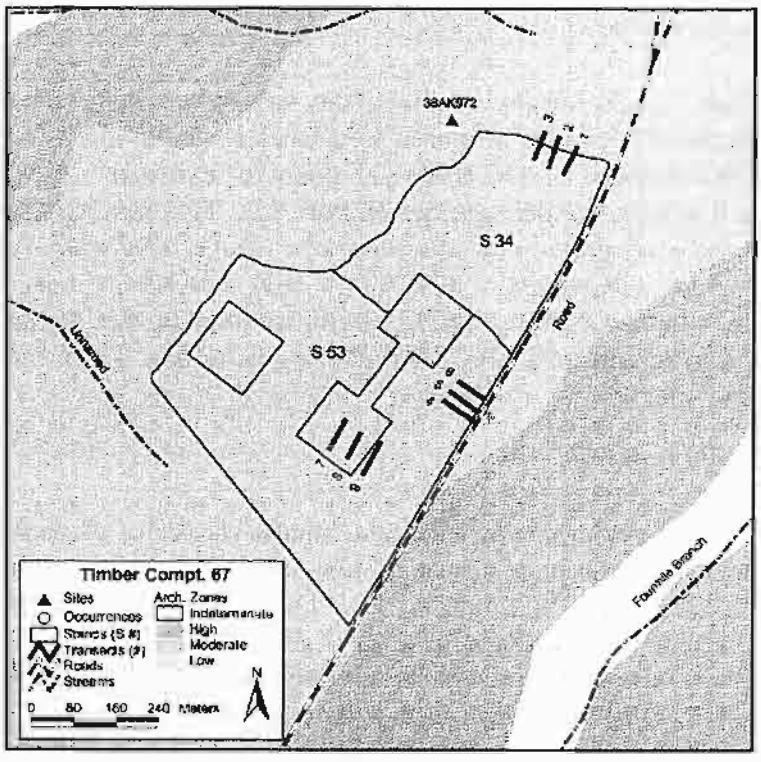


Figure 23. Timber Compartment 67 survey area.

Timber Compartment 84.

Archaeological survey of Timber Stands slated for clearcutting in Compartment 84 was conducted during FY02 (SRARP 2002) and FY03 (SRARP 2003). Current survey involved the subsurface inspection of 6 proposed Log Deck locations totaling 6 acres in 2 Stands (Figure 1). Fieldwork consisted of a total of 78 STPs (6 positive) excavated at 30-m intervals along 20 transects and during site delineation (Figure 24). Two newly discovered sites (38BR1204, 38BR1205) were recorded during survey. Both sites have been assigned an indeterminate status regarding NRHP eligibility until further testing and will be avoided during current USFS-SR timbering activities. Thus, there will be no adverse effect to these sites.

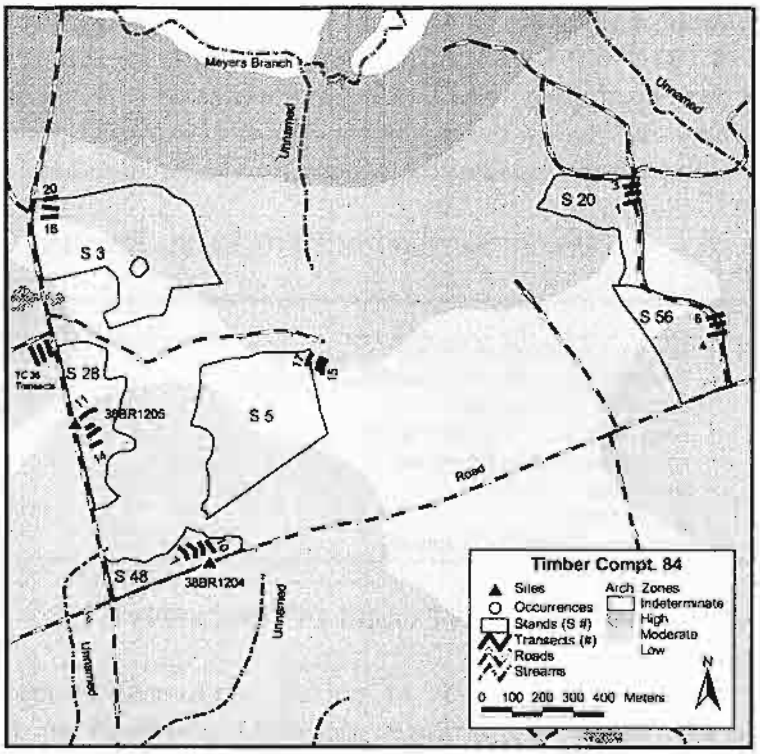


Figure 24. Timber Compartment 84 survey area.

Survey Results

Table 7 summarizes the results of FY07 compliance survey. Altogether, the SRARP investigated 25 archaeological sites this fiscal year. Eighteen of these are newly recorded, and seven are revisits to previously recorded sites. Of the total sites investigated during FY07, two are considered not eligible for inclusion in the NRHP. The remaining 23 sites have been assigned an indeterminate status, and each will be avoided by DOE contractors. In the event that any of these sites are threatened, further testing will be conducted to make a determination of eligibility. Seven isolated artifact occurrences were also recorded during FY07. Isolated finds are considered to hold low research potential. As such, there will be no adverse effects to these ephemeral resources through

DOE related activities. Summary data for new and existing sites are provided in Tables 1 and 2. Evaluations of these sites are provided in Table 3. Finally, a tabulation of isolated artifact occurrences by project type is provided in Table 4.

The SRARP surveyed a total of 494.5 acres in FY07 for 18 Site Use Permits and 13 Timber Compartment Prescriptions. Fifty-three acres (10.7%) of the total area surveyed involved Site Use Permit projects. An additional 441.5 acres (89.3%) of the total area surveyed for all projects in FY07 involved Timber Compartment Stands slated for harvesting or Log Deck use. Altogether, 1,961 STPs were excavated during FY07 surveys with 199 of these producing artifacts.

In regards to the Section 110 Regulatory process of inventorying all cultural resources on public lands, the SRARP has surveyed approximately 59,787 acres (31%) out of a total of 193,276 (97.4%) of SRS acreage suitable for survey (i.e., excluding SRS wetlands and developed areas, which altogether comprise 198,344 acres or 310 sq. mi.). These efforts have resulted in the inventory of 1,797 sites (883 prehistoric, 458 historic, and 456 with both prehistoric/historic components) recorded to date.

Table 7. Summary of FY07 Survey Results.

	FY07
Site Use Application Surveys	18
Timber Compartment Prescription Surveys	13
Total STPs Excavated	1,961
Total Positive STPs Excavated	199
Total Area Surveyed (acres)	494.5
New Sites	18
Site Revisits	7
Isolated Artifact Occurrences	7

CURATION COMPLIANCE ACTIVITIES

As a result of the analysis of artifacts recovered through daily compliance activities and the analysis of artifacts recovered during Phase III investigations of 38AK155, a total of 29,679 artifacts have been curated over the course of the past fiscal year. Survey level excavations conducted throughout the year account for 1,045 of these artifacts. A multi-component prehistoric site, 38AK155, was excavated during the end of FY04 and continued into FY05 in preparation for the proposed construction of the Surplus Plutonium Disposition Facilities (SPDF). Through the efforts of Volunteer Jill Trefz Nazarete, Research Assistant Emily Dale, and Staff Member Brenda Magouirk-Nelson, the primary analysis of the artifacts recovered from 38AK155 is now complete. This fiscal year, the trio analyzed 28,634 artifacts recovered from 38AK155.

THE SRARP ARCHAEOLOGICAL GEOGRAPHIC INFORMATION SYSTEM

Enhancements to the SRARP archaeological Geographic Information System (GIS) were planned with ESRI, Charlotte, NC. These enhancements will mark the transition from ArcGIS 9.1 to ArcGIS 9.2 and include a few fixes. The archaeological

point coverage was updated, and errors from previous records were corrected. The site-wide survey coverage and associated database are being added to the list of GIS resources with assistance from SRARP staff. The SRARP staff is also currently updating the curation and site files databases. The prehistoric and historic predictive models have been completed and will be under review and revision each fiscal year in the future. Ongoing interaction with the greater SRS-GIS community through the E&GIS Committee enabled us to update many SRS data layers that are maintained by other groups and agencies. The Database Integration Committee (DIC) continued the integration of the compliance, curation, and GIS/GPS data into the GeoDB while ironing out some technical wrinkles along the way.

MANAGEMENT OF COLD WAR-ERA CULTURAL RESOURCES

The SRARP continued its involvement with the SRS Cold War Artifact Selection Team. Members occasionally meet to discuss ongoing activities that relate to the legacy of SRS from the Cold War. We have also worked closely with the SRS Heritage Foundation on the development of a historic walking trail through the former town of Ellenton. The Heritage Foundation has spearheaded the drive to make this former town available for public tours. While the SRARP occasionally conducts tours of Ellenton, the Heritage Foundation seeks to establish either a guided or self-guided tour of the site and regular hours during which the area would be available for public access. Additionally, the Heritage Foundation is seeking grant funding for site preparation, trail markers, and signage along the tour route.

DOE COMPLIANCE SHORTFALLS AND FUTURE REQUIREMENTS

Overall, the DOE's record of compliance with CRM legislation has been excellent with the expert technical guidance of the SRARP. There is, however, one exception to this which concerns the curation of DOE archeological collections. Because of the nature of the facilities provided by DOE, full compliance with 36CFR79 has never been achieved. This regulation requires that all federally-owned archeological collections and associated documents be housed in a facility that has sufficient space for extant collections and meets stated requirements for security, environmental controls, and fire suppression. As was reported in the SRARP Annual Reports for FY93 through FY06, as well as in the SRARP appraisal of 1994 (DOE 1994) and the SRARP report to DOE (Brooks and Forehand 2002), Building 760-11G, which houses the SRARP, continues to be out of compliance with 36CFR79. Areas of DOE noncompliance include dedicated curation space, security, and environmental controls required by 36CFR79. The curation space, as it is currently configured, is not large enough to house existing artifact and document collections and cannot accommodate future additions that will be created by ongoing CRM activities.

For the DOE to be in compliance with 36CFR79 and meet growing space needs for the archaeological collection, the SRARP needs access to a facility with at least 3,500 sq. ft. of floor area that meets established regulatory requirements for security, climate control, and fire suppression. Because easy access to artifact and document collections is

essential for efficient long-term management of SRS cultural resources, it is imperative that this facility be located in close proximity to the SRARP administrative offices. Not only will the dedication of appropriate facilities bring DOE into compliance with federal regulations, it will also insure that DOE's extensive investment in its archaeological collection is protected. DOE made a concerted effort to address this problem in FY05 by conducting a study to select an existing building on the SRS to house not only the SRARP and DOE's archaeological artifacts, but also the Cold War Era artifacts and associated curation staff.

On 1 June 2006, the Building 315-M Modification Scope of Work was signed. This document outlines two scenarios for converting Building 315-M into the SRS Curation Facility. Case A converts building 315-M into a 36CFR79 compliant facility by providing 3,600 sq. ft. of artifact storage for SRARP artifacts and 12,200 sq. ft. for Cold War artifacts. Three offices and an analysis area/working curation room would be incorporated to house personnel associated with the Cold War History Program, while offices for the SRARP personnel would continue to be housed in Building 760-11G. In addition to the aforementioned arrangement, Case B would provide housing and work areas for SRARP personnel, including a primary analysis area, a file/map storage area, equipment storage and maintenance areas, 2 secondary analysis areas, 2 wet labs, and 12 new offices. Engineers and design teams are still in the process of determining design elements and cost estimates regarding both scenarios.

SAFETY COMPLIANCE

During FY07, the SRARP continued compliance with federal and state regulations governing human health and safety. As Director of Safety, George Wingard shared a variety of topics pertaining to personal health and safety with the staff at meetings held throughout the year.

The topics included:

October	*Poisonous Plant Safety*
November	*Holiday Safety*
January	*CAT and Badge Renewal*
February	*General Safety Topics*
March	*Home Safety*
April	*Assorted: Insects, Poisonous Plants, Snakes*
May	*Handling the Heat*
June	*General Workspace Safety*
August	*Home Ergonomics*

In June, SRARP staff members participated in the SRS Safety Conference held at the USC-Aiken campus. The SRARP presented a display on underwater archaeology as well as documents based on archaeological safety. While attending the conference, SRARP staffers also had the opportunity to visit the other displays regarding safety at work and home.

PART II. RESEARCH

RESEARCH ABSTRACTS

Sedimentology and Ages of Carolina Bay Sand Rims

Andrew H. Ivester, Mark J. Brooks, and Barbara E. Taylor

Invited paper presented at the 56th Annual Meeting of the Southeastern Section of the Geological Society of America, Savannah, GA

The eastern and southeastern margins of Carolina bays are commonly bordered by single or multiple, laterally separated shorelines and sand rims, documenting fluctuating lake levels and episodic shoreline stability. These sand rims consist of a combination of eolian and underlying or laterally adjacent shore face sediments. Water-lain pebbles intercalated with eolian sands indicate that these are typical shoreline deposits resulting from fluctuations in water level. Some rims are too subtle to distinguish visually in the field, but can be seen on aerial photography by differences in soil, vegetation, and topography. Optically stimulated luminescence ages of bay rims sampled in Georgia and South Carolina reveal clustering of dates for rim formation and activity during and just prior to stadials over the past 130 ka. At individual bays where concentric rims occur, dating has established that rims are progressively younger toward the center of the bay, reflecting a regressive sequence and confirming that bays are not single-event features but evolve as a result of processes active episodically over a long period of time. Active shorelines and associated eolian deposition occurred during marine isotope stage (MIS) 2 to late MIS 3 (~12 to 50 ka), MIS 4 to very late MIS 5 (60-80 ka), and late MIS 6 (120-140 ka) based on a cumulative total of 45 OSL dates. These age ranges also correspond with the ages of other eolian landforms in the Coastal Plain, including sand sheets and dunefields, and suggest a climatic threshold was crossed during the transition toward glacial stadials, initiating both bay and dune activity. In addition to these age ranges, some OSL dates indicate that bays also were active during the Holocene and Sangamon Interglacials. Sedimentology and archaeology of the upper few meters of bay rims suggest surface reworking by localized colluviation, eolian remobilization, and pedoturbation during the Holocene. Some of the ages represent this type of surface reworking. However, some of the interglacial ages, especially those of the early Holocene, are from sediments that suggest primary littoral or eolian deposition. Therefore certain combinations of bay water level and climatic conditions also allowed bay rim formation during interglacials.

Holocene Changes in Carolina Bays

Barbara E. Taylor, Mark J. Brooks, and Andrew H. Ivester

Invited paper presented at the 56th Annual Meeting of the Southeastern Section of the Geological Society of America, Savannah, GA

The landscape of the southern Atlantic Coastal Plain has changed profoundly during the Holocene. The coastline shifted with eustatic rise in sea level. In the interior, changes in

climate altered fluvial discharge patterns, shifted the dominant upland vegetation from oak to pine, and established numerous wetlands, including isolated wetlands in Carolina bays and other shallow basins. Paleoenvironmental records from Carolina bays provide evidence for changes in both the landscape and the wetlands. We review evidence for the timing of these transitions and consider implications for development of modern aquatic communities and response to future change.

Carolina bays are shallow, oval, oriented basins; many have distinctive sand rims. Most of the basins contain wetlands. Their organic sediments typically yield Holocene or late Pleistocene basal dates, although OSL dates from bay rims indicate much greater age. We infer that these basal dates reflect significant changes in environmental conditions. Modern records from the Savannah River Site (SRS) in South Carolina indicate that preservation of organic material requires inundation >50% of the year.

Radiocarbon dates from two wetlands on the SRS suggest that the modern hydrological regimes were established recently, but that the transitions to moist, low energy conditions began in the mid-Holocene. At Flamingo Bay, the deepest part of the basin has been paludified since ~4,500 radiocarbon yr B.P., with significant expansions at ~3,100 and ~300-230 radiocarbon yr B.P. Modern precipitation averages 120 cm annually. A hydrologic model, based on a 20-yr hydrograph for the bay, suggests a prolonged episode of ~100 cm annual precipitation prior to the latest transition. Prior to the mid-Holocene date, precipitation may have been <80 cm annually.

Plant and animal communities, as well as human use, respond strongly to hydrologic conditions in the wetlands. For example, we estimate that marbled salamanders can currently breed in ~80 of 371 Carolina bays and other isolated wetlands on the SRS. A return to the drier conditions that may have prevailed prior to the mid-Holocene would reduce significantly this number; moister conditions predicted by a global warming scenario would greatly increase it.

Geophysical Prospection and Archaeological Investigations at Silver Bluff (38AK7): In Search of George Galphin's Trading Post

Tammy F. Herron & Robert Moon

Poster presented at the 40th Annual Conference on Historical and Underwater Archaeology, Williamsburg, VA

Located on the Silver Bluff Audubon Center & Sanctuary near Jackson, South Carolina, the George Galphin site was once the location of a bustling colonial trading post, frontier fort, and plantation bordering the banks of the Savannah River. As part of a study funded by the Strategic Environmental Research and Development Program, geophysical surveys were conducted on four sites in North America to explore the benefits of employing multiple remote sensing techniques to detect subsurface archaeological features. Chosen as one of those four sites, geophysical prospection and archaeological excavations at the Galphin site are providing information to help reconstruct what an 18th-century trading post and plantation in the South Carolina backcountry would have looked like on the

ground. This poster provides a history of the Galphin site and an overview of the noninvasive testing surveys and archaeological fieldwork conducted to date.

A Discursive Archaeology of Gottes Acker, 1771-1815: Landscape, Language and the Ideology of Death in a New Moravian World.

Geoffrey R. Hughes

Paper presented at the 40th Annual Conference on Historical and Underwater Archaeology, Williamsburg, VA

This paper explores the discursive negotiation of social difference within the Moravian graveyard of Winston-Salem, North Carolina. By contextualizing official church representations of the graveyard, recreating its spatial evolution and analyzing gravestone inscriptions, the impact of the church's ideology and gendered social organization is revealed. Counter to a stated policy of sequential interment, an examination of spatial patterning uncovers a transient form of segregation surrounding three subpopulations: church members living outside Salem, African-American women, and the victims of epidemic disease. Furthermore, linguistic analysis of gravestones highlights the differential representation of identity within Salem's greater church family. Ultimately, a discursive archaeology of God's Acre examines the graveyard as a product of negotiation; a shifting discourse on identity and difference that exists between documents, landscape, language, and ideology.

Resolving Interaction Networks in Eastern North America

David G. Anderson, J. Christopher Gillam, Christopher Carr, Thomas E. Emerson, and Jon L. Gibson

Paper presented at the 72nd Annual Meeting of the Society for American Archaeology, Austin, TX

Native American trails were documented crisscrossing Eastern North America in the centuries following European contact. Factors shaping the occurrence and antiquity of these transportation and communication arteries are explored using least-cost pathway analyses, linking archaeological sites, artifacts, and raw material source areas at three periods in prehistory: Mississippian Cahokia, Middle Woodland Ohio and Havana Hopewell, and Late Archaic Poverty Point. The routes, mechanisms, and directions of interaction changed appreciably over time, and were influenced by the ways people were distributed and organized on the landscape. Evaluating the plausibility of mapped historic trails is an additional benefit of the research.

Modeling Human Culture and Adaptation with Regional and Continental Scale Archaeological Databases

David G. Anderson, J. Christopher Gillam, Scott C. Meeks, D. Shane Miller, Jason O'Donoughue, and Stephen J. Yerka

Invited presentation for the international workshop and conference, Mapping Culture: Geographical Information Systems in the Human Sciences, Lund University, Sweden

Paleoindian site and artifact data, including locational data on the occurrence of more than 20,000 projectile points, are used to plot the distribution of a number of classic forms across North America. The Paleoindian Database of the Americas (PIDBA) dataset, an ongoing cooperative effort, is posted online and includes measurement data for several thousand Paleoindian artifacts, mostly projectile points, blades, and other tool types. The data are amenable to analyses with other datasets, including climate, paleogeographic, and paleovegetational information. Examples of this research encompass what might be considered very large hemispherical or global scale predictive modeling.

Integrating Archaeology and GIS for Data Distribution and Analyses beyond the Regional Scale

J. Christopher Gillam

Invited presentation for the NSF-funded workshop and conference entitled, A Distributed Network Approach for Integrating and Accessing the Archaeological Record, at the University of Kansas, Lawrence, KS

The design, distribution, and analysis of archaeological and geographic datasets at the continental, hemispheric, and global scales of analysis, present many challenges and prospects for understanding past cultural systems. Analyses of the Far East Archaeological Database (FEAD) and the Paleoindian Database of the Americas (PIDBA) datasets highlight the limitations, benefits, and potential of integrating geo-referenced archaeological data with global-scale geographic and environmental data.

Intro to Archaeological Modeling with DesktopGARP (Genetic Algorithm for Rule-Set Production): A Freeware Ecological Niche Modeling Program

J. Christopher Gillam

Invited presentation for the international workshop and conference, Mapping Culture: Geographical Information Systems in the Human Sciences, Lund University, Sweden

A tutorial on the use and benefits of the DesktopGARP freeware application for archaeological modeling with examples using data from the Far East Archaeological Database (FEAD) and Paleoindian Database of the Americas (PIDBA). Introduction to the file formats required for input of archaeological and other GIS data, analytical options, and interpretation of statistical and geographic data outputs. Comparison of the genetic algorithm to more traditional univariate and multivariate statistical techniques highlights the strengths and weaknesses of the application.

Least-Cost Paths and Cost Surfaces for Exploring Migration Corridors

J. Christopher Gillam

Invited presentation for the international workshop and conference, Mapping Culture: Geographical Information Systems in the Human Sciences, Lund University, Sweden

An examination of the methods, limitations, and benefits of least-cost path and cost surface analyses for understanding a variety of cultural processes, such as migration, interaction, and exchange. Methods for generating cost surfaces representing landscape slope, flow accumulation, and caloric cost of movement are explored and variation in least-cost path output based upon those cost surfaces are explained with examples from the Americas and Russian Far East.

The Development of GIS in North American Archaeology

J. Christopher Gillam

Invited presentation for the international workshop and conference, Mapping Culture: Geographical Information Systems in the Human Sciences, Lund University, Sweden

The development of GIS in North America now spans three decades and parallels closely the needs of cultural resources management on large state- and federally-owned lands in the U.S. and Canada. Often restricted to database management and predictive modeling and rarely seen as contributions to peer-reviewed journals, the U.S. had fallen behind the developments in Europe based upon Landscape Archaeology of the 1990s. The development of new modeling techniques, algorithms, and statistical methods are currently yielding renewed interest in GIS in the U.S. as it expands into more problem-oriented research within the Americas.

Landscape, Time, and Adaptation in the Interior Coastal Plain: Multivariate Prediction and Site Location along the Central Savannah River

J. Christopher Gillam

Paper presented at the 63rd Annual Meeting of the Southeastern Archaeological Conference, Little Rock, AR

Analysis of site context on the Savannah River reveals a remarkable pattern of continuity in site location preference throughout prehistory. Although multi-component sites are common, expectations that significant variation in land-use over time as adaptations shifted from hunting and gathering to more sedentary horticultural and agricultural practices, were not reflected in the environmental context of sites recorded by intensive surveys. This pattern enabled the development of a single prehistoric predictive model for land-use management and highlights the need for more intensive excavation of sites to explore assumptions related to landscape, time, and adaptation in the Interior Coastal Plain.

More than Dots on Maps: Developing a GIS Database for the La Plata Basin

J. Christopher Gillam and José Iriarte

Invited presentation for the international workshop and conference, Mapping Culture: Geographical Information Systems in the Human Sciences, Lund University, Sweden

As part of ongoing research in the upper reaches of the La Plata Basin, archaeological data are being integrated into a GIS database for information management, analysis, cartographic modeling and mapping. The database will serve as a model for developing a basin-wide archaeological inventory with other archaeologists conducting research in the Southern Cone of South America.

The Far East Archaeological Database (FEAD): A Minimum 1-Minute Resolution Dataset for Exploring the Big Picture

J. Christopher Gillam and Andrei V. Tabarev

Paper presented at the 72nd Annual Meeting of the Society for American Archaeology, Austin, TX

The Far East Archaeological Database (FEAD) is being developed from site location data in the published literature and through individual and institutional collaborations to provide a minimum 1-minute latitude/longitude (2-kilometers or better) resolution archaeological dataset for exploring patterns of settlement, migration, interaction, and exchange at regional and greater scales of analysis. Combined with global-scale environmental data, such datasets and Geographic Information System (GIS) analyses offer great potential for investigating fundamental problems in the archaeology of the Far East, neighboring regions, and worldwide.

Geographic Information Systems and Predictive Modeling: Prospects for Far East Archaeology

J. Christopher Gillam and Andrei Tabarev

Invited paper for the international symposium, Jomon Peoples and their Neighbors, held at Kokugakuin University, Tokyo, Japan

There are many applications of GIS in archaeology in addition to the common functions of site file information management, mapping, and site prediction. Less common, but useful applications include map modeling techniques for exploring settlement, migration, interaction, and exchange networks and prehistoric economy, such as caloric cost modeling, least-cost path analyses, and territory models. An empirically-based, GIS modeling system can do far more than tell one where sites might be, it can be used to investigate some of the most fundamental problems facing archaeology in the region today.

Exploring Settlement Systems and Ecological Niches of Early Hunters in Uruguay

Rafael Suárez and J. Christopher Gillam

The 4th International Meeting on Archaeological Theory in South America, World Archaeological Congress (WAC), Catamarca, Argentina

For decades, archaeologists working on late Pleistocene and early Holocene sites have debated the origin of the first human exploration and colonization of the Americas. Since the 1960s, sites in Uruguay along the Catalán Chico tributary and Cuareim river contributed to the discussion, beginning with the pioneering works of Antonio Taddei, Jorge Chebataroff, and Marcelo Bórmida. Current research explores mobility, organization of technology, social interaction, territoriality, climate, and the ecological niches used by early hunters of this period.

The methodology presented here involves two scales of analysis: micro-regional and regional. On the micro-regional or local scale, most site excavations are located in northwest Uruguay within the Cuareim River Basin. Site survey of the Pay Paso archaeological-paleontological locality has revealed nine sites of interest. At Pay Paso 1, an area of 115 sq. meters has been excavated, allowing the definition of key aspects of the prehistoric landscape that started at the end of the Pleistocene and continued until the early Holocene. The definition of three cultural components with AMS dates of ca. 11000, 10600-10200, and 9600 years BP (uncalibrated; n=28 samples), one with associated Pleistocene fauna, has allowed us to correlate prior findings throughout much of Uruguay. Petrographic analyses of recent discoveries in the archaeological locality of the Catalán Chico tributary (upper reach of the Cuareim River), define and correlate patterns in the transport and mobility of tools from the quarry to other sites in the region.

At the regional scale, the archaeological data are being integrated in a Geographic Information System (GIS) for predictive analyses and cartographic modeling. The GIS includes elevation and bathymetric data that allow reconstruction of the paleo-Atlantic coastline. These data and other environmental GIS datasets enable us to model settlement systems, ecological niches, and to explore potential cultural interaction and exchange of resources used by the early cultures in Uruguay. These models can be projected onto neighboring regions of Brazil and Argentina, sharing a similar geographic and environmental setting, to shed further light on early prehistoric cultures of the Southern Cone.

Reconstructing Landscapes at George Galphin's Colonial Trading Post near Jackson, South Carolina

Robert Moon and Tammy F. Herron

Poster presented at the 63rd Annual Meeting of the Southeastern Archaeological Conference. Little Rock, AR

The Galphin site, a colonial period trading post in the South Carolina backcountry, has been a long-term research project of the Savannah River Archaeological Research Program (SRARP). Recently the site underwent intensive back-hoe trenching as part of a remote sensing project conducted by the Engineer Research and Development Center-Construction Engineering Research Laboratory (ERDC-CERL) funded through the Strategic Environmental Research and Development Program (SERDP). A technical report on these excavations was published earlier this year by the SRARP, and the results will be included in a forthcoming report on the overall effectiveness of remote sensing by

the ERDC-CERL team. This poster will look at the SRARP attempts to define living surfaces by reconstructing the historic occupation areas based on the profile and plan maps completed during the excavations.

Where's the Chief? Multiple Groups, Overlapping Symbols in Etowah's Mound C

Adam King and Farrah L. Brown

Invited paper presented at the 63rd Annual Meeting of the Southeastern Archaeological Conference, Little Rock, AR

As systematic study of Etowah's Mound C continues, it is becoming ever clearer that the burials and artifacts placed into it do not reflect a simple, hierarchical ranking system. I attempt to illustrate this point by examining the distribution of key artifact forms and symbols in the mound. What becomes clear is that the burials in Mound C reflect a social system where multiple groups had rights to burial in the mound and drew upon multiple and overlapping sets of symbols. I explore the possibility that the distribution of burials reflects Mississippian conceptions of the cosmos, as reconstructed by Lankford, Reilly, and others.

Labor Patterns, Scales of Surplus, and Centralized Society in the Middle Savannah River Valley

Keith Stephenson and Adam King

Invited paper presented at the 72nd Annual Meeting of the Society for American Archaeology, Austin, TX

The nature of the chiefdoms of the middle Savannah River valley have been the subject of scholarly inquiry since David Anderson published his influential volume on Chiefdoms of the Savannah Valley. In 1998 we initiated a long-term research project designed to explore those chiefdoms. In our first decade, most of our efforts have focused on building chronology and establishing the histories of the area's mound towns. Our initial goal has been to integrate the history of those centers with good settlement data from decades of work on the Savannah River site. While that work is still ongoing, we have generated enough information to begin to discuss our ideas on the emergence and nature of the chiefdoms in the region. In this paper, we use the perspective of political economy to approach the problem. Ultimately, we argue that long-standing labor patterns and resulting scales of surplus production, necessitated by life in the Aiken Plateau, fostered social contradictions making communally-oriented and decentralized societies more sustainable than hierarchical forms.

A Sacred Precinct on the Summit of Etowah's Mound A

Robert Sharp, Adam King, Chet Walker, Clay Schultz,
Kent Reilly, Johnnie Jacobs, and Tim Thompson

Paper presented at the 63rd Annual Meeting of the Southeastern Archaeological Conference, Little Rock, AR

In the summer of 2005 and 2006, a multi-institution team conducted a remote sensing survey of the summit of Etowah's Mound A. Mound A is the largest mound at the site

with a summit surface encompassing an acre. Data from ground penetrating radar, magnetism, and resistance all revealed the existence of several large buildings and associated open spaces creating what appears to be a sacred precinct on the summit surface. In this paper, we describe those buildings and compare them to known examples of Mississippian summit architecture.

Coastal Plain Chiefdoms of the Savannah River: Labor, History, and Hierarchy

Adam King and Keith Stephenson

Invited paper presented at the 63rd Annual Meeting of the Southeastern Archaeological Conference, Little Rock, AR

During the Late Woodland and Early Mississippian periods, the middle Savannah River valley was used by small, dispersed social groups subsisting through foraging and some food production. It was not until the Middle Mississippian period that the material markers of classic Southeastern ranked societies—mounds and elevated status reflected in burials—appeared in the area. In this paper we use labor patterns, surplus production, and the structure of mound towns to explore the emergence and structure of middle Savannah chiefdoms. We argue that the history and setting of the area selected against the formation of hierarchically structured chiefdoms.

Political Ecology of Swift Creek Societies in the Georgia Interior, ca. A.D. 200-900

Keith Stephenson

Invited paper presented at the 63rd Annual Meeting of the Southeastern Archaeological Conference, Little Rock, AR

Interior Georgia witnessed cultural modifications to the natural landscape for sociopolitical ends where mounds and civic-ceremonial buildings incorporated dispersed populations. Social gatherings and competitive feasting demanded material provisioning for surplus redistribution. Zooarchaeological and archaeobotanical remains indicate that labor allocation was ramped-up on a multiseasonal basis in a ceremonial mode of production. These feasts constituted "central arenas of social action" where debts were accumulated and institutionalized. Escalating social tensions and contradictions inherent in displays of conspicuous consumption transformed the relations of production. The post-A.D. 500 landscape of autonomous circular villages with central plazas saw labor productivity functioning within the domestic sphere.

A Report on the 1972 Excavations at the Shelly Mound, Pulaski County

Karen Smith and Keith Stephenson

Paper presented at the Annual Meeting of the Georgia Coastal Plain Archaeology Symposium, Douglas, GA

In early January 1972, two foresters with Georgia Kraft, Wayne Shelly and Billy Phillips, discovered the Shelly Mound after a clear-cut on a bluff fronting the Ocmulgee River in northern Pulaski County. Shelly notified Jack Walker, a National Park Service archaeologist at the Ocmulgee National Monument, who marshaled a reconnaissance. During weekends over the next several months, Walker, assisted by Shelly, Joe Murciak, Woody Williams, Don Smith, students from the University of Georgia, and members of the Middle Georgia Archaeological Society, conducted salvage excavations of the mound. Upon completion, the artifact collection, which consists most notably of over 50 partial and complete vessels recovered from a cache-like concentration on the east side of the mound, was sent to the Antonio J. Waring Lab in Carrollton, Georgia for permanent storage. Unfortunately, a description of the work at Shelly was never published, and knowledge of the Shelly Mound has been largely restricted to those who work in the Big Bend region, living on only in legend as a Weeden Island mortuary mound. In this paper, we reconstruct the 1972 salvage work, revisit the interpretation of Shelly as an interior coastal plain Weeden Island site, and attempt to place the mound in its proper chronological position using the occurrence of certain ceramic wares and the cross-dating of designs from other sites.

RESEARCH NOTES

Geoarchaeological and Paleoenvironmental Research in FY07

Mark J. Brooks and Barbara E. Taylor

Geoarchaeological and paleoenvironmental research continued in FY07 on the SRS and Ft. Jackson. Also discussed are two invited papers presented in a Carolina bay symposium with Andrew H. Ivester, HI Solutions, Inc, and involvement by Brooks in the Dunham's Bluff project near Conway, South Carolina. Additionally, Brooks continued to serve as a geoarchaeological consultant to Brockington and Associates for archaeological investigations at Mathis Pond, a Carolina bay in NW Aiken County, and as a graduate committee member to Chris Moore, East Carolina University, for his geoarchaeological doctoral dissertation research on the Tar River in North Carolina.

Flamingo Bay on the SRS

At Flamingo Bay, a Carolina bay on the SRS, artifact and sedimentological analyses are continuing on materials recovered from an 11 m^2 block excavation that was completed in FY06 at site 38AK469 (Brooks and Taylor 2006). The block was initiated in FY04 (Brooks and Taylor 2004), and captured an entire Early Archaic activity area identified earlier through systematic shovel testing (Brooks and Taylor 2003).

Also at 38AK469 in FY07, as part of a broader SRARP initiative to investigate a number of site types with remote sensing, Chet Walker of Archaeo-Geophysical Associates, LLC, conducted a survey using 1 m transect intervals over a 20 x 10 m area near the center of the site, immediately south of the site datum at 300N, 300E (Walker 2007). The instrumentation consisted of a GeoScan Research RM15 resistivity meter and

GSSI SIR-2000 Ground Penetrating Radar (GPR) with a 400 MHz dipole antenna. In the central portion of the quadrant, high pass filtered resistivity data show a positive resistence feature that corresponds roughly to an area of low amplitude reflections in the upper portions of the GPR data. In turn, a preliminary comparison with the archaeological data indicates a close correspondence with one of the five Early Archaic activity areas identified earlier (Brooks and Taylor 2003). Results to date of investigations at Flamingo Bay will be summarized in a chapter appearing in an updated synthesis of archaeological investigations on the SRS by the SRARP; the volume is tentatively scheduled for release in the fall 2007.

Ft. Jackson

With funding from the South Carolina Army National Guard at Ft. Jackson, 13 AMS radiocarbon dates have been obtained from a 133-cm long, 18 ka ^{14}C yr B.P. sediment core recovered from the stream-head basin immediately downslope of 38RD628 near Colonel's Creek (Taylor et al. 2003; Brooks and Taylor 2004, 2005, 2006; Brooks et al. 2005). Correlating the lithostratigraphic, biostratigraphic (pollen), and chronostratigraphic records from the core is providing new insights into the timing and rates of climate change. For example, the ~18 ka ^{14}C yr B.P. date fits well with radiocarbon dates of preserved basal and near basal organics from a number of Coastal Plain wetlands in South Carolina (Watts 1980; Brooks 1992; M. Brooks and B. Taylor, unpublished data; Hussey 1993; Cohen et al. 2004), indicating the onset of somewhat moister conditions beginning about 20-18 ka ^{14}C yr B.P.; this may reflect an "earlier-than-expected" transition in the area from the cooler and drier conditions of the Last Glacial Maximum (LGM).

The core data also provide a more refined insight into the timing of the mid-Holocene shift from oak to pine dominance. For nearby White Pond, Watts (1980) suggested that pine gradually increased at the expense of oak, and assumed dominance at about 7000 ^{14}C yr B.P. Because his most recent radiocarbon date was ~9500 ^{14}C yr B.P., the timing and rate of change were interpolated based on the assumption of constant sedimentation rates. However, to the contrary, our more refined chronology and clear stratigraphic boundaries indicate that the shift was actually rather abrupt, and occurred between 6600 and 6400 ^{14}C yr B.P. A paper is being prepared for submission to *Southeastern Geology*.

Invited Papers on Carolina Bays

Two invited papers were presented in Savannah at a Carolina bay symposium (Geology and Ecology of Carolina Bays) in March at the Southeastern Section Meeting of the Geological Society of America. In the paper on *Sedimentology and Ages of Carolina Bay Sand Rims*, our 45 OSL dates reveal that rim formation and activity has occurred over at least the past 130 ka, primarily during and just prior to glacial stadials. The sand rims are typical shoreline deposits resulting from fluctuations in water level. At individual bays where concentric sand rims occur, dating has established that rims are progressively younger toward the center of the bay, reflecting a regressive sequence.

Thus, contrary to the "Meteorite Theorists," this confirms that bays are not single-event features; they evolved episodically over a long period of time when a climatic threshold was crossed during the transition toward a glacial stadial.

In the paper on *Holocene Changes in Carolina Bays*, significant changes in environmental conditions were inferred from stratigraphy and radiocarbon dates obtained from basal organics in two Carolina bay basins on the SRS. The modern hydrological regimes were established recently, but the transition from shallow, high energy, open-water lakes to low energy, vegetated wetlands began in the mid-Holocene (~4500 ^{14}C yr B.P. at Flamingo Bay). In climatic terms, there are two possible ways to interpret the transition. One possibility is that there was a prolonged dry period (i.e., lake drawdown), followed by the establishment of emergent vegetation with the onset of moister conditions; however, neither the stratigraphic nor the regional hydrological data support the notion of a prolonged dry period (e.g., Brooks et al. 1986, 1989, 1996; Brooks and Sassaman 1990; Colquhoun et al. 1995; Goman and Leigh 2004). The sediments underlying the basal organics are not oxidized and the regional hydrological data suggest generally rising groundwater levels during that time. It seems more likely that basin infilling since the bays were last rejuvenated resulted in shoaling, which would have promoted a loss of energetics and the establishment of emergent vegetation. For Flamingo Bay, our OSL dates indicate that the last rejuvenation occurred at ~40 ka, during the transition toward the LGM.

While a prolonged dry period leading into the transition does not appear to be indicated, even short-term drying at a seasonal scale will promote the establishment of emergent vegetation in shallow water under low energy conditions. It is well known that moisture conditions fluctuate widely at a number of temporal scales, ranging down to decadal and seasonal (e.g., Colquhoun et al. 1995); however, evidence (e.g., oxidized sediments) of fluctuations at such short-term scales is much less likely to be produced or preserved in the geologic record. Thus, both possibilities could be partly correct. Maybe there was a drying interval, but much shorter than one might expect given the rather dramatic shift indicated by the stratigraphy. While a drying interval is not necessary for interpreting the transition, it would certainly have facilitated the processes inferred, and serves as a reminder that the absence of expected evidence (i.e., oxidized sediments) does not necessarily mean that the event did not occur.

Dunham's Bluff near Conway, South Carolina

In May, with Steve Smith (SCIAA), Paul Nystrom (DNR), and Sean Taylor (DNR), Brooks visited Dunham's Bluff, located on the Lower Coastal Plain near Conway, South Carolina. A possible redoubt associated with Francis Marion, the Swamp Fox, is located on the east side of the bluff, approximately 100 m north of the present channel of the PeeDee River. Dunham's Bluff is an erosional, upland remnant resulting from the lateral scour of the river. At issue is the natural vs. anthropogenic origin of a low, linear earthen feature immediately above, and in part along, the escarpment margin of the landform. The feature could be a natural levee or, alternatively, a man-made earthwork possibly associated with Francis Marion.

Natural levees are a kind of overbank deposit that forms parallel and immediately adjacent to active stream channels. The escarpment upon which the levee-like feature is situated was formed through lateral channel scour. Thus, at some time in the past, there was an active channel at what is now the toe of the escarpment. However, there are no apparent, relict channels in the bottomland hardwood floodplain adjacent to the escarpment. This suggests that both the escarpment and the feature, if it is a natural levee, must have formed prior to channel infilling associated with the establishment of the modern, meanderbelt floodplain ~4000-6000 radiocarbon years ago (e.g., Brooks et al. 1986; Brooks and Sassaman 1990).

It is noteworthy that the southern and northern ends of the levee-like feature curve upslope to the west away from the escarpment, suggesting that the feature was not formed by a once active channel running at the toe of the escarpment. In short, based on location and orientation, the feature does not appear to be channel-related.

Trenching the feature perpendicular to its length, down to the toe of the escarpment, was also informative. The exaggerated height-to-width ratio, and the abrupt, steep-angled margins of the feature suggest that it was artificially piled up, rather than deposited by water; in cross-section, the geometry of the feature resembles a symmetrical, bell-shaped curve, rather than a natural, channel-related levee, which should tend to be elevated (thicker) adjacent to the channel, becoming thinner and finer grained toward the flood basin.

The stratigraphic and sedimentological data likewise suggest human agency. Immediately below the feature is a well preserved, organically enriched, buried A soil horizon; this was the ground surface prior to the emplacement of the feature in question. The good preservation of the buried A Horizon is likely due to rapid burial by the fairly thick feature, which largely removed it from surficial biological activity and retarded the oxidation and leaching of organics. Away from the feature laterally, upslope and toward the toe of the escarpment, the buried A Horizon becomes obscured. The condition of the A Horizon below the feature, and the light colored sediments of the feature itself, suggest also that the feature is not old; it was likely deposited long after the establishment of the modern floodplain, which buried or infilled the channel segment at the toe of the escarpment, thereby precluding a subsequent channel-related origin for the feature. The likely young age of these surficial sediments contrasts with the much older, oxidized, reddish brown, clayey sand that starts about 10-20 cm below the buried A Horizon. The intervening 10-20 cm layer is a grey, sandy clay horizon, probably representing overbank sedimentation over the much older landform; the overlying buried A Horizon represents a period of relative land surface stability with respect to vertical accretion.

The sediments of the feature comprise a sandy clay or sandy clay loam, with the sands being quite fine. Although the feature seems a bit sandy for some types of overbank deposits, though not for a natural levee, the important point is that with no adjacent channel in the otherwise fine grained (cohesive silts and clays) surface horizons of the flood basin to the east, there has been no natural source for the sand since the

establishment of the modern floodplain. Another informative sediment characteristic of the feature is the reddish brown, clayey sand mottles, probably derived from the underlying material noted above. Thus, based on the lateral truncation of the buried A Horizon beyond the margins of the feature, and the sediment characteristics of the feature itself, it seems likely that the feature was produced by the removal of the immediately adjacent upslope and/or toe slope surficial horizons down to the top of the reddish brown clayey sand, and then piling them on top of the then extant surface (the buried A Horizon) along the margin of the landform above the escarpment.

In conclusion, the location, orientation, geometry, stratigraphy, sediments/soils, and probable young age of the earthen feature suggest that it is anthropogenic in origin. The location and orientation of the feature are consistent with the available archaeological and historical records (Steve Smith, pers. com.) for the area in suggesting that the feature could well be a redoubt attributable to Francis Marion. An AMS radiocarbon date from the buried A Horizon beneath the feature would be most informative in this regard.

NOTE: After the above was written, an AMS radiocarbon date of 430+/-40 ^{14}C yr B.P. [Beta-231776; 2 Sigma Calibration: Cal AD 1420 to 1500 (Cal BP 530 to 440) AND Cal AD1600 to 1610 (Cal BP 350 to 340)] was obtained from multiple pieces of charcoal. If the feature in question is indeed attributable to Francis Marion, then the radiocarbon date must be somewhat earlier than AD 1780, which is the date that the redoubt was built and the A Horizon would have been sealed; because the A Horizon was relatively stable with respect to deposition, but biologically active, mixed-age charcoal earlier than 1780 would be expected. Even variation in age of pieces of charcoal from a single old tree could produce the resulting age determination. Hence, this is a "good date" in that it is consistent with the interpretation that the earthen feature could well be attributable to Francis Marion.

The Uruguay Paleoindian Survey and Geographic Database

J. Christopher Gillam and Rafael Suárez

With funding from the Archaeological Research Trust and the University of South Carolina's Education Foundation, a collaborative archaeological survey of the first inhabitants of Uruguay began during this fiscal year with the Museum of Natural History and Anthropology, Montevideo. This research draws upon ongoing research on the peopling of the Americas by SRARP staff and will provide a basis for cross-cultural study of the Pleistocene-Holocene transition at similar latitudes for North and South America.

Similar to South Carolina, the archaeology of Ice Age/Pleistocene Paleoindian sites in Uruguay has seen many new discoveries in recent years (Figure 25). The Paleoindian Period of Uruguay is characterized by two early point types, Fishtail and Pay Paso, as well as by bifacial stone tools, preforms, blades, and formal uniface tools. The well-known Fishtail points, also known as Fell's Cave or Fell points elsewhere in the Southern

Cone, occur with- or without-fluting and are widely distributed in Uruguay (Figure 26; Suárez 2000). Pay Paso points, a recent point type from northwest Uruguay, have a triangular blade, a well-defined stem with concave base, and bilateral basal thinning (Figure 27; Suárez 2003).

Located between 30- to 35-degrees south latitude, one would think that the Ice Age environment of Uruguay would be similar to South Carolina which falls between 32- to 35-degrees north latitude. Yet, this is not the case at all. Uruguay's interior consists of gently rolling hills with low to moderate slopes, called Cuchillas, dissected by numerous rivers and streams. During the Pleistocene, this region was a more temperate grass- and shrub-land than today, with mixed deciduous forests bordering streams. This landscape would have provided diverse plants and animals for hunting and gathering by early people in an ever-changing environment. Unlike South Carolina, this landscape had more in common with the Plains Region of North America than the open boreal forests of our Atlantic Coast during the Ice Age. Similar to South Carolina, however, little is known about the coastal adaptations of these earliest cultures as the paleo-shoreline and coastal zone is now submerged over 60 miles (100 kilometers) east of the modern Atlantic coastline (Figure 28). Including the mouth of the La Plata Basin, the subsequent land loss for Uruguay is over 25-percent of that available to early hunter-gatherers at 11,000 radiocarbon years before present (11,000 C-14 years B.P.; app. -246 ft. or -75 m. below mean sea level; Gillam et al. 2006).

A collections survey to further document site location and cultural component information throughout the region is currently underway. In the first week of survey, Rafael recorded 12 new sites and 20 Paleoindian artifacts, including 13 Fishtail/Fell's Cave points, 5 Pay Paso points, 1 bifacial tool, and 2 unifacial tools! These data will supplement the 15 sites previously on record and yield new data on the distribution and context of these early sites (Figure 28). The data gathered in the survey are being integrated into a GIS database for analysis and modeling. The GIS includes environmental data from the Shuttle Radar Topography Mission (SRTM) 90-meter DEM, the GLOBE 1-kilometer resolution DEM dataset, the ETOPO2 4-kilometer resolution DEM data (ETOPO2 includes sea floor bathymetry), and VMAP. Numerous derivative datasets (e.g. slope, solar potential, and hydrologic models) have been developed from the SRTM 90-m DEM to enable GIS analyses of site location.

Statistical analysis and cartographic modeling techniques are being used to further examine the settlement systems and ecological niches of early hunter-gatherers, and to explore potential interaction and exchange networks throughout the region. For example, least-cost paths analyses are being used to examine potential trail networks within and between drainages and to and from key resources, such as stone quarries (e.g., Anderson and Gillam 2000; Gillam and Tabarev 2004, 2006). Likewise, results of the current collections survey will provide a statistically valid sample of sites that will be used for predictive modeling of site location and the identification of ecological niches exploited by early hunter-gatherers (e.g., Banks et al. 2006). This research is yielding new insights into early hunter-gatherer adaptations of the region and will be used to direct future field research in Uruguay and neighboring regions of South America.

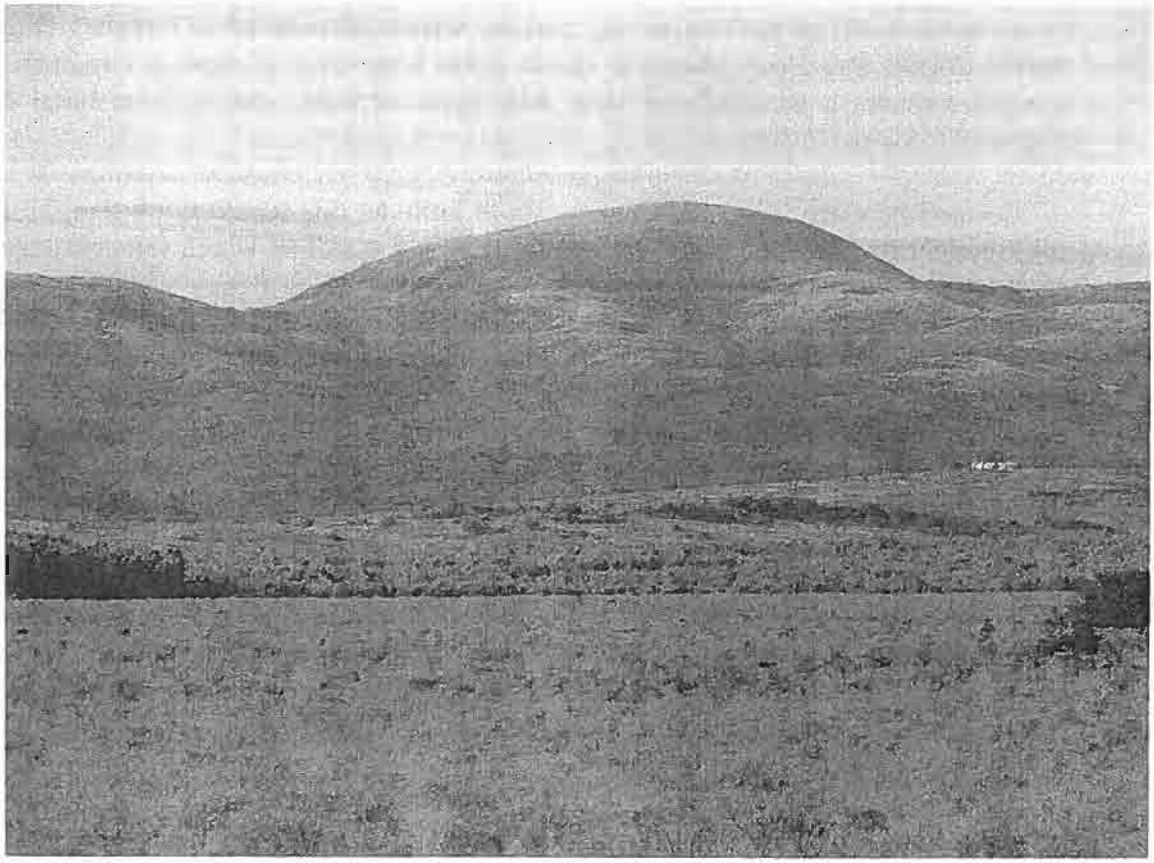
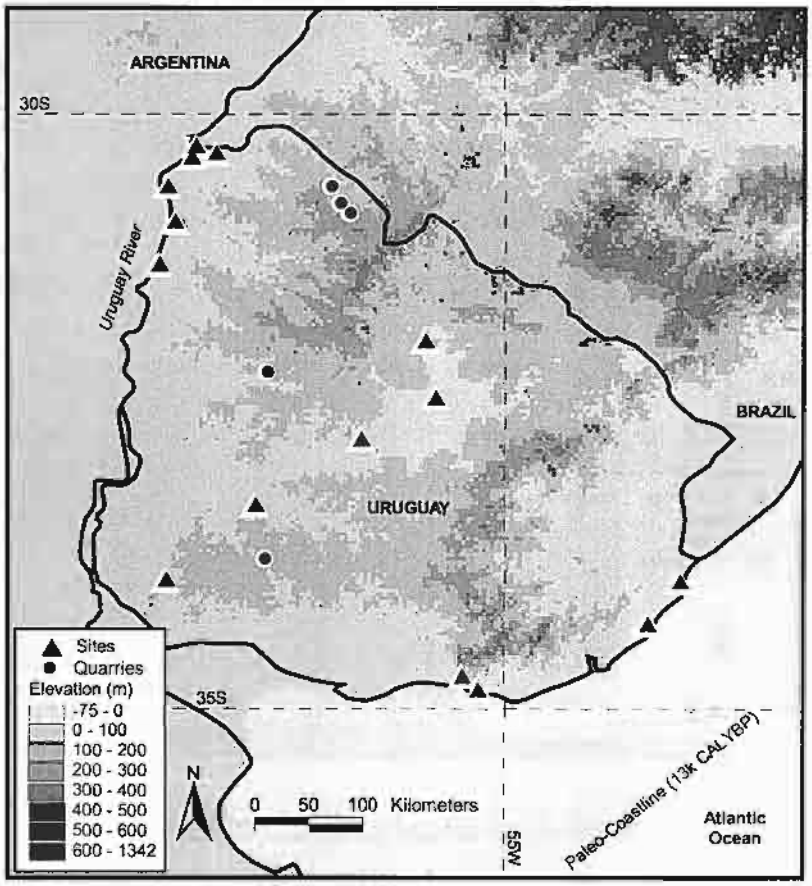


Figure 25. View of grass- and shrub-lands near Cerros Azules in southern Uruguay.

Figure 26. Fishtail point recently recorded in Uruguay, ca. 11,000 C-14 years B.P.


ARGENTINA
30S
Uruguay River
BRAZIL
URUGUAY
35S
Sites
Quarries
Elevation (m)
-75 - 0
0 - 100
100 - 200
200 - 300
300 - 400
400 - 500
500 - 600
600 - 1342
N
0 50 100 Kilometers
55W
Paleo-Coastline (13k CAL YBP)
Atlantic Ocean

Late Holocene Taquara/Itarare Site Distribution, Mound Architecture, and the Development of Socio-Political Complexity in Misiones Province, Argentina

José Iriarte, J. Christopher Gillam, and Oscar Marozzi

With grants from the National Geographic Society and Heinz Foundation, research on the site distribution, mound architecture, and social complexity of the late Holocene Taquara/Itarare Culture began during this fiscal year (Figure 29). In August 2006 and March 2007, test pit excavations, surface surveys, and geo-physical mapping at the prehistoric mound complex near El Dorado in Misiones Province, Argentina, revealed new information on the complex architecture and lifeway of this prehistoric culture.

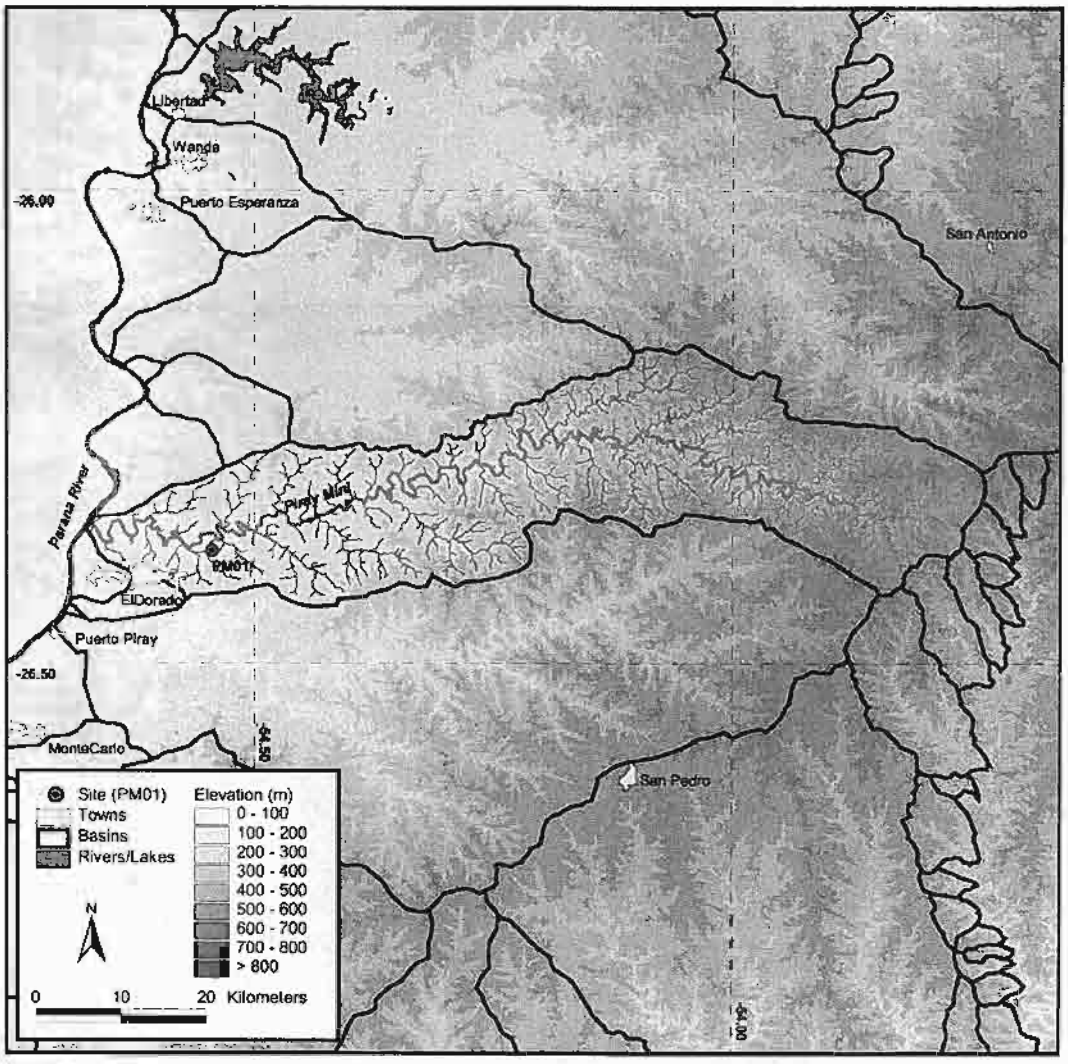


Figure 29. Location of the mound complex (PM01) in the Piray Mini Basin, Argentina.

Surprisingly, excavations in the central mound, approximately 20-m diameter x 2-m high, revealed no features of any kind, and only small artifacts of secondary deposition from mound construction were recovered. This suggests the possibility of a single stage of construction. The consistency of the region's ancient red soils and lack of cultural features or other debris in layers, precluded conclusive evidence of staged construction over time.

Conversely, excavations in the low, approximately one-half meter high, mounded ring surrounding the central mound revealed multiple stages of construction over a 300 year period (ca. 760-480 years B.P.), stone pavement on some construction layers, smudge pits, post molds, and hearth features; these suggest that this was a ritually-active feature of the mound complex (Figure 30). Small sherds were recovered, but these also appeared to be of secondary deposition or the remnants of broken vessels. No complete vessels were recovered. The zone between the central mound and earthen ring was devoid of artifacts and features, highlighting its significance as ritual space. Resistivity mapping in March 2007 confirmed the results of the test pits, with multiple features found within and outside of the earthen ring and no features between the ring and central mound.

Unfortunately, modern agricultural practices have leveled several adjacent mounded rings that once connected to the central mound and ring, in addition to destroying nearby ring features at sites within 2.5-kilometers of the central mound complex. Remnants of these features have been completely destroyed, as evidenced by stones and artifacts from former ring features found strewn throughout the local terrain. Fortunately, a portion of this complex was mapped in the mid-20th century before much of the damage was done. A 2.5-km catchment survey around the central mound has revealed habitation areas close to the river and adjacent streams. These adjacent sites highlight the significance of the locality for understanding the social dynamics of Taquara/Itarare culture throughout the region.

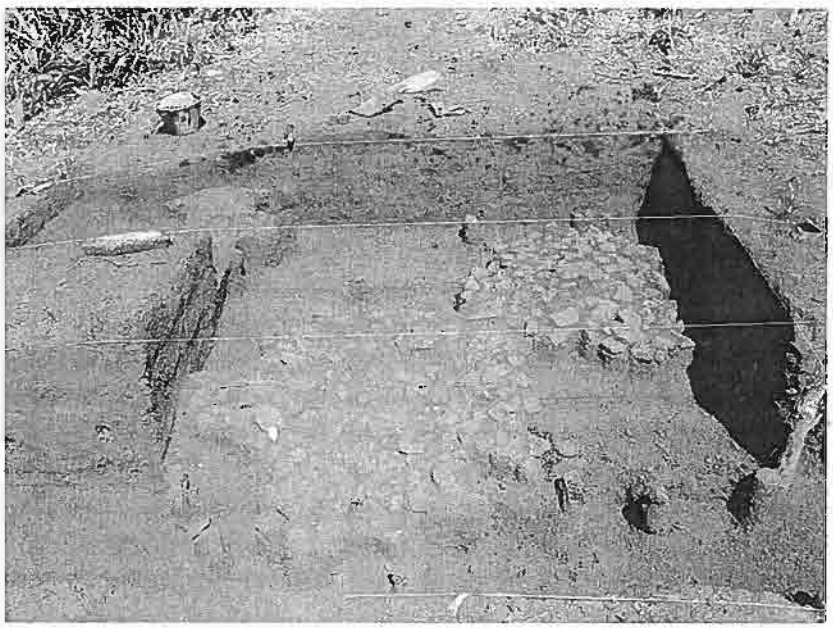


Figure 30. Stone features at the base of the mounded ring surrounding the central mound.

Further grants are being sought to conduct a survey of archaeological sites throughout the Piray Mini Basin and for additional excavations at the mound complex and adjacent habitation sites. The interior highlands, near the headwaters of the Piray Mini River, may have pit houses preserved that will yield considerable insight into the livelihoods and diet of this interesting culture.

The Shell Mound Archaic: There Is Much to Learn from Distant Shores, Cultures, and Colleagues

J. Christopher Gillam

Like the greater field of North American archaeology, researchers at SCIAA have witnessed many changes in method, theory, and interpretation in recent decades. On the horizon, I believe the rise of global perspectives on the past will be one of the more promising developments. There is much to be learned from distant shores, cultures, and colleagues. Cross-cultural comparisons and international collaborations will lead to a better understanding of past cultures, our ultimate goal as archaeologists.

So it was with great pleasure in February 2007 that the SRARP, SCIAA, USC, and the many other local, state, and federal agencies involved, hosted the visit of Dr. Kobayashi-sensai, Nishida-san, Miyao-san, and Miyauchi-san from Japan (Figure 31). Along with Becky Saunders of the LSU Museum of Natural Sciences, we explored the early pottery and shell mound sites of native cultures here in South Carolina (Figure 32). During the visit, we examined pottery and other artifacts from coastal shell ring and interior sites dating to approximately 3,200 to 4,200 years before present and toured several shell ring archaeological sites along the South Carolina coast including the Seewee, Fig Island, and Spanish Mount Shell Ring sites in Charleston County and the Sea Pines Shell Ring site in Beaufort County.

The greatest benefit of international collaboration is that learning is never one-sided. I am certain that I learned as much about Jomon Period archaeology in Japan, as well as gained a fresh perspective on our own prehistory from our discussions, as our friends and colleagues from Tokyo and Niigata did about the Late Archaic here in South Carolina. The idea that many of these shell ring sites may be simple extraction locations where shellfish were processed is an intriguing hypothesis. The large shell mound and linked hexagonal rings at Fig Island may be an exception, as noted by Nishida-san.

The circular (or hexagonal) rings of shell may therefore be a reflection of how space is organized for roasting the oysters, rather than being of some great symbolic meaning related to the cosmology of these ancient folk. I think it is likely related to both of these cultural systems, as organized space and cosmology are often found to correlate in prehistory, as well as modern cultures. It is clear that the ritual feasting hypothesis common in the Southeast needs greater scrutiny in future research. With certainty, our discussions highlighted the dire need for additional research at these sites.

A sense of urgency regarding research at coastal sites is furthered by the fact that many of them will be submerged in the decades ahead due to global warming and the corresponding rise of sea levels worldwide. This fact should be particularly helpful in seeking grants from funding agencies, such as NSF and the National Geographic, that are particularly keen on playing a role in site preservation and salvage archaeology. Regardless of the source of funding, I hope that future research will involve not only new hypotheses, but new colleagues from abroad to strengthen our breadth of interpretation.

The site visits in February were coordinated with the aid of the SC Department of Natural Resources, USDA Forest Service, Office of the State Archaeologist (OSA), SRARP, and Hilton Head Island's Sea Pines Plantation and Community Services Associates, Inc. I would like to thank everyone involved who made their visit such a great success! We hope that our friends and colleagues from Japan will return to contribute to a greater understanding of the Southeast's past as many questions remain open about our region's distant cultures.

Figure 31. Examining Late Archaic artifacts from shell ring and interior sites at SCIAA (from left: Yastami NISHIDA (Niigata Pref. Museum), Toru MIYAO (Niigata Pref. Museum), Tatsuo KOBAYASHI (Kokugakuin University/Niigata Pref. Museum), Chris Gillam (SRARP), and Nobuo MIYAUCHI (Niigata Pref. Museum).

Figure 32. Visiting the Fig Island Shell Ring (from left: Becky Saunders (LSU), Toru MIYAO (Niigata Pref. Museum), Chester Depratter (SCIAA), Nobuo MIYAUCHI (Niigata Pref. Museum), Tatsuo KOBAYASHI (Kokugakuin University/Niigata Pref. Museum), Joanna Casey (USC), Chris Gillam (SRARP), Sean Taylor (SC DNR), Yastami NISHIDA (Niigata Pref. Museum).

The Far East Archaeological Database (FEAD):
A Minimum 1-Minute Resolution Dataset for Exploring the Big Picture
J. Christopher Gillam and Andrei V. Tabarev

The development of the Far East Archaeological Database (FEAD) is an ongoing process of individual and institutional collaborations for sharing archaeological site location and cultural data, as well as focused literature review for extracting published tabular data and maps (e.g., Vasil'ev et al. 2002). To date, the primary effort has been on the Late Paleolithic of the Far East, particularly the Russian Far East, Siberia, and Japan. The database is expanding both temporally and geographically as members are added to the research team and new data are shared.

Currently, there are over 300 Late Paleolithic sites, most with associated C-14 and cultural affiliation data at a minimum spatial resolution of 1-minute of latitude and longitude (approximately 2-km resolution). These data are applicable to regional and greater scales of analysis and can be distributed over the web without concern for site protection due to the low resolution of the site location information. As such, a web-enabled interface will be developed for future data sharing and collaboration that will

provide a valuable dataset for research specialists and degree candidates at institutions worldwide.

There are many available applications of GIS for archaeological databases such as FEAD. The most common functions include site file information management, mapping, and site prediction. Less common but useful applications include map modeling techniques for exploring settlement, migration, interaction, and exchange networks and prehistoric economy, such as caloric cost modeling, least-cost path analyses, and territory models.

Several applications of GIS modeling with FEAD have highlighted its development (e.g., Anderson and Gillam 2004). For example, we have examined the potential paths of obsidian trade in the Russian Far East using the GTOPO30 DEM with site and quarry locations from the FEAD database (Figure 33; Gillam and Tabarev 2004, 2006; Kuzmin et al. 2002; Tabarev and Gillam 2003). Likewise, least-cost path analyses to the nearest obsidian source from each habitation site provides insight into potential group territories.

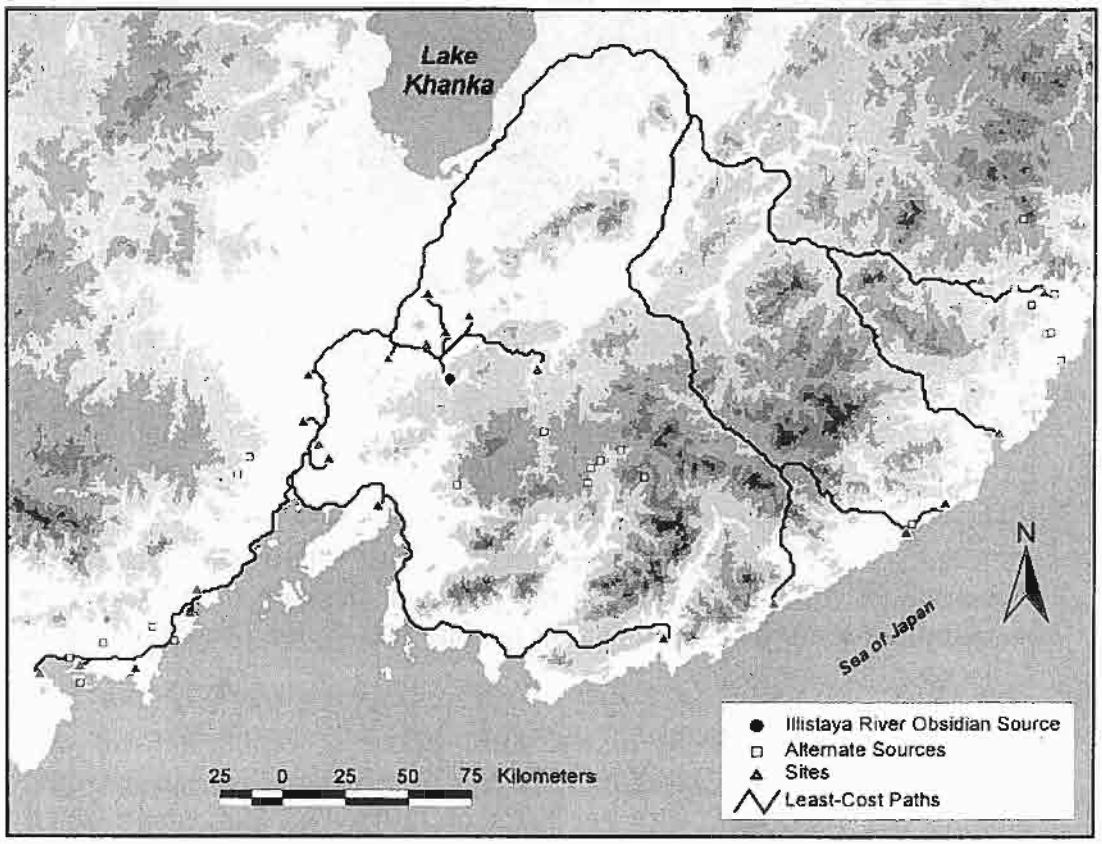


FIGURE 33. A FEAD-based, least-cost paths analysis that explores possible obsidian trade networks and movement corridors in Primorye (Gillam and Tabarev 2004).

While archaeological predictive modeling was established over three decades ago, one recent innovation is the application of the Genetic Algorithm for Rule-set Production (GARP) toward Eco-Cultural Niche Modeling (ECNM; Anderson et al. 2005; Banks et al. 2005, 2006). An initial sample of 111 Late Paleolithic sites from FEAD were used to explore the northernmost ecological niches of peoples during the Pleistocene (Figure 34; Anderson and Gillam 2004; Vasil'ev et al. 2002). The dark grey areas in the figure reflect the highest probability zones for habitation of the northernmost latitudes during warm climatic episodes of the Pleistocene.

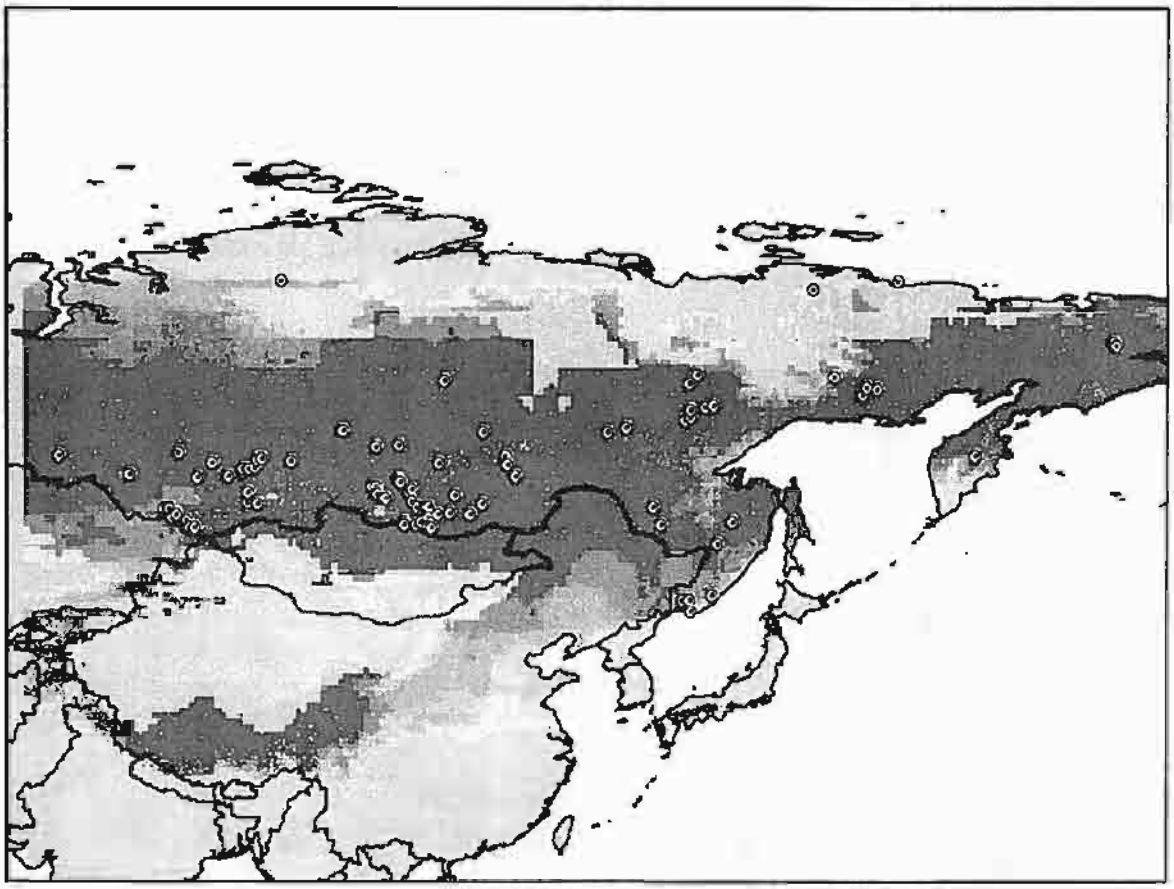


FIGURE 34. A FEAD-based Siberia and Russian Far East Late Paleolithic Eco-Cultural Niche Model (ECNM) illustrating the potential distribution of cultural groups in the northernmost latitudes of Asia during the late Pleistocene (Anderson and Gillam 2004; Gillam and Tabarev 2006).

The lessons learned in the development of continental-scale archaeological databases and GIS applications in North American archaeology and elsewhere hold much potential for application to other parts of the world, particularly given the recent availability of high resolution global GIS datasets. The 90-m resolution DEM derived from the Shuttle Radar Topography Mission (SRTM) is a groundbreaking dataset for application of the technology to modeling cultural systems and adaptations throughout the world. These data and others at a variety of scales are an integral part of FEAD. Development of the project has succeeded through collection of GIS environmental data,

archaeological site locations, and cultural chronologies derived from the literature. Initial analyses have shed new light on many fundamental problems related to the Late Paleolithic of the region. Expanding awareness of the cultural dynamics in the Far East will foster new collaborations and funding opportunities with international institutions, as well as provide new perspectives on the past.

SRS Cemetery Survey

George L. Wingard

The SRS Cemetery Survey continued during FY06. All extant cemeteries on the SRS were last surveyed in the early 1980s; therefore, the SRARP determined the need to monitor and reassess their condition. These cemeteries have been revisited, photographed, catalogued, and georeferenced with GPS technology, thereby documenting the location of each cemetery. The survey project is nearing completion, and an updated GIS data-layer will be created to aid in monitoring and protecting this important cultural resource. A report on the condition, location, and genealogical information associated with each cemetery is forthcoming.

SRS Historic Land Plat Project

George L. Wingard

All of the 1,800 ca. 1950 Atomic Energy Commission (AEC) landplats have been photocopied, and nearly 60% of the accompanying photos have been scanned for curation at the SRARP. These early acquisition records will be vital in aiding the SRARP in their daily compliance related activities, as well as creating the potential for further research projects.

Former Churches of the SRS

George L. Wingard

Using ca-1950 AEC landplats and historic photos, the SRARP is developing a technical/popular volume regarding the former churches of the SRS. Approximately 50 churches were relocated during the AEC's removal of the former towns and residents of the SRS. The report will focus on individual church histories, denominations, pertinent photos, and relocation information where applicable.

Remote Sensing at Middle Savannah Mound Towns

Adam King, Keith Stephenson, and Chester Walker

In February and March of 2007, Chet Walker of Archaeo-Geophysical Associates, LLC conducted limited remote sensing surveys at both the Lawton (38AL11) and Red Lake (9SN4) sites (Figure 35). The goal was to determine whether remote sensing

techniques could provide more information on the structure of Middle Savannah mound towns.

Remote sensing includes a series of different kinds of geophysical prospecting techniques. During this project, the magnetometer was the only technique used. Magnetometer surveys are non-invasive and passive measuring slight variations in the magnetic properties of soil. Magnetometers have become the primary tool for archaeo-geophysicists working on prehistoric archaeological sites, in part due to the fact that data can be collected and processed rapidly and efficiently. When conditions are right due to the properties of specific soils, magnetometers have proven useful in locating negative relief features such as pits and postmolds, as well as thermally-altered features such as fire hearths and burned structures (Gaffney et al. 2000; Kvamme 2003; Walker and Perttula 2007a, 2007b; Walker and Schultz 2006).

Magnetometers record the minute fluctuations that sediments and objects have on the earth's magnetic field. This is known as induced magnetism because the object does not maintain its own magnetic field. If the effects of this induced magnetism are strong enough compared to the surrounding soil matrix, pit features or postmolds can be identified or resolved in the geophysical data. A second type of magnetism called remnant magnetism is created when an object maintains its own magnetic field. In prehistoric archaeology examples, this occurs when objects are thermally altered, thus creating a magnetic state called thermoremanent magnetism (Kvamme 2006:207). The specific magnetometer used in the current study is detailed by Bartington and Chapman (2004).

Field Methods and Data Processing

Geophysical data usually are collected in a series of grids measuring 20 x 20 m in size. At Lawton and Red Lake, SRARP staff laid out collection grids using a total data station or transit. After corner stakes were in place, stakes were placed every 2 m on the north and south sides of each grid collected. Magnetic data was collected using a 1-m traverse interval (except for one grid at the Lawton site, which was collected at a 0.5-m traverse interval) and a 0.125-m (8 readings per meter) sample interval. Data was collected in a bi-directional pattern.

It is general practice to process remote sensing data after it has been collected in the field. The goal of data processing is to lessen the effects of background "noise" and to enhance the quality of the "signal" or "target" in the geophysical data. In field geophysics in general, and archeogeophysics in particular, the term noise is used to discuss any return that is not a direct result of the object under investigation, this being referred to as the "target" or "signal." Hence, in some cases what is discussed as noise can in another case become the signal or target (Milsom 2005:13-14). Accuracy of the geophysical readings is not as important for resolving targets in the geophysical data as is the contrast between the target and its surrounding matrix.

Magnetometer data from the Lawton and Red Lake sites were both processed using ArchaeoSurveyor 2.0 by DW Consulting. The datasets were first de-stripped. De-striping is a process used to equalize the underlying differences between grids caused by instrument drift, inconsistencies during setup, delays between surveying adjacent grids, or heading error from magnetic instruments. The Median of each traverse was subtracted from the values in each traverse.

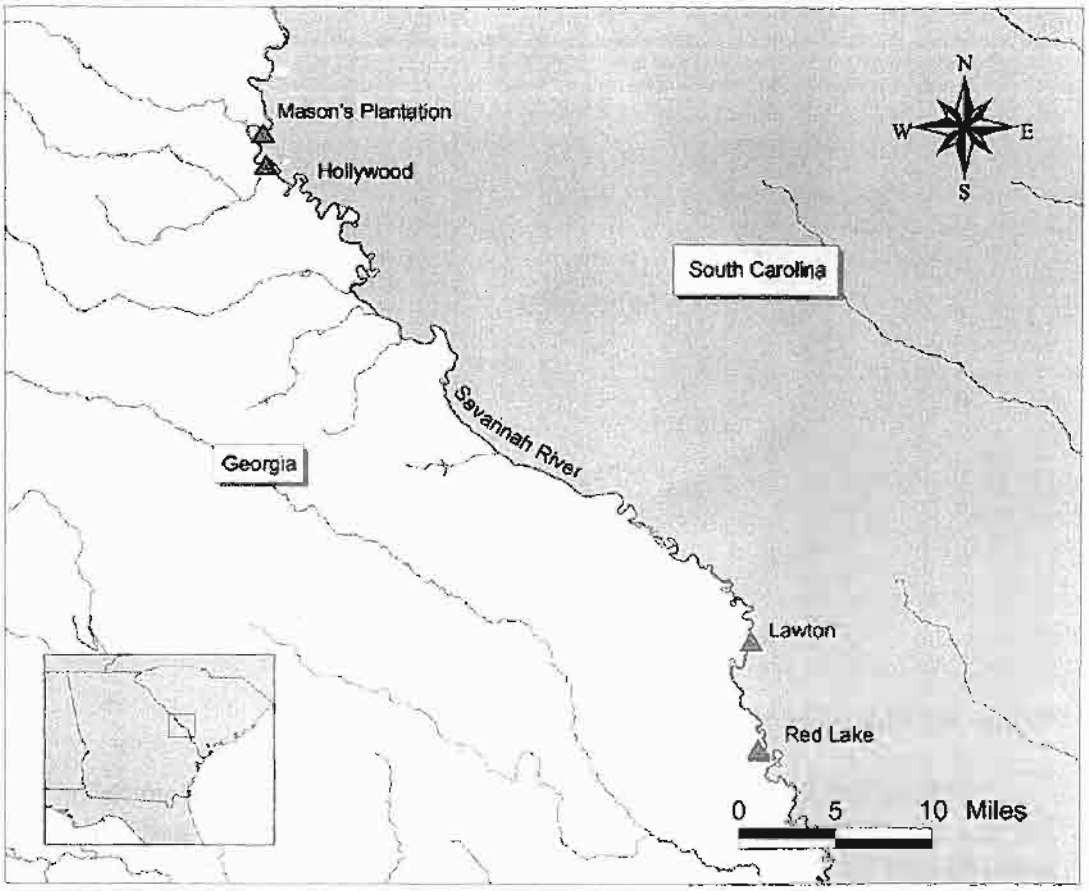


Figure 35. Mound Towns of the Middle Savannah Valley.

The Lawton Site (38AL11)

The Lawton site is a small mound town covering approximately 2 hectares. Two mounds are visible at the site, as is a ditch and embankment surrounding the site on three sides (Figure 36). Outside of C. B. Moore's trenching of the North Mound, archaeological investigations of Lawton have taken place between 1999 and 2006 under the direction of Keith Stephenson and Adam King (King et al. 1999, Stephenson et al. 2001, Stephenson and King 2004). During that time, the site has been extensively shovel tested. A grid of shovel tests was excavated at 10-m intervals across the area of the site enclosed within the ditch, five shovel test transects were excavated outside of the ditch, and shovel tests were excavated in the bottom of the ditch also at 10-m intervals. In addition, four 1 x 2 m test units were excavated in non-mound areas, and the summits of the North and South Mounds have been tested as well.

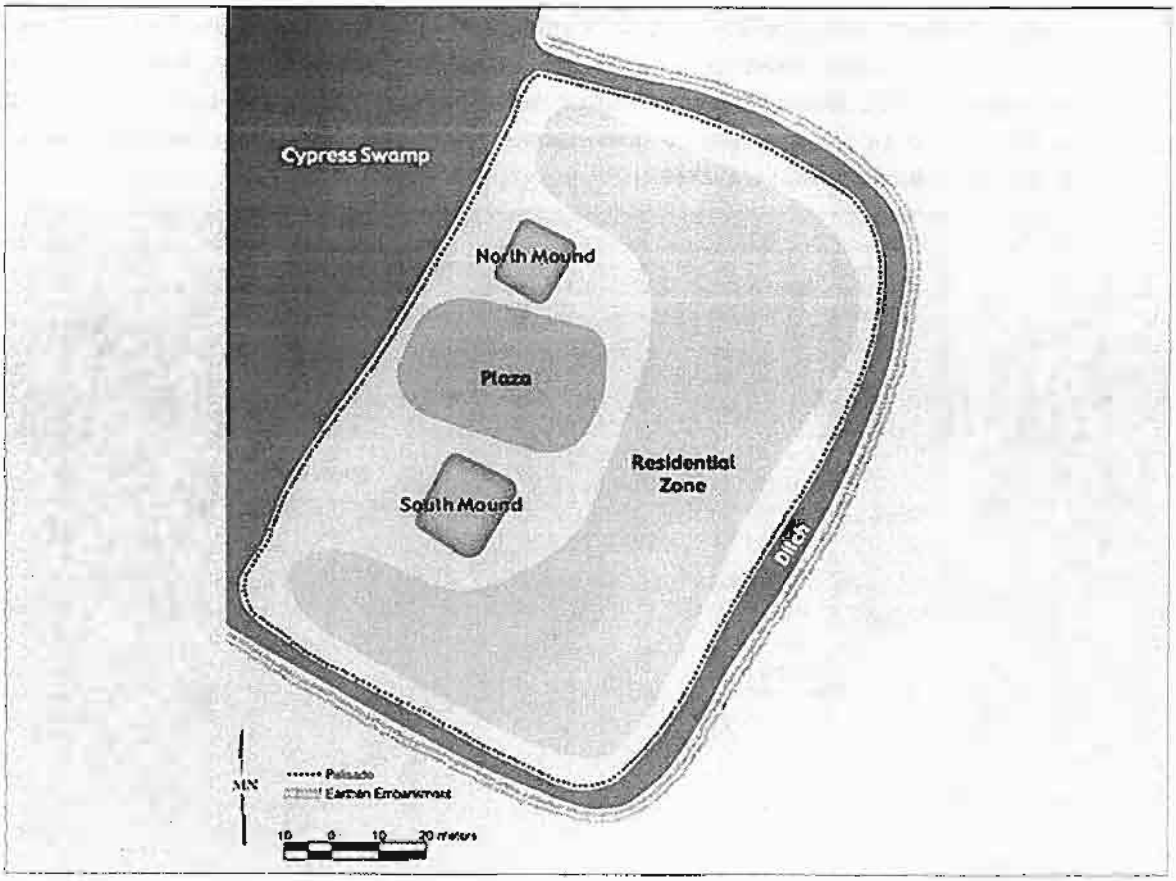


Figure 36. Plan Map of the Lawton Site, 38AL11.

These testing efforts confirmed the existence of a daub concentration surrounding the site that King and Stephenson have interpreted as a burned and collapsed palisade wall (King et al. 1999, Stephenson et al. 2001). In addition, testing identified a residential zone signified by dense midden deposits and feature concentrations and a plaza recognized by the absence of features and midden. Surprisingly, daub was virtually absent across the interior of the site, leading to the possibility that no daubed structures were built inside of the ditch or at least none burned.

In 2003, Michael Nelson (2005) excavated a 6 x 8-m block to the east of the North Mound and a smaller block south of the South Mound. In the larger block Nelson uncovered an arc of posts that may represent a structure built at Lawton. No daub was associated with the possible building, and no burned hearth was uncovered in the portion excavated. In those excavations, Nelson also recovered botanical evidence suggesting that the area tested may have been used only during the late summer and fall months.

The work conducted to date at Lawton has revealed a reasonable amount about the site's overall structure; however, Nelson's more detailed work raised some questions about the nature of the residential zone at the site. The building Nelson uncovered looks to be somewhat informal or even temporary in nature, and the botanical evidence

recovered suggests that the site was occupied seasonally. These data, along with the absence of daub in the interior of the site, raise questions about the nature of the architecture present in that residential zone.

The goal of the magnetometer surveys was to explore the nature of that residential zone, particularly to look for buildings and the spatial distribution. Because of the density of the vegetative cover at Lawton, it was not possible to survey the entire site. As a result, data was collected from approximately ten 20 m collection units (Figures 37 and 38). In those collection units, the daub concentration interpreted to be a palisade wall collapse was identified on the southern, eastern, and northern sides of the site. Excavation units, looter's holes, logging roads, and the South Mound are all visible in the data collected; however, no clear anomaly patterns (highly magnetic burned daub, hearths, or low magnetic house basins of post-mold patterns) suggestive of buildings were found. There are a large number of anomalies in the data, but no clear patterns suggestive of identifiable architecture.

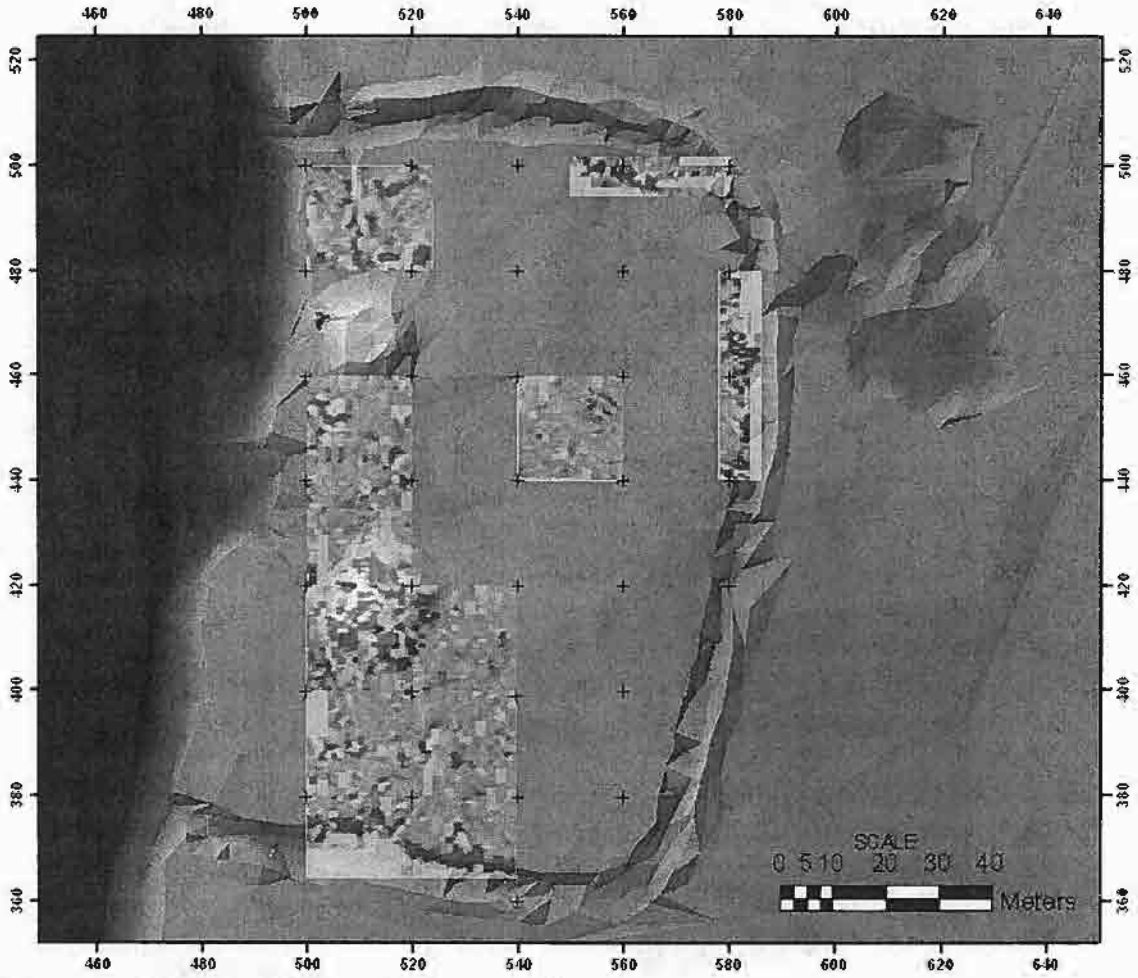


Figure 37. Collection Units at the Lawton Site.

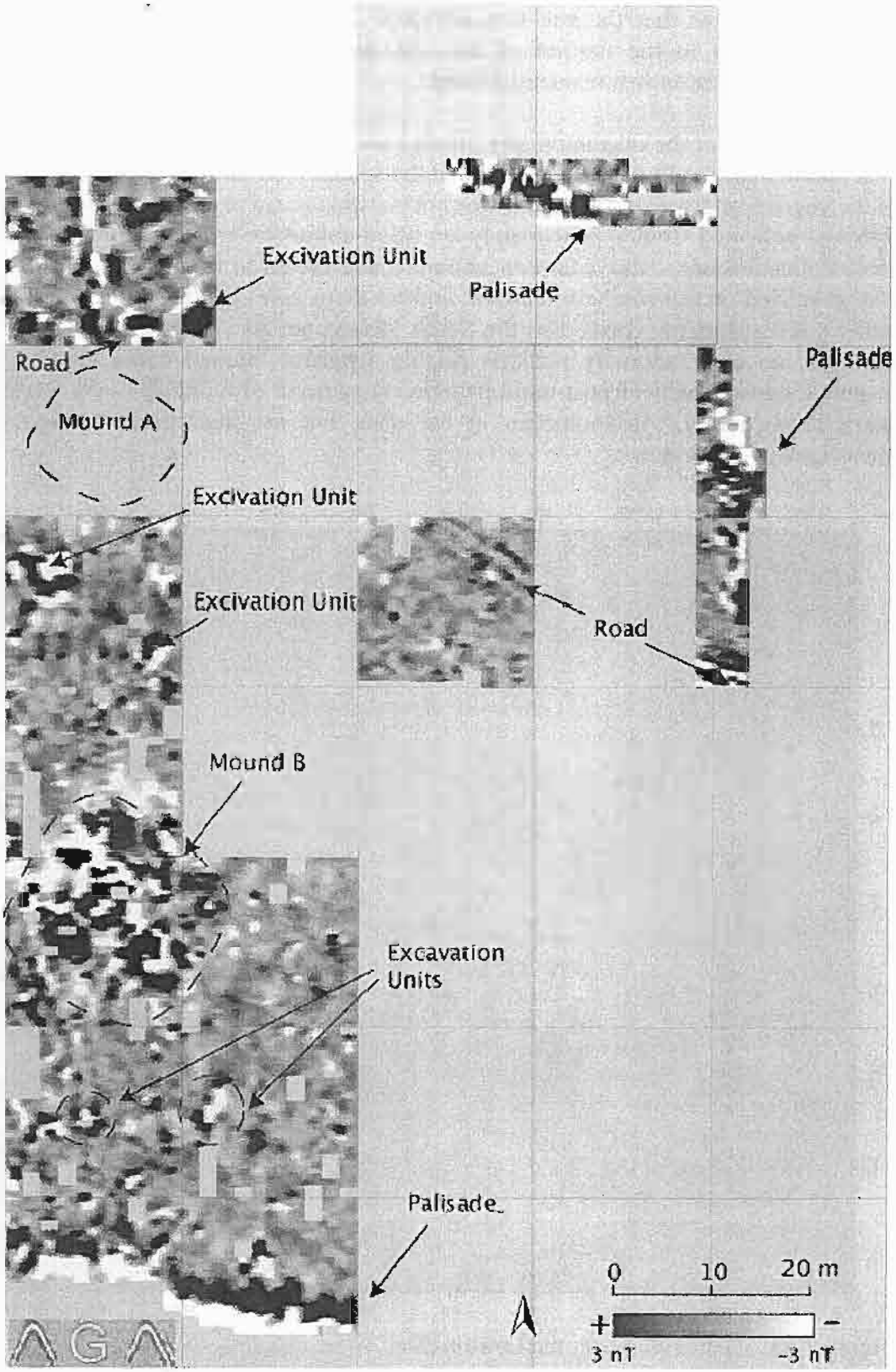


Figure 38. Tentative Interpretation of Magnetometer Data from the Lawton Site.

The Red Lake Site (9SN4)

Red Lake is another small mound town located in Screven County, Georgia just down the Savannah River from Lawton. Based on work conducted by Dale (2006), the site has three mounds and covers some 3 hectares of area (Figure 39). Testing at Red Lake followed a similar approach to the one used at Lawton. The entire site has been shovel tested at 10-m intervals, and test units have been excavated in two areas of the site. In addition, trenches were excavated into each of the three mounds.

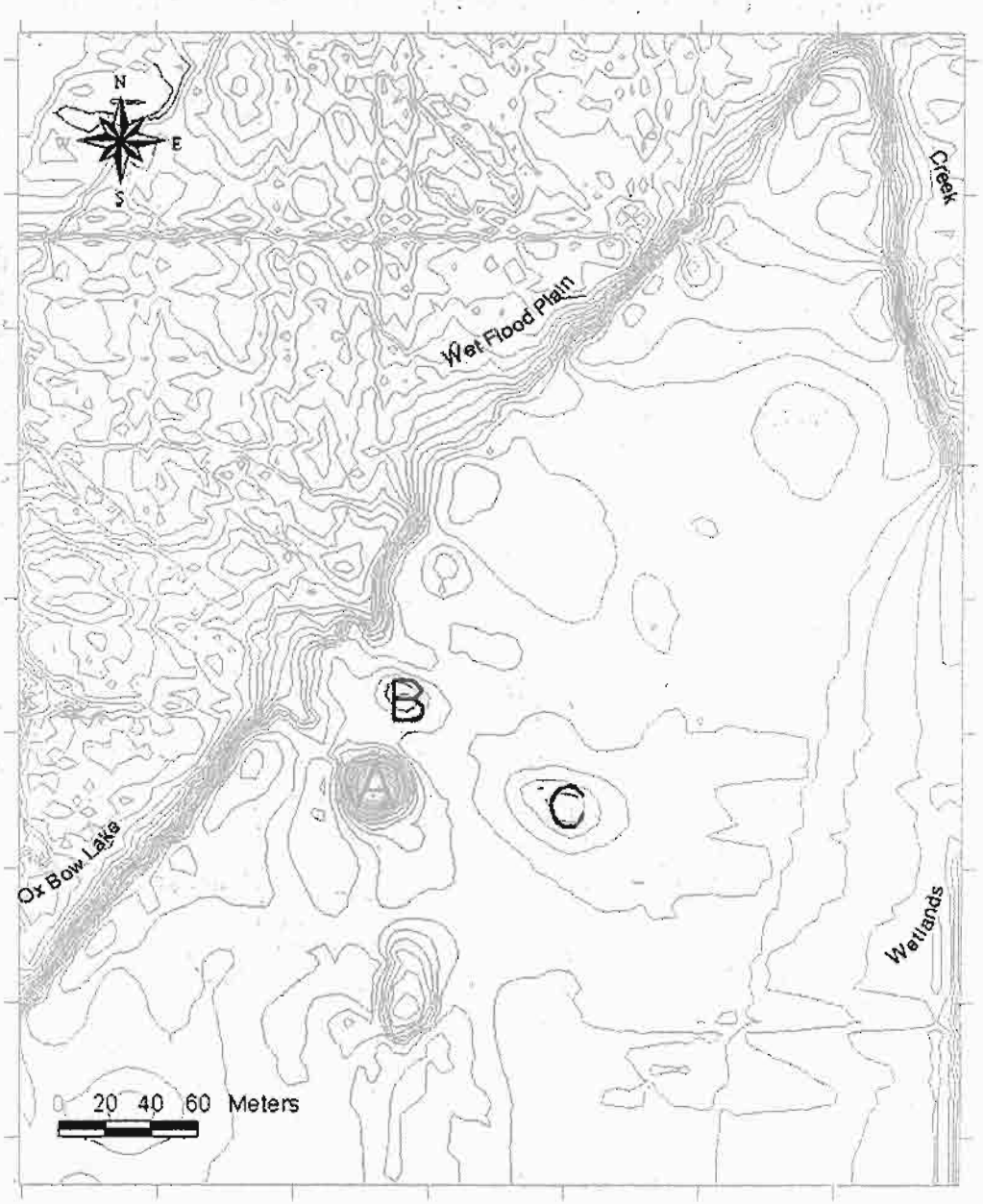


Figure 39. The Red Lake Site, 9SN4.

Shovel testing extended across the entire site at Red Lake, whereas shovel testing at Lawton focused on the area enclosed by the ditch. Effectively at Lawton, only the central mound precinct was tested, while at Red Lake both the mound precinct as well as the rest of the site was tested. Shovel testing revealed three different sets of high artifact density areas (Figure 40)—which correspond to what King and Stephenson call the residential zone at Lawton. At Red Lake, there is a high density ring around the three mounds, similar to Lawton; however, there are two other areas with high artifact concentrations. These high density areas may denote concentrations of architecture corresponding to residential areas outside of the mound precinct (King and Stephenson 2006).

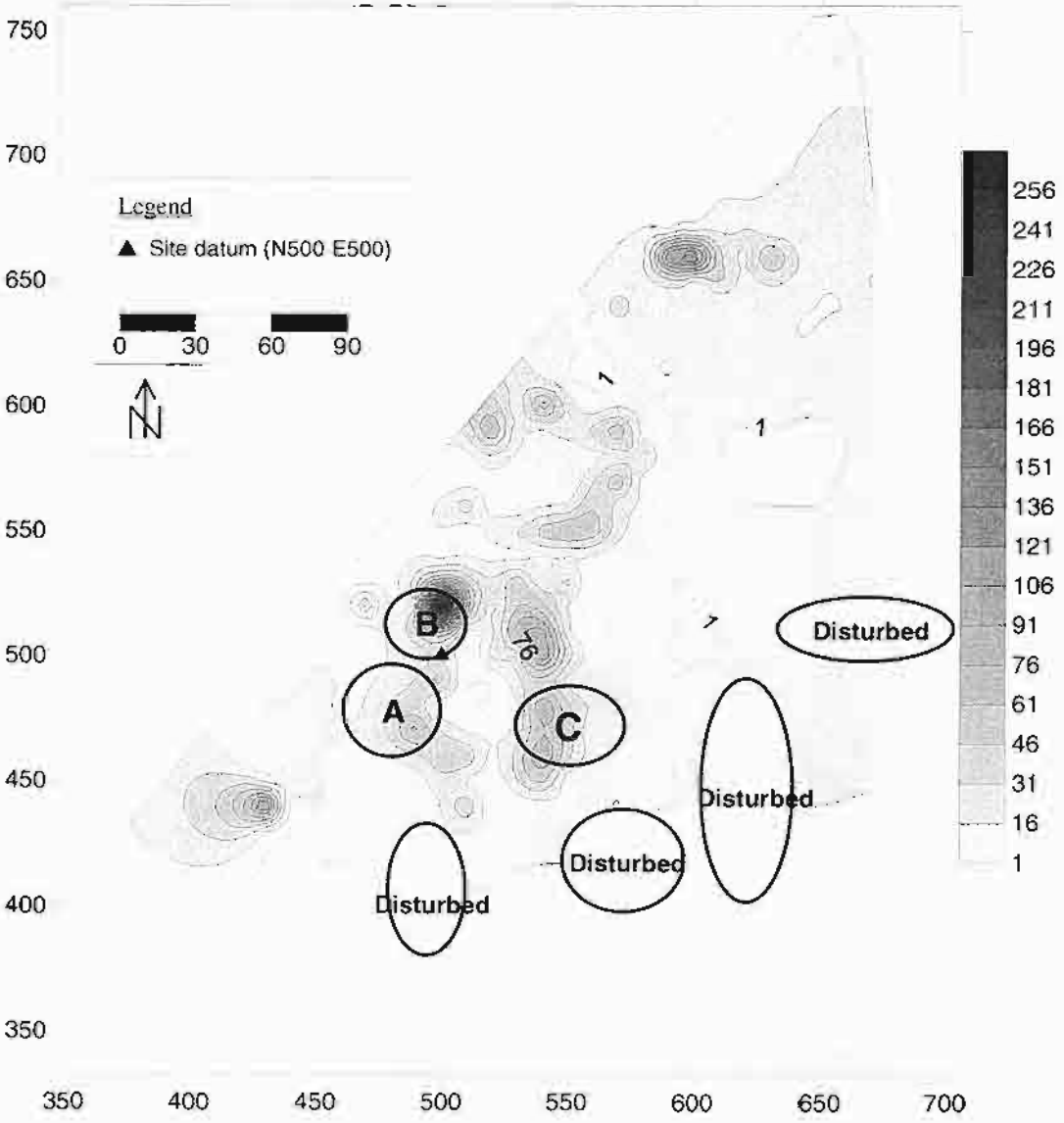


Figure 40. Red Lake Artifact Density Map.

As at Lawton, the goal of the magnetometer survey at Red Lake was to see if architecture was visible and begin to get a sense of its distribution at the site. Also like Lawton, the vegetative cover severely limited the amount of area that could be surveyed. A total of five 20-m survey blocks were covered at Red Lake (Figure 41).

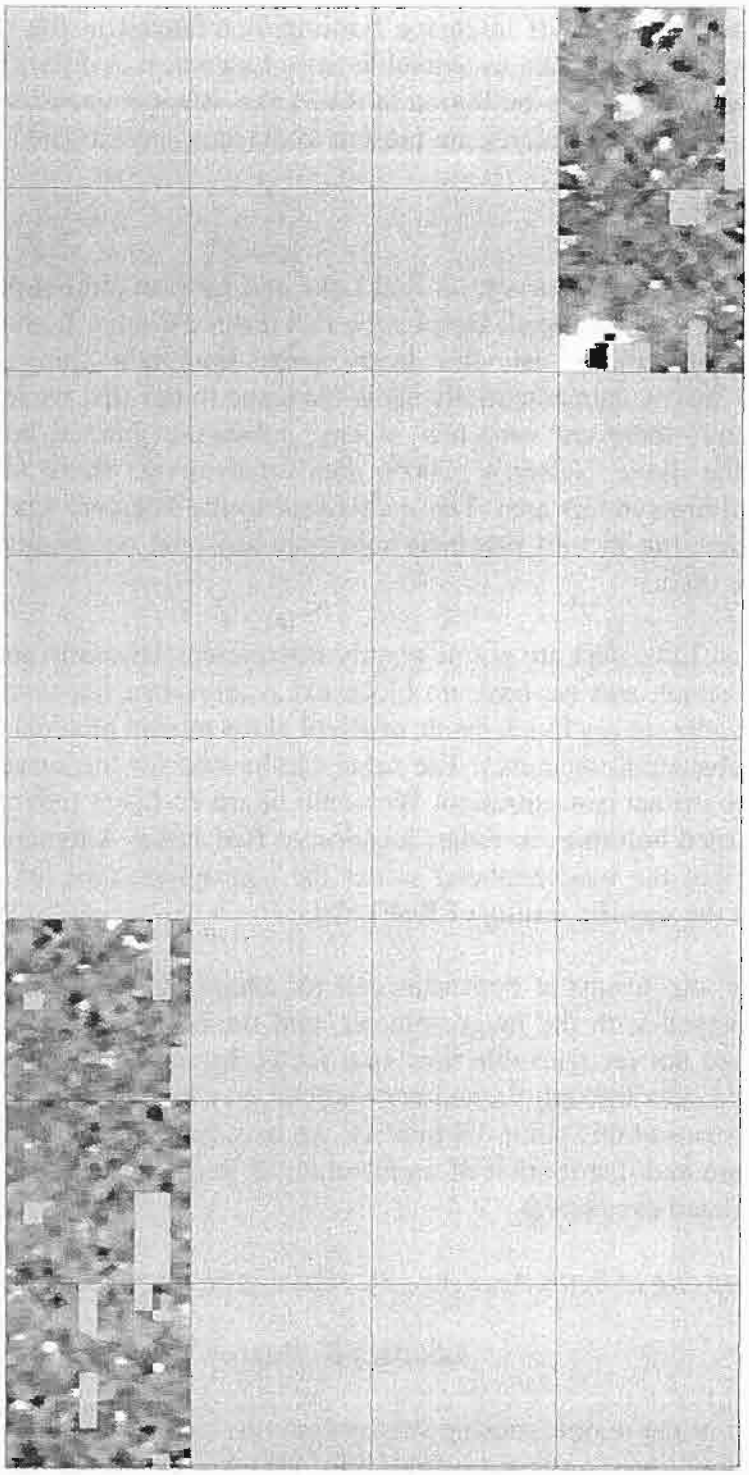


Figure 41. Magnetometer Data from the Red Lake Site.

The northernmost set of blocks was located to explore the northernmost concentration of artifacts, while the southern three blocks were positioned to investigate the mound precinct. Although there are some significant anomalies in both areas, the data present no interpretable pattern of anomalies suggestive of architecture. As was the case at Lawton, no high concentrations of daub or other burned material were found in the shovel tests, and this lack of intensive burning is reflected in the magnetometer data. Without block excavation data as available from Lawton, it is difficult to say what kinds of architectural patterns may be buried at Red Lake. Magnetometer data indicate that no burned buildings or other features are present in the areas investigated to date.

Discussion

The magnetometer surveys at Red Lake and Lawton did not produce the kinds of exciting data that we had hoped. Despite the fact that we did not find any clear patterns in architectural distributions, we did learn some important things. At Lawton, the magnetometer survey data essentially show the same things that we inferred from testing and excavations—there are very few, if any, substantial burned buildings in the area enclosed by the ditch. Nelson's (2005) data confirm that there may have been less substantial buildings in this area. These data lead to the inference that the area inside the ditch at Lawton (the mound precinct) saw only seasonal occupation where temporary buildings were used.

The Red Lake data are not as readily interpreted. This is largely because the area surveyed was small, and we have no block excavation data for comparison. Just as we saw at Lawton, the survey block inside of Red Lake's mound precinct failed to reveal any evidence of substantial structures. The same can be said for the survey block completed in the northern artifact concentration. We could interpret this to indicate that there are no substantial burned buildings in either location at Red Lake. Alternatively, this might be an indication that the magnetometer is not the appropriate tool for recognizing buried architecture in the specific setting of Red Lake.

Clearly, our results at both sites call for additional work. There is more of each site to be surveyed with the magnetometer, and the broader view provided may bring patterns that are not recognizable now into focus. In addition, exploring the anomalies identified at the sites through limited excavations may help reveal some patterns that are not readily obvious at this point. Ultimately, we may find that the best way to learn more about the nature and distribution of architecture at Red Lake and Lawton is to do some old-fashioned hand excavation.

Remote Sensing at Bettis Academy, SC National Heritage Corridor Site, Trenton

Geoffrey R. Hughes

As part of the remote sensing survey commissioned by the SRARP, an 80-m^2 area at Bettis Academy was surveyed using GPR. This survey proved successful in locating what appears to be the corner of a building. Once processed, the data readout showed the

corner of a structure defined by two high amplitude anomalies that come together forming a right angle (Figure 42). These two linear anomalies make excellent candidates for the location of the foundation of the Boys Dorm, which was the primary target of this survey. Because of the high quality of the data retrieved from this survey, SRARP will recommend additional remote sensing work at the site.

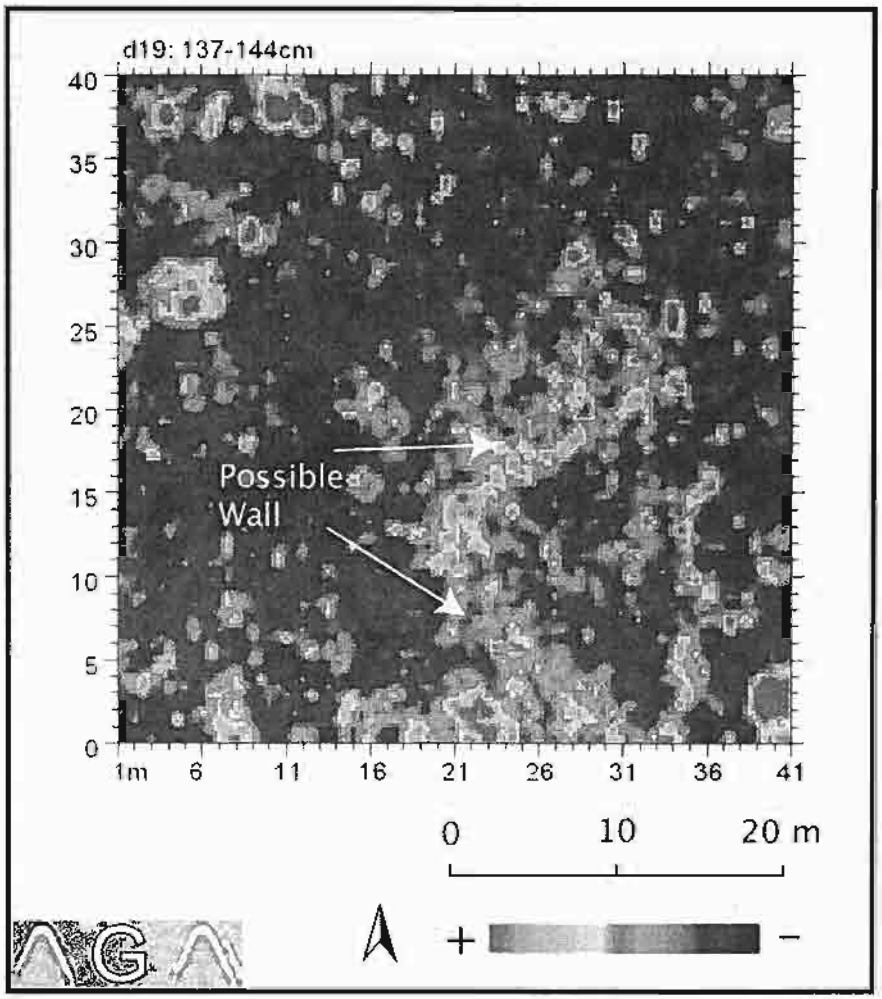


Figure 42. Magnetometer Data from the Bettis Academy Site.

Excavation at the Antebellum Site 38AK892

Geoffrey R. Hughes

During fiscal year 2005, staff from the SRARP conducted an intensive survey of a proposed 96-acre dove field within the Crackerneck Wildlife Management Area located on the SRS and managed by the South Carolina Department of Natural Resources (SCDNR). As a result, a large (1,050 x 400 m) historic and prehistoric period site was discovered and recorded (38AK892). The structural remains of an antebellum house comprise a major component of the site.

Investigation of the house site was temporally halted after 2005 due to ongoing, survey-level compliance obligations. All identified features were photographed, and plan and profile views were drawn of the excavated block. In addition, a GIS base map was created to facilitate future investigation. Finally, a protective layer of plastic was laid down over the exposed features, and the excavation block was backfilled.

SRARP resumed its investigation of the house site at 38AK892 in 2007. To date, an additional 33 m^2 have been excavated. This work resulted in the discovery of 10 additional features and the delineation of a brick and low-fired clay chimney fall. Ongoing work at the house site will focus on locating the rest of the structural footprint, excavation of associated features, locating and identifying associated outbuildings, and the identification of activity areas.

PART III. PUBLIC EDUCATION

EDUCATIONAL OUTREACH

Robert Moon

As set forth in the PMOA, and implemented through the DOE/SCIAA cooperative agreement, the SRARP continued to offer a variety of school programs, lectures, tours, archaeological displays, and special assistance for the public in FY07. We continued our efforts to foster cooperation with other educational organizations in the CSRA, such as the Silver Bluff Audubon Center and Sanctuary, through public outreach efforts with the staff of the Science Technology Enrichment Program. We also became a full member of the Environmental Science Education Cooperative (ESEC) in FY07.

Educational Outreach has stabilized over the past year, with the total number of people reached being over 4,300 again this year. There has, however, been a shift away from traditional classroom presentations towards larger weekend events with very diverse attendance. We also saw a continuation of schools holding Science Days where many volunteers converge on a single day.

Our staple program over the past few years again saw a decline in FY07. The "Discovering Archaeology" program, which had reached over 2,000 in the past, fell to 816. Additionally, there was little request for our "Classroom Dig" in FY07, with only one school requesting the program. The "You Be the Archaeologist" program held steady over the past year with attendance at both Silver Bluff and the Ruth Patrick Science Education Center reaching over 800 people.

Once again we participated in the Phinizy Swamp Summer Camp where a day was spent talking about archaeology and making replicas of Native American pottery. The annual Coca-Cola Kids Camp at Silver Bluff took on a historical note this year by focusing on Native American and Colonial history. One new venue in FY07 was our participation with the ESEC. Each year ESEC organizes an EcoMeet for middle school students. The EcoMeet is much like a science bowl; however, the primary focus is on environmental education. The 2007 EcoMeet was held at the Watson Brown Foundation in Thomson, Georgia, with approximately 140 students from across the CSRA participating.

An increasingly popular outreach method is to display educational exhibits at various historical and environmental events in the area. We continued our participation at such events as Earth Day celebrations in Augusta and North Augusta, Archaeology Discovery Weekend, and the annual Artifact Identification Day in Augusta, Georgia. Archaeology Day at Redcliffe Plantation was a big draw in FY07, seeing an increase in attendance to over 50 people. Many additional displays included venues such as Mead Hall Day School in Aiken, the DOE Multicultural Day, Augusta Prep's Fall Festival, and Pioneer Day in Lincolnton, Georgia.

Additionally, our website, www.srarp.org has seen an increase in traffic this year. In FY07, we had over 10,000 visitors to the website. The website continues to undergo upgrades and improvements with additional content on current events at the SRARP.

SRARP VOLUNTEER PROGRAM

Tammy F. Herron

The staff of the SRARP would like to acknowledge the hard work and diligence of the volunteers who support the program by giving of their time to aid in advancing the research conducted here at the SRARP. Over the course of FY07, our volunteers have logged in 240.75 hours of work. Volunteers assist in a variety of tasks such as archaeological fieldwork, artifact processing and analysis, sediment analysis, data entry, document research, assisting with exhibits, xeroxing, and filing.

Jill Trefz Nazarete—an avid volunteer of the SRARP since the 1970s—spent the majority of her time in the lab this fiscal year washing and sorting artifacts recovered from previous excavations at site 38AK155. This prehistoric site was mitigated as a result of the proposed construction of the Surplus Plutonium Disposition Facilities (SPDF). Conducting primary analysis of the artifacts recovered from block excavations at the site has been Mrs. Nazarete's major task since February 2006. Mrs. Nazarete has logged in 212.75 hours of volunteer time over the course of the fiscal year, and she has analyzed 28,634 artifacts excavated from 38AK155, along with Emily Dale and Brenda Magouirk-Nelson. Robert Nazarete and Erin Wingard assisted with various displays exhibited throughout the year, including a safety conference sponsored by the DOE that was held at the University of South Carolina–Aiken.

The mission of the public education program here at the SRARP is furthered through the active participation of our volunteers as we continuously strive to bridge the gap between archaeologists and the public. The contributions of our volunteers are indeed greatly appreciated, and much of the research that we carry out would not be possible without their help and support.

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APPENDIX: PUBLICATIONS AND ACTIVITIES

PUBLISHED PAPERS

Ashley, Keith, Keith Stephenson, and Frankie Snow
2007 Teardrops, Ladders, and Bull's Eyes: Swift Creek along the Georgia Coast. *Early Georgia* 35(1):3-28.

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King, Adam
2007 Mound C and the SECC in the History of the Etowah Site. In *Southeastern Ceremonial Complex: Chronology, Content, Context*, edited by A. King, pp. 107-133. University of Alabama Press, Tuscaloosa.

2007 The Southeastern Ceremonial Complex: From Cult to Complex. In *Southeastern Ceremonial Complex: Chronology, Content, Context*, edited by A. King, pp. 1-14. University of Alabama Press, Tuscaloosa.

2007 Whither SECC? *In Southeastern Ceremonial Complex: Chronology, Content, Context*, edited by A. King, pp. 251-258. University of Alabama Press, Tuscaloosa.

EDITED BOOKS

King, Adam (editor)
2007 *Southeastern Ceremonial Complex: Chronology, Content, Context*. University of Alabama Press, Tuscaloosa.

TECHNICAL REPORTS

Iriarte, José, J. Christopher Gillam, and Oscar Marozzi
2007 Rivers of Encounters: The Cultural and Environmental History of the Parana River Project Report; Survey and Excavations at the El Dorado Enclosure Complex, Misiones, Argentina. Report submitted to the National Geographic Society Committee for Research and Exploration, 29 January 2007.

ENCYCLOPEDIA CONTRIBUTIONS

Brooks, Richard D.
2006 New Ellenton. In *The South Carolina Encyclopedia*, edited by W. Edgar, University of South Carolina Press, Columbia, SC.

Groover, Mark, and Richard D. Brooks
2006 Cattle Ranching. In *The South Carolina Encyclopedia*, edited by W. Edgar, University of South Carolina Press, Columbia, SC.

PROFESSIONAL PAPERS AND POSTERS

Anderson, David G., J. Christopher Gillam, Christopher Carr, Thomas E. Emerson, and Jon L. Gibson
2007 Resolving Interaction Networks in Eastern North America. Paper presented at the 72nd Annual Meeting of the Society for American Archaeology, Austin, TX.

Anderson, David G., J. Christopher Gillam, Scott C. Meeks, D. Shane Miller, Jason O'Donoughue, and Stephen J. Yerka
2006 Modeling Human Culture and Adaptation with Regional and Continental Scale Archaeological Databases. Invited paper presentation for the international workshop, Mapping Culture: Geographical Information Systems in the Human Sciences, Lund University, Sweden.

Gillam, J. Christopher
2007 Integrating Archaeology and GIS for Data Distribution and Analyses beyond the Regional Scale. Invited paper presentation for the NSF-funded workshop entitled, A Distributed Network Approach for Integrating and Accessing the Archaeological Record, at the University of Kansas, Lawrence, KS.

2006 Intro to Archaeological Modeling with DesktopGARP (Genetic Algorithm for Rule-Set Production): A Freeware Ecological Niche Modeling Program. Invited paper

presentation for the international workshop, Mapping Culture: Geographical Information Systems in the Human Sciences, Lund University, Sweden.

2006 Least-Cost Paths and Cost Surfaces for Exploring Migration Corridors. Invited paper presentation for the international workshop, Mapping Culture: Geographical Information Systems in the Human Sciences, Lund University, Sweden.

2006 The Development of GIS in North American Archaeology. Invited paper presentation for the international workshop, Mapping Culture: Geographical Information Systems in the Human Sciences, Lund University, Sweden.

2006 Landscape, Time, and Adaptation in the Interior Coastal Plain: Multivariate Prediction and Site Location along the Central Savannah River. Paper presented at the 63rd Annual Meeting of the Southeastern Archaeological Conference, Little Rock AR.

Gillam, J. Christopher, and José Iriarte

2006 More than Dots on Maps: Developing a GIS Database for the La Plata Basin. Invited paper presentation for the international workshop, Mapping Culture: Geographical Information Systems in the Human Sciences, Lund University, Sweden.

Gillam, J. Christopher, and Andrei V. Tabarev

2007 The Far East Archaeological Database (FEAD): A Minimum 1-Minute Resolution Dataset for Exploring the Big Picture. Paper presented at the 72nd Annual Meeting of the Society for American Archaeology, Austin, TX.

2006 Geographic Information Systems and Predictive Modeling: Prospects for Far East Archaeology. Invited paper presentation for the international symposium, Jomon Peoples and their Neighbors. Kokugakuin University, Tokyo, Japan.

Herron, Tammy F., and Robert Moon

2007 Geophysical Prospection and Archaeological Investigations at Silver Bluff (38AK7): In Search of George Galphin's Trading Post. Poster presented at the 40th Annual Conference on Historical and Underwater Archaeology, Williamsburg, VA.

Hughes, Geoffrey R.

2007 A Discursive Archaeology of Gottes Acker, 1771-1815: Landscape, Language and the Ideology of Death in a New Moravian World. Paper presented at the 40th Annual Conference on Historical and Underwater Archaeology, Williamsburg, VA.

Ivester, Andrew H., Mark J. Brooks, and Barbara E. Taylor

2007 Sedimentology and Ages of Carolina Bay Sand Rims. Invited paper presented at the 56th Annual Meeting of the Southeast Section of the Geological Society of America, Savannah, GA.

King, Adam, and Farrah A. Brown
2006 Where's the Chief? Multiple Groups, Overlapping Symbols in Etowah's Mound C. Invited paper presented at the 63rd Annual Meeting of the Southeastern Archaeological Conference, Little Rock, AR.

King, Adam, and Keith Stephenson
2006 Coastal Plain Chiefdoms of the Savannah River: Labor, History, and Hierarchy. Invited paper presented at the 63rd Annual Meeting of the Southeastern Archaeological Conference, Little Rock, AR.

Moon, Robert, and Tammy F. Herron
2006 Reconstructing Landscapes at George Galphin's Colonial Trading Post near Jackson, South Carolina. Poster presented at the 63rd Annual Meeting of the Southeastern Archaeological Conference, Little Rock, AR.

Sharp, Robert, Adam King, Chet Walker, Clay Schultz, Kent Reilly, Johnnie Jacobs, and Tim Thompson
2006 A Sacred Precinct on the Summit of Etowah's Mound A. Paper presented at the 63rd Annual Meeting of the Southeastern Archaeological Conference, Little Rock, AR.

Smith, Karen Y., and Keith Stephenson
2007 A Report on the 1972 Excavations at the Shelly Mound, Pulaski County. Paper presented at the Annual Symposium on Georgia Coastal Plain Archaeology, Douglas, GA.

Stephenson, Keith
2006 Political Ecology of Swift Creek Societies in the Georgia Interior, ca. A.D. 200-900. Invited paper presented at the 63rd Annual Meeting of the Southeastern Archaeological Conference, Little Rock, AR.

Stephenson, Keith, and Adam King
2007 Labor Patterns, Scales of Surplus, and Centralized Society in the Middle Savannah River Valley. Invited paper presented at the 72nd Annual Meeting of the Society for American Archaeology, Austin, TX.

Stephenson, Keith
2007 The Evelyn Mound Site Revisited: Archaeology from the Great Depression to 2007. Paper presented at the 33rd Annual Conference on South Carolina Archaeology, Columbia, SC.

Suárez, Rafael, and J. Christopher Gillam
2007 Explorando Sistemas de Asentamiento y Nichos Ecológicos de los Cazadores Tempranos en Uruguay. The 4th International Meeting on Archaeological Theory in South America, World Archaeological Congress,Catamarca, Argentina.

Taylor, Barbara E., Mark J. Brooks, and Andrew H. Ivester
2007 Holocene Changes in Carolina Bays. Invited paper presented at the 56th Annual Meeting of the Southeast Section of the Geological Society of America, Savannah, GA.

CONTRIBUTIONS TO CURRENT RESEARCH

Gillam, J. Christopher
2007 There Is Much to Learn from Distant Shores, Cultures, and Colleagues. *Legacy* 11(2):6.

Gillam, J. Christopher, and Rafael Suárez
2007 The Paleoindian Survey and Geographic Database of Uruguay. *Legacy* 11(1):1, 4-5.

Iriarte, José, J., Christopher Gillam, and Oscar Marozzi
2007 Complejo de Monticulos y Recintos Geometricos de la Tradicion Taquara/Itarare, Provincia de Misiones, Argentina. Museum poster display at the Museo Casa del Fundador: Julio A. Schwelm, ElDorado, Misiones Province, Argentina.

EDUCATION

Gillam, J. Christopher
GEOG 899 Dissertation Preparation (2 hours), University of South Carolina, Columbia.

BOOK REVIEWS

Brooks, Richard D.
2007 Review of *Camden: Historical Archaeology in the South Carolina Backcountry*, Thomson Wadsworth, Belmont, CA. 2006 by Kenneth E. Lewis. In *South Carolina History Magazine*, Vol. 108 (1):113-115.

REVIEWS OF MANUSCRIPTS

Gillam, J. Christopher
Review of Manuscript for *Latin American Antiquity*, Mark Aldenderfer & José Luis Lanata, journal co-editors.

CONFERENCES/SYMPOSIA ORGANIZED

Brooks, Richard D.
"The Wars of South Asia – Afghanistan, Burma, India, and Pakistan (1800-2007)." Symposium organized for the Military Seminar Series, Lancaster, PA, July 2007.

PROFESSIONAL ORGANIZATION SERVICE

Gillam, J. Christopher

Organizer. Visiting scholars from the Niigata Prefectural Museum of History, Japan; Shell Mound Archaic archaeological collections and site excursions; introduction to South Carolina prehistory and culture.

OFFICES AND APPOINTMENTS HELD

Brooks, Mark J.

Director, Savannah River Archaeological Research Program.

Associate Director and Division Head, South Carolina Institute of Archaeology and Anthropology.

Member, Senior Advisory Council, South Carolina Institute of Archaeology and Anthropology.

Member, Ethics Committee, South Carolina Institute of Archaeology and Anthropology.

Member, Grants and Contracts Committee, South Carolina Institute of Archaeology and Anthropology.

Member, Search Committee for the new SCIAA Director.

Member, Building Committee for the new SCIAA building.

Gillam, J. Christopher

Archaeologist and GIS Manager for the Savannah River Archaeological Research Program, South Carolina Institute of Archaeology and Anthropology, College of Arts and Sciences, University of South Carolina.

Principle Investigator of the Far East Archaeological Database (FEAD) with Andrei V. Tabarev, Institute of Archaeology and Ethnography, Siberian Branch of the Russian Academy of Sciences, Novosibirsk, Russia.

Principle Investigator of the Uruguay Paleoindian Survey (UPS) with Rafael Suárez, Museo de Historia Natural y Antropología, División Antropología, Montevideo, Uruguay.

Project Co-Director and GIS Manager for the Paleoindian Database of the Americas, with David G. Anderson, Director, and others at the University of Tennessee.

Co-Principle Investigator for the Heinz Program for Latin American Archaeology-funded project, "Architectural Evolution of Taquara/Itarare Earthworks: Geophysical Survey and Excavations at the El Dorado Enclosure Complex, Misiones, Argentina", with José Iriarte, Primary Investigator, University of Exeter, UK.

Co-Principle Investigator for the SPARKLE project, developing an archaeological extension of the Specify Biodiversity Collections Software, with Dixie West, Principle Investigator, and others at the Biodiversity Research Center, Kansas University, Lawrence, and the University of Alaska's Museum of the North, Fairbanks.

Research Member of the joint Japanese-Russian project, Neolithization and Modernization: Peter the Great Bay (Primorye/Russian Far East), with the Research Institute of Humanities and Nature, Kyoto, Japan, and Far Eastern National University, Vladivostok, Russia.

GIS and South Carolina Paleo-Point Database Manager for the Southeastern Paleoamerican Survey, with Albert C. Goodyear, Director, and others at the South Carolina Institute of Archaeology and Anthropology, College of Arts and Sciences, University of South Carolina.

President, Midlands Chapter of the Archaeological Society of South Carolina.

Archivist, Council of South Carolina Professional Archaeologists.

Research Associate of the Walker Institute of International and Area Studies, University of South Carolina.

Research Affiliate of the Center for Asian Studies, University of South Carolina.

Research Affiliate of the Latin American Studies Program, University of South Carolina.

Research Affiliate of the Russian and Eurasian Studies Program, University of South Carolina.

Member, Building Committee for the new SCIAA building.

Voting Member, E&GIS Data Trustee Committee, Savannah River Site, Aiken, SC.

Technical Liaison, College of Arts and Sciences Computing Lab, University of South Carolina.

Chair, Database Integration Committee (DIC), Savannah River Archaeological Research Program, SCIAA-USC.

Herron, Tammy F.

Board Member, Society for Georgia Archaeology.

Board Member and Secretary, Beech Island Historical Society.

Member, Beech Island Heritage Corridor Committee.

Sub-Committee Member, Aiken County Heritage Corridor.

Teaching Kit Committee Member, Society for Georgia Archaeology.

King, Adam
Editor, *Early Georgia*, Journal of the Society for Georgia Archaeology.

Editorial Board for the SCIAA *Legacy*.

Moon, Robert
Chairman, Augusta-Richmond County Historic Preservation Commission.

Newsletter Editor, Southeastern Archaeology Conference.

Webmaster, Southeastern Archaeology Conference.

Webmaster, Council of South Carolina Professional Archaeologists.

Member of the Board of Directors, Historic Augusta.

Stephenson, Keith
Treasurer, Southeastern Archaeological Conference.

Treasurer, Council of South Carolina Professional Archaeologists.

Chair, Graduate Student Grant-in-Aid Program, Archaeological Society of South Carolina.

CONSULTING

Brooks, Mark J.
Geoarchaeological and paleoenvironmental consultant to Terry Madewell, Natural/Cultural Resource Manager at Shaw Air Force Base, for ongoing investigations at Big Bay and the Wateree River sand sheet on the Poinsett Electronic Combat Range, Sumter County, SC.

Geoarchaeological and paleoenvironmental consultant to Christopher Ohm Clement, South Carolina Institute of Archaeology and Anthropology, for ongoing archaeological investigations at Sandy Island, Georgetown County, and Ft. Jackson, Richland County, SC.

Geoarchaeological and paleoenvironmental consultant to Christopher Moore and Randy Daniel at East Carolina University for ongoing investigations of archaeological sites on the Tar River, NC, formed in conjunction with eolian processes.

Geoarchaeological and archaeological consultant (October 19, 2006), with Natalie Adams, Keith Stephenson, and Tammy Herron, to Darby Stapp, Pacific Northwest Labs, Hanford, Department of Energy, for an Environmental Impact Statement prior to construction activities along the Savannah River on Plant Vogtle, Burke County, GA.

Geoarchaeological consultant (December 11-12, 2006) to Andrew H. Ivester, HI Solutions, Inc., for review of his geomorphology report to Wendy Weaver, Brockington and Associates, Inc. for the Phase III report on Site 38AK862 on Mathis Pond, a Carolina bay in NW Aiken County, SC.

Geoarchaeological and archaeological consultant (January, 2-3, 2007) to Wendy Weaver, Brockington and Associates, Inc. for review of her report on Phase III investigations at Site 38AK862 on Mathis Pond, a Carolina bay in NW Aiken County, SC.

Geoarchaeological consultant (May 31, 2007), with Paul Nystrom, South Carolina Geological Survey, Department of Natural Resources, to Steven D. Smith, South Carolina Institute of Archaeology and Anthropology, and to Sean Taylor, South Carolina Heritage Trust, Department of Natural Resources, for determining whether an earthen feature along the Pee Dee River near Conway, SC is a natural, channel-related levee, or a man-made feature, possibly a redoubt associated with Francis Marion, The Swamp Fox.

Brooks, Richard D.

South Carolina Military History consultant to John-Eric Nelson on his forthcoming biography of Nathan Whiting.

Gillam, J. Christopher

There were numerous consultations during the year on prehistoric archaeology, GIS, GPS, and computer-related equipment and software for the divisions of SCIAA.

Projection of the SRS Archaeological Predictive Models to Barnwell County for a nearby CRM project of Brockington and Associates, Inc., Mt. Pleasant, SC.

Herron, Tammy F.

Archaeological Consultant, Augusta Museum of History, Augusta, GA.

Archaeological Consultant, Beech Island Historical Society, Beech Island, SC.

Archaeological Consultant, Silver Bluff Audubon Center & Sanctuary, Jackson, SC.

Archaeological Consultant, Redcliffe State Historic Site, Beech Island, SC.

Moon, Robert
Archaeological Consultant, Augusta Canal Authority.

Archaeological Consultant, Historic Augusta.

Wingard, George
Consultant to Mark Albertin of Scrapbook Productions for a video production he is creating about the former towns of the SRS.

Consulted with members of Fairfield Baptist Church regarding restoration of grave markers recently vandalized.

GRANTS AND CONTRACTS

Brooks, Mark J., and Richard D. Brooks
2007 Cultural Resources Management on the U.S. Department of Energy's Savannah River Site, Aiken and Barnwell Counties, South Carolina. U. S. Department of Energy, Savannah River Operations Office.

Gillam, J. Christopher
Archaeological Research Trust grant for the Uruguay Paleoindian Survey ($2,000)

Iriarte, José and J. Christopher Gillam
Heinz Program for Latin American Archaeology grant for Architectural Evolution of Taquara/Itarare Earthworks: Geophysical Survey and Excavations at the El Dorado Enclosure Complex, Misiones, Argentina. ($9,850)

National Geographic Committee for Research & Exploration grant for Rivers of Encounters: The cultural and environmental history of the Middle Parana Basin. ($19,860)

King, Adam
2006 Lannan Foundation of Santa Fe for remote sensing at the Etowah Mounds State Park, Cartersville, GA. ($16,500)

TEACHING AND ACADEMICS

Brooks, Mark J.
Ph.D. dissertation committee: Christopher R. Moore, Coastal Resources Management Program, East Carolina University, Greenville, NC.

King, Adam
Fall Semester 2006 – Adjunct Instructor, Department of Anthropology, University of South Carolina, ANTH 102 (Understanding Other Cultures).

Spring Semester 2007 – Adjunct Instructor, Department of Anthropology, University of South Carolina, ANTH 317 (Native American Cultures of North America) and ANTH 591 (Public Archaeology).

Summer Semester 2007 – Adjunct Instructor, Department of Anthropology, University of South Carolina, ANTH 101 (Primates, People, and Prehistory).

Moon, Robert

Fall Semester 2006 – Adjunct Instructor, Department of History, Anthropology, and Philosophy, Augusta State University, ANTH 1102 (Introduction to Anthropology) and ANTH 2011 (Cultural Anthropology).

Spring Semester 2007 – Adjunct Instructor, Department of History, Anthropology, and Philosophy, Augusta State University, ANTH 1102 (Introduction to Anthropology) and ANTH 2011 (Cultural Anthropology).

WORKSHOPS AND TRAINING

Herron, Tammy F.

Disaster Recovery and Response: An Exercise in Disaster and Planning. Training course presented by the South Carolina Department of Archives and History, Columbia, SC.

HONORS AND AWARDS

Gillam, J. Christopher

Service Award (1996-2006) for over 10-years of service to the State of South Carolina and University of South Carolina.

PUBLIC SERVICE ACTIVITIES

August 2006

Moon, Robert

Lecture titled "Native American Settlement at Stallings Island" presented to the Augusta Canal Authority.

September 2006

Gillam, J. Christopher

DVD video, *Lost Worlds: Palenque, Metropolis of the Maya,* presented to members of the Midlands Chapter of the Archaeological Society of South Carolina, Columbia, SC.

Moon, Robert

Display at DOE Multicultural Day, Savannah River Site.

Display for Redcliffe Archaeology Day, Beech Island, SC.

Navigation program for two classes from Aiken Elementary.

You Be the Archaeologist program for two classes from Freedom Park Elementary at the Silver Bluff Audubon Center.

You Be the Archaeologist program for four classes from Wheeless Road Elementary at the Silver Bluff Audubon Center.

You Be the Archaeologist program for four classes from Greenbrier Elementary at the Silver Bluff Audubon Center.

Wingard, George
Tour of the Badger homesite on the SRS for members of the Badger family.

October 2006

Gillam, J. Christopher
Organized fieldtrip for the Midlands Chapter of the Archaeological Society of South Carolina for the Topper site BBQ.

Moon, Robert
Dig Box program for two classes at Episcopal Day School in Augusta, GA.

Display for the Science Education Enrichment Day at the Ruth Patrick Science Education Center, USC-Aiken.

Display for the Fall Festival at Augusta Prep in Augusta, GA.

Lecture for the North Augusta Chapter of the Daughters of the American Revolution, North Augusta, SC.

Lecture to students at Career Day at South Aiken High in Aiken, SC.

Lecture to the Leadership Aiken group in Jackson, SC.

Navigation program for students from Aiken Elementary at the Silver Bluff Audubon Center.

Navigation program for two classes from Augusta Prep at the Silver Bluff Audubon Center.

Navigation program for students from St. Mary Help of Christians Catholic School at the Silver Bluff Audubon Center.

You Be the Archaeologist program for students from Westview Middle School at the Silver Bluff Audubon Center.

You Be the Archaeologist program for two classes from Augusta Prep at the Silver Bluff Audubon Center.

You Be the Archaeologist program for students from St. Mary Help of Christians Catholic School at the Silver Bluff Audubon Center.

November 2006

Gillam, J. Christopher
DVD video, *Neanderthal: The Rebirth,* presented to members of the Midlands Chapter of the Archaeological Society of South Carolina, Columbia, SC.

Moon, Robert
Display at the Augusta Canal Authority Celebration Day.

Discovering Archaeology program for students at Blue Ridge Elementary in Augusta, GA.

Display at Pioneer Day in Lincolnton, GA.

GPS program for students for Redcliffe Elementary at the Silver Bluff Audubon Center.

You Be the Archaeologist program for students from Freedom Park Elementary at the Silver Bluff Audubon Center.

You Be the Archaeologist program for students from A.B. Merry Elementary at the Silver Bluff Audubon Center.

Wingard, George
Tour of Ellenton with Mark Albertin and former Ellenton residents Stephen Harley and Jack Harden for the purpose of filming the "Former Towns" documentary.

December 2006

Gillam, J. Christopher
Hosted the Midlands Chapter of the Archaeological Society of South Carolina annual holiday party at SCIAA, USC, Columbia, SC.

Moon, Robert

Compass, Mapping and GPS. Program for three classes from Tobacco Road Elementary GPS program for students from Redcliffe Elementary at the Silver Bluff Audubon Center.

You Be the Archaeologist for students from A.B. Merry Elementary at the Silver Bluff Audubon Center.

January 2007

Gillam, J. Christopher
Hosted monthly meeting of the Midlands Chapter of the Archaeological Society of South Carolina, at SCIAA, USC, Columbia, SC.

Moon, Robert
You Be the Archaeologist program for students from South Aiken Baptist at the Ruth Patrick Science Education Center.

You Be the Archaeologist program for students from Aiken Elementary at the Silver Bluff Audubon Center.

You Be the Archaeologist program for students from Tobacco Road Elementary at the Silver Bluff Audubon Center.

February 2007

Gillam, J. Christopher
Organized the SCIAA Shell Ring Archaic collections and site excursions for visiting scholars for the Niigata Prefectural Museum of History, Japan.

Herron, Tammy F.
Participated in Education Day at the Reenactment of the Battle of Aiken sponsored by the Barnard E. Bee Camp, Sons of Confederate Veterans, Aiken, SC.

Moon, Robert
Discovering Archaeology program for students at North Augusta Elementary.

You Be the Archaeologist program for students from Greendale Elementary at the Silver Bluff Audubon Center.

Stephenson, Keith
Lecture titled, "Recent Archaeology at the Lawton Mound Site, Allendale County, South Carolina" presented to the Augusta Archaeological Society, Augusta, GA.

March 2007

Gillam, J. Christopher

DVD video, *Nova: The Mummy Who Would be King,* presented to members of the Midlands Chapter of the Archaeological Society of South Carolina, Columbia, SC.

Moon, Robert

Discovering Archaeology program for students at Warrenville Elementary in Warrenville, SC.

Discovering Archaeology program for students at W.E. Parker Elementary in Edgefield, SC.

Display at the Silver Bluff Audubon Center Trail Ride, Jackson, SC.

Lecture to students at the 2007 Career Quest at Aiken Tech, Aiken, SC.

You Be the Archaeologist program for two classes from Merriwether Elementary at the Silver Bluff Audubon Center.

You Be the Archaeologist program for two classes from Greendale Elementary at the Silver Bluff Audubon Center.

Stephenson, Keith

Lecture titled, "Hopewell and the South Appalachian Woodland Period," presented to students in the Archaeology of North America course, Dee Dee Joyce, instructor, College of Charleston, Charleston, SC.

April 2007

Gillam, J. Christopher

DVD video, *Lost Worlds: Knights Templar*, presented to members of the Midlands Chapter of the Archaeological Society of South Carolina, Columbia, SC.

Herron, Tammy F.

Led tours of the Silver Bluff Audubon Center & Sanctuary's Education Building—including presenting the history associated with Silver Bluff and displaying archaeological exhibits—during the Beech Island Tour of Homes and Historic Sites sponsored by the Beech Island Historical Society, Jackson, SC.

Organized an archaeological exhibit to be displayed at Georgia On My Mind Day, sponsored by the Georgia Department of Transportation, Georgia Visitor Information Center - Sylvania, GA.

Moon, Robert

Display at the North Augusta Kids Earth Day event in North Augusta, SC.

Discovering Archaeology program for students at North Harlem Elementary.

You Be the Archaeologist program for six classes from Redcliffe Elementary.

Wingard, George
Tour of Ellenton for members of DOE, Washington Group, Wackenhut, and Citizens for Nuclear Technology Awareness.

Tour of Meyers Mill for members of the Byrd/Meyer family.

May 2007

Gillam, J. Christopher
Lecture entitled "Paleoindian Archaeology of the Gault Site in Texas," presented to the Midlands Chapter of the Archaeological Society of South Carolina, Columbia, SC.

Herron, Tammy F.
Lecture regarding the history of the George Galphin site (38AK7) for visitors from Brandon Wilde: Augusta's Life Care Community. Silver Bluff Audubon Center & Sanctuary, Jackson, SC.

Moon, Robert
Classroom Dig program for students at Millbrook Elementary in Aiken, SC.

Discovering Archaeology program for students at Millbrook Elementary in Aiken, SC.

Discovering Archaeology program for students at Mossy Creek Elementary in North Augusta, SC.

Discovering Archaeology program for students at Clearwater Elementary in Clearwater, SC.

Dig Box program as part of the Family Discovery Series at Phinizy Swamp Nature Park, Augusta, GA.

Testing Station at the 2007 ESEC EcoMeet at the Watson Brown Foundation in Thomson, GA.

Wingard, George and Robert Moon
Tour of the Bell Family homesite for former resident Ulysses Bell.

June 2007

Herron, Tammy F. and Rob Moon
Participated in Artifact Identification Day sponsored by the Augusta Archaeological Society, Ezekial Harris House, Augusta, GA.

Moon Robert
Display at the SRS Kids Day program at the Savannah River Site.

Archaeological activities at the Coca-Cola Kids Camp at the Silver Bluff Audubon Center, Jackson, SC.

Archaeological activities at the Phinizy Swamp Nature Camp, Augusta, GA.

Wingard, George
Representative of the SRARP at the annual Ellenton Reunion held at Silver Bluff High School, Jackson, SC.

Wingard, George, and Robert Moon
Display at the SRS Safety Conference, USC-Aiken.

July 2007

Moon, Robert
Archaeology Camp at the Episcopal Day School Summer Camp series.

August 2007
Wingard, George
Display at the SR-DOE Cultural Diversity Day, SRS.