

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

FISCAL YEAR 2011



**SAVANNAH RIVER ARCHAEOLOGICAL RESEARCH PROGRAM
SOUTH CAROLINA INSTITUTE OF ARCHAEOLOGY AND ANTHROPOLOGY
UNIVERSITY OF SOUTH CAROLINA**

OCTOBER 2011

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

FISCAL YEAR 2011

Prepared by
the staff of the

**SAVANNAH RIVER
ARCHAEOLOGICAL RESEARCH PROGRAM**

This report was prepared through funding provided by the United States Department of Energy under contract DE-FC09-98SR18931.

The report was prepared as an account of work sponsored by the United States Government. Neither the United States nor the United States Department of Energy, nor their employees, nor any of their contractors, subcontractors, or their employees, make any warranty for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represent that its use would not infringe privately-owned rights.

**SAVANNAH RIVER ARCHAEOLOGICAL RESEARCH PROGRAM
SOUTH CAROLINA INSTITUTE OF ARCHAEOLOGY AND ANTHROPOLOGY
UNIVERSITY OF SOUTH CAROLINA**

October 2011

Cover Photo: Hernando hafted biface (2500 – 2000 B.P.) from BR-OCC-298 overlying the topography of Timber Compartment 40 on the Savannah River Site.

SAVANNAH RIVER ARCHAEOLOGICAL RESEARCH PROGRAM PERSONNEL**Staff**

Mark J. Brooks	Director/Geoarchaeologist
J. Christopher Gillam	GIS Specialist/Archaeologist
Tammy F. Herron	Curator of Artifact Collections
Ben P. Johnson	Field/Laboratory Technician
Adam King	Special Projects Archaeologist
Brian M. Milner	Field/Laboratory Technician
Robert Moon*	Field Director of CRM Survey
Christopher R. Moore	Curator of Public Outreach
Keith Stephenson	Coordinator of CRM Survey
Katherine Tantillo*	Field/Laboratory Technician
Christopher Thornock	Field Director of CRM Survey
George L. Wingard	Administrative Manager

Research Affiliates

Terry Ferguson	Wofford College
Andrew H. Ivester	University of West Georgia
Kenneth E. Sassaman	University of Florida
Barbara E. Taylor	SCDNR, Freshwater Fisheries Research Laboratory

Volunteers

Rooney Floyd	Laboratory/Field Assistant
John Hutto	Field Assistant
Duvall Lawrence	Laboratory/Field Assistant
Jill Nazarete	Laboratory/Field Assistant
Bob Van Buren	Laboratory/Field Assistant
John Whatley	Laboratory/Field Assistant

Graduate Research Assistants, University of South Carolina, Columbia

Christopher Thornock	University of South Carolina
----------------------	------------------------------

*No longer employed by the SRARP.

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 2011 (FY11) 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 2010 to August 2011. Due to DOE security concerns, however, parts of this report do not contain material (exact project area size, map scales, etc.) typically contained in standard archaeological documents.

In FY11, 985 acres of land on the SRS were investigated with 3,853 Shovel Test Pits (STPs) for CRM. This activity entailed 38 field reconnaissance and testing surveys. Thirteen newly discovered sites were recorded, and four previously recorded sites were revisited. The site file records were updated accordingly. Geographic 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 maintained continued support to DOE Cold War Cultural Resources Management Plan (CRMP) efforts through participation on DOE's Cold War Artifact Selection Team and at Heritage Tourism Board meetings.

Research conducted by SRARP personnel was reported in 12 professional articles and reports published during FY11. The SRARP staff presented research results in 13 papers and posters at professional conferences. SRARP personnel peer reviewed seven articles, manuscripts, or monographs for publication in professional journals, books, or reports, and one grant proposal. SRARP archaeological research included seven research projects involving excavation, laboratory analysis, museum, and archival study. Two grants were acquired to support both on- and off-site research. Employees served as consultants on 10 projects in off-site CRM and research activities. The SRARP staff held 29 offices and appointments to committees in various educational, avocational, and professional organizations.

In the area of heritage education, the SRARP continued its activities in FY11 with a full schedule of classroom education, public outreach, and on-site tours. Forty-one presentations, displays, and tours were provided for schools, civic groups, and environmental and historical awareness day celebrations. And finally, the SRARP staff chaired or served on 7 thesis or dissertation committees, as well as taught 4 anthropology courses at the University of South Carolina (USC), Columbia, and 1 field school at East Carolina University, Greenville, North Carolina.

TABLE OF CONTENTS

MANAGEMENT SUMMARY	iv
LIST OF TABLES	vi
LIST OF FIGURES	vi
INTRODUCTION	1
PART I. CULTURAL RESOURCES MANAGEMENT	2
RESULTS OF FY11 SITE USE AND TIMBER COMPARTMENT SURVEYS	2
Keith Stephenson, Christopher Thornock, and Tammy F. Herron	
Survey Coverage	2
SR-88 Site Use Permit Application Surveys	7
Timber Compartment Prescription Surveys	26
Survey Results	53
CURATION COMPLIANCE ACTIVITIES	55
Tammy F. Herron	
THE SRARP ARCHAEOLOGICAL GEOGRAPHIC INFORMATION SYSTEM	55
J. Christopher Gillam	
DOE COMPLIANCE SHORTFALLS AND FUTURE REQUIREMENTS	56
Tammy F. Herron	
SAFETY COMPLIANCE	58
George L. Wingard	
PART II. RESEARCH	60
RESEARCH ABSTRACTS	60
RESEARCH NOTES	67
Geoarchaeological and Paleoenvironmental Research	67
Christopher R. Moore and Mark J. Brooks	
38AK892 – Continuing the Research	82
Tammy F. Herron	
Designing Exhibits for the Beech Island Agricultural Museum	84
Tammy F. Herron	
Piasa at the Hollywood Mound	85
Adam King	
Continued Research at Site 38AK953: An Early 20th-Century Tenant Farm	99

George Wingard and Keith Stephenson The 2011 Field School at Palachacolas Town, Savannah River Valley, South Carolina	103
Charles Cobb, Chester DePratter, Chris Gillam, and Chris Judge	
PART III. PUBLIC EDUCATION	109
EDUCATIONAL OUTREACH	109
Christopher R. Moore	
SRARP VOLUNTEER PROGRAM	109
Christopher R. Moore and Tammy F. Herron	
CINEMATIC OUTREACH	110
George L. Wingard	
CEMETERY TOURS: FORMER RESIDENTS AND GENEALOGICAL RESEARCH	112
George L. Wingard	
CO-SPONSORING GEORGIA ARCHAEOLOGY MONTH 2011	112
Tammy F. Herron	
REFERENCES CITED	115
APPENDIX. PUBLICATIONS AND PROFESSIONAL ACTIVITIES	119
PUBLISHED PAPERS	119
TECHNICAL REPORTS	120
PROFESSIONAL PAPERS AND POSTERS	120
CONTRIBUTIONS TO CURRENT RESEARCH	121
REVIEWS OF ARTICLES, MANUSCRIPTS, AND PROPOSALS	122
OFFICES AND APPOINTMENTS HELD	122
PROFESSIONAL ORGANIZATION SERVICE	124
CONSULTING	124
GRANT PROPOSALS SUBMITTED	125
CONTRACTS AND GRANTS	126

ACADEMICS	126
PUBLIC SERVICE ACTIVITIES.....	127

LIST OF TABLES

Table I-1. Data on the Extent, Depth, and Content of New Sites Recorded, FY11	3
Table I-2. Data on the Extent, Depth, and Content of Site Revisits, FY11	3
Table I-3. Evaluation of New and Previously Recorded Sites, FY11	3
Table I-4. Isolated Artifact Occurrences, FY11	4
Table I-5. SR-88 Site Use Application Projects, FY11.....	7
Table I-6. Timber Compartment Prescription and Log Deck Surveys, FY11	27
Table I-7. Summary of FY11 Survey Results	54
Table II-1. Radiocarbon and Calibrated Dates from Flamingo Bays (38AK469) and Johns Bay (38AL246).....	72

LIST OF FIGURES

Figure I-1. Location of FY11 Site Use project areas on the SRS	5
Figure I-2. Location of FY11 Timber Compartment project areas on the SRS.....	6
Figure I-3. SU Log No. 2026 survey area	8
Figure I-4. SU Log No. 2035 survey area	10
Figure I-5. SU Log No. 2035 survey area (continued).....	10
Figure I-6. SU Log No. 2035 survey area (continued).....	11
Figure I-7. SU Log No. 2035 survey area (continued).....	11
Figure I-8. SU Log No. 2035 survey area (continued).....	12
Figure I-9. SU Log No. 2035 survey area (continued).....	12
Figure I-10. SU Log No. 2035 survey area (continued).....	13
Figure I-11. SU Log No. 2035 survey area (continued).....	13
Figure I-12. SU Log No. 2035 survey area (continued).....	14
Figure I-13. SU Log No. 2035 survey area (continued).....	14
Figure I-14. SU Log No. 2035 survey area (continued).....	15
Figure I-15. SU Log No. 2035 survey area (continued).....	15
Figure I-16. SU Log No. 2035 survey area (continued).....	16
Figure I-17. SU Log No. 2035 survey area (continued).....	16
Figure I-18. SU Log No. 2042 survey area	17
Figure I-19. SU Log No. 2050 survey area	18
Figure I-20. SU Log No. 2053 survey area	19
Figure I-21. SU Log No. 2053 survey area (continued).....	19
Figure I-22. SU Log No. 2053 survey area (continued).....	20
Figure I-23. SU Log No. 2053 survey area (continued).....	20
Figure I-24. SU Log No. 2087 survey area	22
Figure I-25. SU Log No. 2087 survey area (continued).....	22
Figure I-26. SU Log No. 2088 survey area	23
Figure I-27. SU Log No. 2096 survey area	24

Figure I-28. SU Log No. 2097 survey area.....	24
Figure I-29. Timber Compartment 8 survey area.....	29
Figure I-30. Timber Compartment 9 survey area.....	29
Figure I-31. Timber Compartment 10 survey area.....	30
Figure I-32. Timber Compartment 15 survey area.....	30
Figure I-33. Timber Compartment 17 survey area.....	31
Figure I-34. Timber Compartment 18 survey area.....	32
Figure I-35. Timber Compartment 19 survey area.....	32
Figure I-36. Timber Compartment 21 survey area.....	34
Figure I-37. Timber Compartment 25 survey area.....	34
Figure I-38. Timber Compartment 26 survey area.....	35
Figure I-39. Timber Compartment 29 survey area.....	35
Figure I-40. Timber Compartment 30 survey area.....	36
Figure I-41. Timber Compartment 30 survey area (continued).....	36
Figure I-42. Timber Compartment 32 survey area.....	38
Figure I-43. Timber Compartment 34 survey area.....	38
Figure I-44. Timber Compartment 34 survey area (continued).....	39
Figure I-45. Timber Compartment 34 survey area (continued).....	39
Figure I-46. Timber Compartment 40 survey area.....	40
Figure I-47. Timber Compartment 40 survey area (continued).....	40
Figure I-48. Timber Compartment 40 survey area (continued).....	41
Figure I-49. Timber Compartment 51 survey area.....	42
Figure I-50. Timber Compartment 51 survey area (continued).....	43
Figure I-51. Timber Compartment 51 survey area (continued).....	43
Figure I-52. Timber Compartment 51 survey area (continued).....	44
Figure I-53. Timber Compartment 51 survey area (continued).....	44
Figure I-54. Timber Compartment 52 survey area.....	45
Figure I-55. Timber Compartment 52 survey area (continued).....	45
Figure I-56. Timber Compartment 52 survey area (continued).....	46
Figure I-57. Timber Compartment 52 survey area (continued).....	46
Figure I-58. Timber Compartment 53 survey area.....	48
Figure I-59. Timber Compartment 53 survey area (continued).....	48
Figure I-60. Timber Compartment 54 survey area.....	49
Figure I-61. Timber Compartment 54 survey area (continued).....	49
Figure I-62. Timber Compartment 57 survey area.....	50
Figure I-63. Timber Compartment 62 survey area.....	50
Figure I-64. Timber Compartment 64 survey area.....	51
Figure I-65. Timber Compartment 82 survey area.....	52
Figure I-66. Timber Compartment 82 survey area (continued).....	52
Figure I-67. Timber Compartment 85 survey area.....	53
Figure II-1. Planview map for Flamingo Bay (38AK469) for FY 2009 through 2011 fieldwork (Prov. 55-65) along with Prov. 25 from an earlier excavation. Artifacts not to scale. Prov. 64 and 65 are from FY11.....	68
Figure II-2. Clovis Point base (A) recovered from Prov. 59SW and unifacial flake tools, including end scrapers (B and C), a possible spokeshave on a flake (D), and graver tools (E and F) recovered from Prov. 65.....	69

Figure II-3. Examples of calcined bone fragments recovered from Flamingo Bay (38AK469).....	70
Figure II-4. Examples of charred maypop (<i>Passiflora incarnata</i>) seeds recovered from Flamingo Bay (38AK469).....	71
Figure II-5. Calibrated radiocarbon dates for Flamingo Bay (38AK469) and Johns Bay (38AL246). Note: Calibrated dates were calculated using the Fairbanks0107 online calibration tool and are to 1 sigma	74
Figure II-6. Planview map of the most recent (FY09-11) block excavation at Flamingo Bay (38AK469) showing frequency of identified gastroliths (in red) recovered from 2 x 2 m test units and later for individual quads within test units. Total number for individual 2 x 2 m units is circled. *Provenience 25 is from an earlier excavation and gastrolith numbers are likely low due to pebbles not being collected. Prov. 62NE was excavated using 3.2 mm mesh. Recent excavations of Prov. 64 and 65 have yet to be analyzed.....	75
Figure II-7. 2011 Summer Ventures Program participants and instructors. (Photograph by I. Randolph Daniel, Jr.).....	79
Figure II-8. Examples of stone tools and pottery from the Eared Yadkin component at Squires Ridge (31ED365).....	79
Figure II-9. Digital elevation map showing the location of quarry sites, outcrop samples, and artifacts currently being studied by the SRARP, as well as quarry samples from a similar study in North Carolina (Steponaitis et al. 2006). All SRARP samples are in South Carolina with the exception of a single sample of vitric tuff from Asheboro, NC	81
Figure II-10. Sediment column and luminescence (OSL) samples collected from the Kolb site (38DA75) in March of FY11.....	82
Figure II-11. Feature containing faunal remains at 38AK892	83
Figure II-12. Faunal remains in situ at 38AK892	84
Figure II-13. Embossed copper plate of frontal facing Piasa, Hollywood site Mound B	86
Figure II-14. Pottery vessels exhibiting the Piasa theme	87
Figure II-15. Shell gorget, Moundville site.....	88
Figure II-16. Limestone pipe, Moundville site	88
Figure II-17. Piasa (a) after Marquette's description, (b) by Marquette's cartographer	89
Figure II-18. Image of Great Serpent with Piasa Mask.....	90
Figure II-19. Schematic of the upper and lower burial layers, Hollywood site Mound B	90
Figure II-20. Two engraved cups from Mound B that exhibit Late Braden style and originate from the eastern Tennessee area (top vessel Accession No. 135196; bottom vessel Accession No.135204).....	92
Figure II-21. Stone disk exhibiting the ogee theme	94
Figure II-22. Stone disk with ogee formed by entwined snakes	94
Figure II-23. Birdman with Bi-Lobed Arrow.....	96
Figure II-24. Discoidal from the Celt Stack, Hollywood Site Mound B	98

Figure II-25. Map of site 38AK953 showing brick piers representing house (No. 1697) and shed (No. 1998) locations, as well as block excavation into house refuse midden	100
Figure II-26. Simple, side-gabled, hall-and-parlor style tenant farmhouse on Greene property	101
Figure II-27. Basal portion of Dave vessel in situ.....	101
Figure II-28. The Dave vessel reconstructed	102
Figure II-29. George Wingard discussing the Dave vessel at a meeting of the Granby Chapter of the Daughters of the American Revolution, Columbia, SC.....	103
Figure II-30. Possible fortification trench at Palachacolas Town	105
Figure II-31. Amy Worthington runs ground penetrating radar while Dan Elliott looks on.....	105
Figure II-32. View of our field school site.....	106
Figure II-33. Our multi-tasking students manage to screen soil and show their support for the Gamecocks' repeat NCAA baseball championship	106
Figure II-34. Calla DePratter and Noah Atchley wishing they were digging in sand somewhere else, like Hilton Head	107
Figure III-1. Mark Albertin, far right, filming the excavation at Frierson Bay in Blackville, South Carolina. In the test unit are Drs. Andrew Ivester and Christopher Moore.....	111
Figure III-2. George Wingard interviewing author Leonard Todd for an upcoming film project about the slave potter Dave	111
Figure III-3. (Left to right) Annette Cole, Michael Bradley, Jennifer Kassing-Bradley, Faye Kassing, John Kassing, and Wallace Morris standing with the new grave markers.....	113

INTRODUCTION

Since 1990, CRM compliance on the SRS has been based on a programmatic memorandum of agreement (PMOA) among the DOE, the South Carolina State Historic Preservation Office (SCSHPO), and the Advisory Council on Historic Preservation (ACHP). Through this PMOA, the DOE commits to conduct an integrated CRM program at the SRS that features research, public outreach, and compliance components. In return, the SCSHPO waves 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 various other CRM laws and regulations.

SRARP provides the DOE with the technical expertise that enables the DOE to meet its PMOA commitments. The specific elements of the SRARP compliance, research, and outreach efforts are identified within a cooperative agreement between the DOE and the SCIAA-USC. The cooperative agreement also allows for compliance work to be performed using an SRS-specific archaeological survey and 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 FY11 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 FY11 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 lists all professional and public service activities of the SRARP staff.

PART I. CULTURAL RESOURCES MANAGEMENT

RESULTS OF FY11 SITE USE AND TIMBER COMPARTMENT SURVEYS

Keith Stephenson, Christopher Thornock, and Tammy F. Herron

Survey Coverage

Archaeological survey of Site Use Permit Application and Timber Compartment Prescription projects by SRARP staff continued through FY11 according to procedures outlined in 1990 (SRARP 1990:7-17). During FY11, archaeological reconnaissance and survey was conducted on 38 proposed projects¹ through the subsurface inspection of 985 acres with a total of 3,853 Shovel Test Pits (STPs) excavated. Altogether, 13 new sites were recorded and delineated, and 4 previously recorded sites were revisited during FY11. 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. As such, these sites will be completely avoided by SRS contractors during any land-disturbing activities. At the time 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, 17 isolated artifact occurrences were recorded during FY11 surveys. Summary information concerning specific aspects of all new and existing sites, as well as isolated artifact occurrences, is provided in Table I-1 to Table I-4. The locations of all Site Use Application and Timber Compartment surveys are shown in Figure I-1 and Figure I-2 respectively.

Over the past 22 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 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.

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

Table I-1. Data on the Extent, Depth, and Content of New Sites Recorded, FY11.

STATE SITE NUMBER	SURVEY PROJECT	SURVEY METHOD	SITE SIZE (m)	SURF. VIS. (%)	SITE DEPTH (cmbs)	POS. # STPs	STPs	COMPONENTS
38AK987	SU 2050	Full Coverage	90 x 30	0	80	24	3	EW, LW, 19 th cent.
38AK988	SU 2035	Full Coverage	150 x 60	0	80	57	9	MW
38AK989	SU 2096	Full Coverage	350 x 50	51-75	70	39	22	LA, EW
38AK990	SU 2096	Full Coverage	110 x 40	51-75	50	20	8	EW, Miss.
38BR1273	SU 2035	Full Coverage	110 x 80	1-25	30	58	18	20 th cent.
38BR1274	SU 2035	Full Coverage	30 x 30	1-25	30	19	3	20 th cent.
38BR1275	SU 2035	Full Coverage	30 x 30	1-25	30	18	3	19 th /20 th cent.
38BR1276	TC 34	Full Coverage	60 x 30	51-75	80	35	7	Unk. Preh., 19 th /20 th cent.
38BR1277	SU 2035	Full Coverage	90 x 74	76-100	30	53	14	19 th /20 th cent.
38BR1280	TC 52/53	Full Coverage	240 x 135	26-50	45	163	54	Unk. Preh., 19 th cent.
38BR1281	TC 52/53	Full Coverage	90 x 50	26-50	30	22	4	20 th cent.
38BR1282	TC40	Full Coverage	15 x 15	0	70	18	3	MW
38BR1288	TC 34	Full Coverage	40 x 15	0	50	20	3	Unk. Preh., 19 th cent.

Recon. - Reconnaissance
 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
 na - not applicable

Table I-2. Data on the Extent, Depth, and Content of Site Revisits, FY11.

STATE SITE NUMBER	SURVEY PROJECT	SURVEY METHOD	SITE SIZE (m)	SURF. VIS. (%)	SITE DEPTH (cmbs)	POS. # STPs	STPs	COMPONENTS
38AK800	SU 2026	Predictive	35 x 10	1-25	80	21	3	Unk. Preh., 19 th cent.
38AK802	SU 2026	Predictive	35 x 70	51-75	95	19	3	LA, Unk. Preh.
38BR231	TC 52	Full Coverage	300 x 150	1-25	80	59	24	MA-LA, EW-LW, MISS
38BR397	TC 40	Full Coverage	190 x 120	1-25	50	3	2	MW

Recon. - Reconnaissance
 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
 Unk. - Unkown

Table I-3. Evaluation of New and Previously Recorded Sites, FY11.

STATE SITE NUMBER	SURVEY PROJECT	SURVEY METHOD	SITE COMPONENTS	SITE INTEGRITY	NRHP ELIGIBILITY	FURTHER WORK
38AK800	SU 2026	Predictive	Unk. Preh., 19 th cent.	Moderate	Unevaluated	Testing
38AK802	SU 2026	Predictive	LA, Unk. Preh.	Moderate	Unevaluated	Testing
38AK803*	SU 2026	Predictive	Unk. Preh.	Moderate	Not Eligible	None
38AK987	SU 2050	Full Coverage	EW, LW, 19 th cent.	Moderate	Unevaluated	Testing
38AK988	SU 2026	Predictive	20 th cent.	Moderate	Not Eligible	None
38AK989	SU 2096	Full Coverage	LA, EW	Moderate	Unevaluated	Testing
38AK990	SU 2096	Full Coverage	EW, Miss.	Moderate	Unevaluated	Testing
38BR231	TC 52	Full Coverage	MA-LA, EW-LW, Miss.	Good	Eligible	None
38BR397	TC 40	Full Coverage	MW	Good	Eligible	None
38BR1273	SU 2035	Full Coverage	20 th cent.	Moderate	Not Eligible	None
38BR1274	SU 2035	Full Coverage	20 th cent.	Moderate	Not Eligible	None
38BR1275	SU 2035	Full Coverage	19 th /20 th cent.	Moderate	Not Eligible	None
38BR1276	TC 34	Full Coverage	Unk. Preh., 19 th /20 th cent.	Moderate	Unevaluated	None
38BR1277	SU 2035	Full Coverage	19 th /20 th cent.	Moderate	Not Eligible	None

Table I-3. Evaluation of New and Previously Recorded Sites, FY11 (continued).

STATE SITE NUMBER	SURVEY PROJECT	SURVEY METHOD	SITE COMPONENTS	SITE INTEGRITY	NRHP ELIGIBILITY	FURTHER WORK
38BR1280	TC 52/53	Full Coverage	Unk. Preh, 19th cent.	Moderate	Eligible	Testing
38BR1281	TC 52/53	Full Coverage	20th cent.	Moderate	Not Eligible	None
38BR1282	TC 40	Full Coverage	MW	Moderate	Unevaluated	Testing
38BR1288	TC 34	Full Coverage	Unk. Preh, 19th cent.	Moderate	Unevaluated	Testing
TC - Timber Compartment			MA - Middle Archaic	LW - Late Woodland		
SU - Site Use			LA - Late Archaic	Miss. - Mississippian		
Opp - Opportunistic			EW - Early Woodland	Unk. Preh. - Unknown Prehistoric		
EA - Early Archaic			MW - Middle Woodland	Unk. Hist. - Unknown Historic		
* Eligibility status revised from FY00 (SRARP 2000)						

Table I-4. Isolated Artifact Occurrences, FY11.

ISOLATED FIND NO.	STPs	COMPONENT	SURVEY PROJECT
AKOCC-156	8	Prehistoric	SU 2026
BROCC-284	11	Prehistoric	TC 34, Stand 011
BROCC-285	5	Historic	TC 30, Stand 010
BROCC-286	6	Prehistoric	TC 52, Stand 010
BROCC-287	5	Prehistoric	TC 52, Stand 010
BROCC-288	12	Prehistoric	TC 52, Stand 010
BROCC-289	6	Prehistoric	TC 52, Stand 010
BROCC-290	6	Prehistoric	TC 52, Stand 010
BROCC-291	6	Historic	TC 52, Stand 041
BROCC-292	8	Prehistoric	TC 52, Stand 041
BROCC-293	5	Prehistoric	TC 40, Stand 031
BROCC-294	6	Prehistoric	TC 40, Stand 031
BROCC-295	5	Prehistoric	TC 53, Stand 060
BROCC-296	5	Prehistoric	TC 54, Stand 122
BROCC-297	4	Historic	TC 54, Stand 122
BROCC-298	6	Prehistoric	TC 40, Stand 017
BROCC-299	5	Prehistoric	TC 52, Stand 034
OCC - Artifact Occurrence		SU - Site Use	
TC - Timber Compartment		STD - Timber Stand	

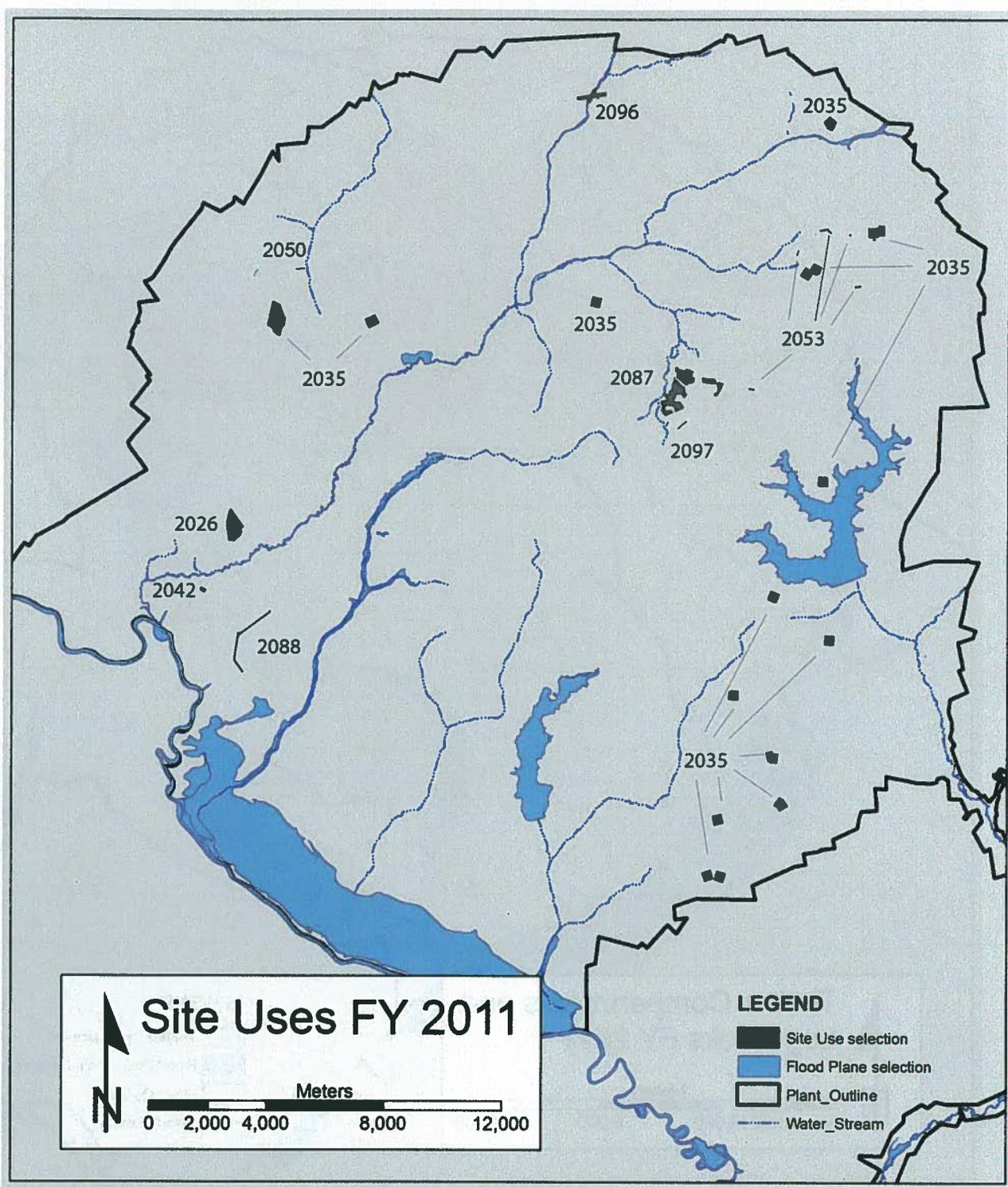


Figure I-1. Location of FY11 Site Use project areas on the SRS.

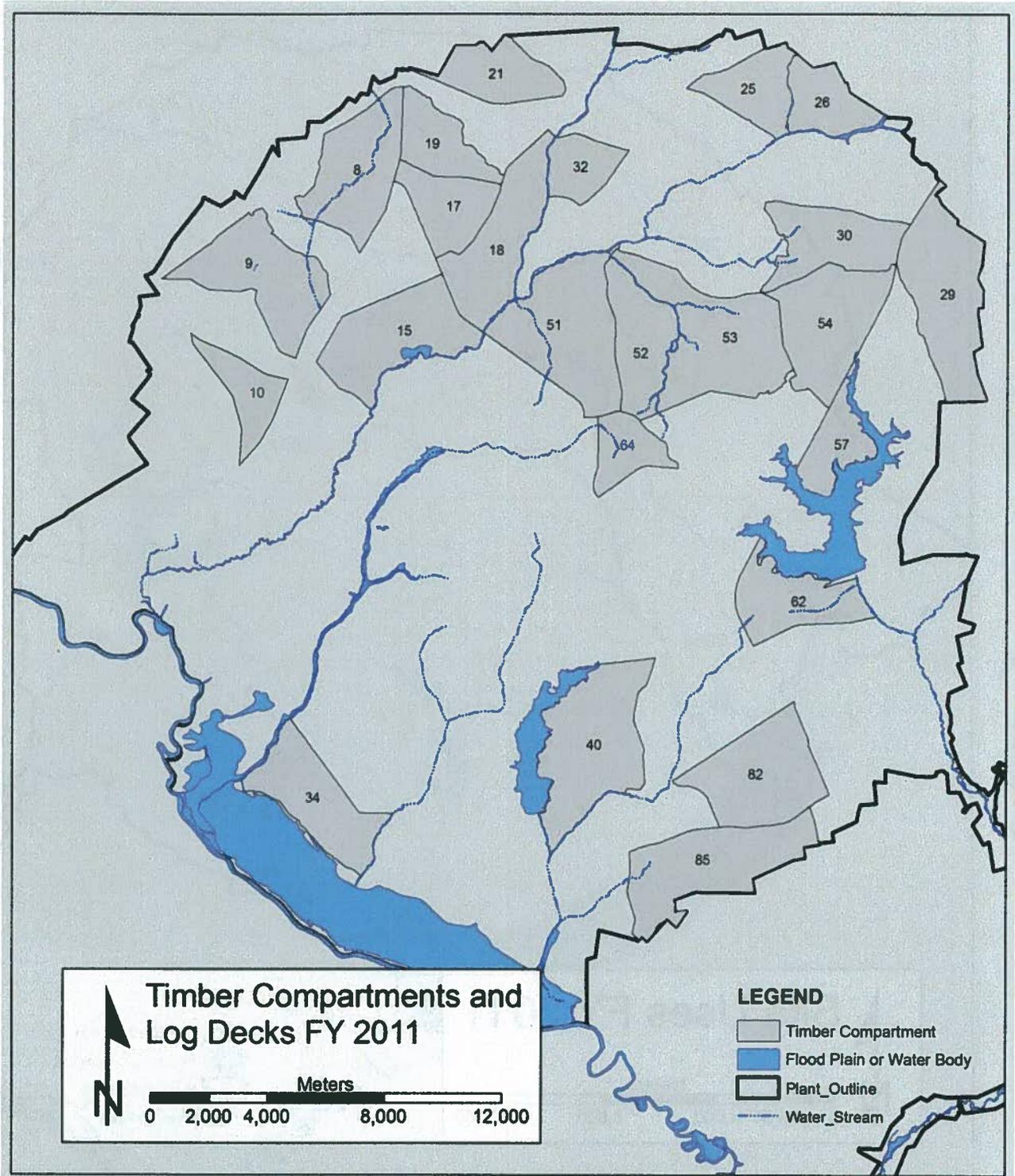


Figure I-2. Location of FY11 Timber Compartment project areas on the SRS.

SR-88 Site Use Permit Application Surveys

The SRARP received 54 Site Use Permit Applications during FY11. Each permit application underwent review by SRARP management for proposed land modification. Of these, 12 Site Use projects required field reconnaissance or archaeological survey in addition to one ongoing project last fiscal year (Table I-5). These Site Use projects comprised 550 acres (56%) of the total survey coverage in FY11.

Table I-5. SR-88 Site Use Application Projects, FY11.

PROJECT	TOTAL PROJECT STPs	PROJECT AREA SURVEYED (ac)	NEW SITES	SITE REVISITS
SU Log No. 2026	39	98		38AK800 38AK802
SU Log No. 2035	1,348	388	38AK988 38BR1273 38BR1274 38BR1275 38BR1277	
SU Log No. 2042	21	4		
SU Log No. 2050	13	3	38AK987	
SU Log No. 2053	41	10		
SU Log No. 2070	recon			
SU Log No. 2072	recon			
SU Log No. 2073	recon			
SU Log No. 2087	117	13		
SU Log No. 2088	na	na		
SU Log No. 2096	173	32	38AK989 38AK990	
SU Log No. 2097	18	2		
TOTAL	1,770	550	8	2

na - not applicable

The following summaries describe Site Use projects and survey results during FY11. Certain aspects of archaeological work are standard for all projects. Prior to fieldwork, a review of 1951 aerial photographs is conducted to identify standing historic structures at the time of federal acquisition. The SRARP site files are consulted to identify previously recorded cultural resources. All STPs measure 35 x 35 cm and are excavated to a depth of at least 80 cmbs, unless a gravel or clay substratum is encountered. Upon completion of each survey project, point data for all STPs, as well as all new and previously recorded sites and isolated artifact occurrences, are recorded using GPS equipment. Exceptions to this fieldwork procedure include historic site locations identified from 1951 aerial photographs that are situated in low-probability areas for prehistoric sites (see discussion of Archaeological Sensitivity Zones in SRARP 1989). At these locations, STPs are 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 is sifted through 0.25-in. wire mesh, and artifacts are collected and bagged by provenience.

SU Log No. 2026 – SREL Testing Areas for Tick Ecology Research

This Site Use Permit, first initiated on April 8, 2010 by the Savannah River Ecology Laboratory (SREL) and later revised and reissued on June 30, 2010, requested an approximately 98-acre tract in Timber Compartment 11, Stands 24, 27, and 52 to determine the quantitative abundance of blacklegged ticks (*Ixodes scapularis*) (Figure I-3). Designated field techniques required some land-disturbing activities involving the installation of drift fences and small, subsurface pit-fall traps. Due to delays on the part of SREL concerning a final decision regarding the exact location of the project area, archaeological survey could not be initiated until this fiscal year.

A review of the SRARP database showed four previously recorded sites (38AK800, 38AK801, 38AK802, 38AK803) in the current project area. Fieldwork consisted of 39 STPs (5 positive) excavated along a single transect within the project area. These survey efforts resulted in the relocation and delineation of 38AK800 and 38AK802. Site 38AK801, which consisted of six chert flakes, could not be relocated during the current survey. No attempt was made to relocate 38AK803 as it consisted of only five artifacts, including chert flakes and eroded sherds. Additional artifact recovery consisted of one isolated find (AK-OCC-156).

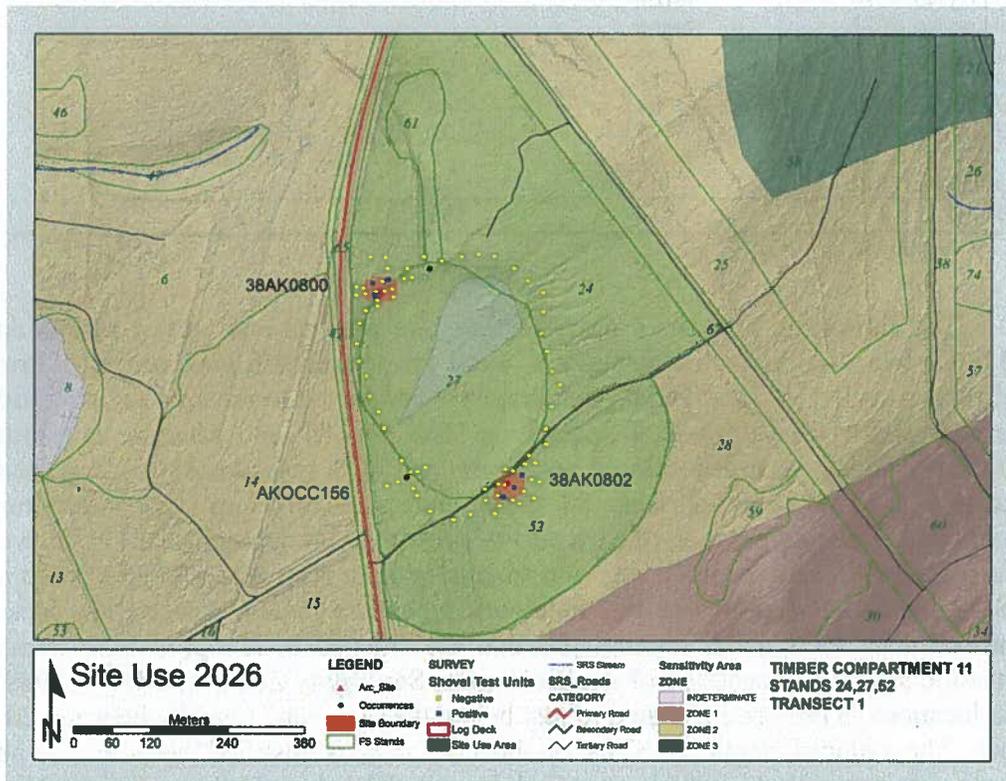


Figure I-3. SU Log No. 2026 survey area.

Site 38AK800 is multicomponent with a 19th-century occupation as well as unidentifiable prehistoric components. Site 38AK802 is multicomponent with Late Archaic as well as other unidentifiable prehistoric occupations. As such, these sites hold the research potential to advance our understanding of the history of the region. Sites 38AK800 and 38AK802 are recommended as eligible for nomination to the NRHP, but further survey and testing must be conducted at each site for a full eligibility determination. Site 38AK802 was recommended as potentially eligible in the FY00 Annual Report site inventory (SRARP 2000:10), and a revised evaluation for this project deems that this site is considered not eligible for nomination to the NRHP given the paucity of artifact recovery and the absence of diagnostic types. Finally, the single artifact occurrence holds no research potential to advance our understanding of the history of the region. An SRARP consultation with SREL resulted in the agreement that 38AK800 and 38AK802 will be completely avoided during any proposed ground disturbance on the part of SREL. Thus, there will be no adverse effect to any historic properties by the proposed Site Use action.

SU Log No. 2035 – Restoration of Remnant Savanna Communities

This Site Use Permit, issued June 16, 2010 by Anne Poole and John Blake of the United States Forest Service-Savannah River (USFS-SR), Lars Brudvig of Michigan State University (MSU), and John Orrock of the University of Wisconsin (UW), proposed the use of approximately 388 acres to evaluate the effects of over-story removal prescribed fire on remnant savanna communities (Figure I-4 to Figure I-17). Land-disturbing activities include new secondary roads, timber harvesting, and logging decks for loading cut timber (see also log deck surveys in Timber Compartments 9, 15, 30, 51, 62, 82, and 85 below). Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of 1,348 STPs (12 positive) excavated along 135 transects either on a 30-m grid at locations in Sensitivity Zones 2 and 3 or along separate transects in Sensitivity Zone 1 following the SRARP locational model. On certain tracts within the broader project area, STP survey was suspended where previously disturbed areas from past SRS activities were encountered, when gravel substratum was encountered just below ground surface, or when USFS-SR personnel requested that archaeological survey not be conducted in Special Research areas.

These survey efforts resulted in the discovery and delineation of five new sites (38AK988, 38BR1273, 38BR1274, 38BR1275, 38BR1277), as well as the recovery of one isolated artifact (BR-OCC-285). Sites 38AK988, 38BR1273, and 38BR1274 consist of 20th-century homeplaces, and sites 38BR1275 and 38BR1277 consist of 19th- to 20th-century homeplaces. Each of these sites was razed during initial SRS land-use activities in the early 1950s and, as a result, they have poor integrity and hold little research potential to advance our understanding of the history of the region. As such, they are considered not eligible for nomination to the NRHP; however, all sites will be avoided completely during current land-altering activities. The artifact occurrence holds no potential to advance our understanding of the history of the region. Thus, there will be no adverse effect to any historic properties resulting from the proposed Site Use action.

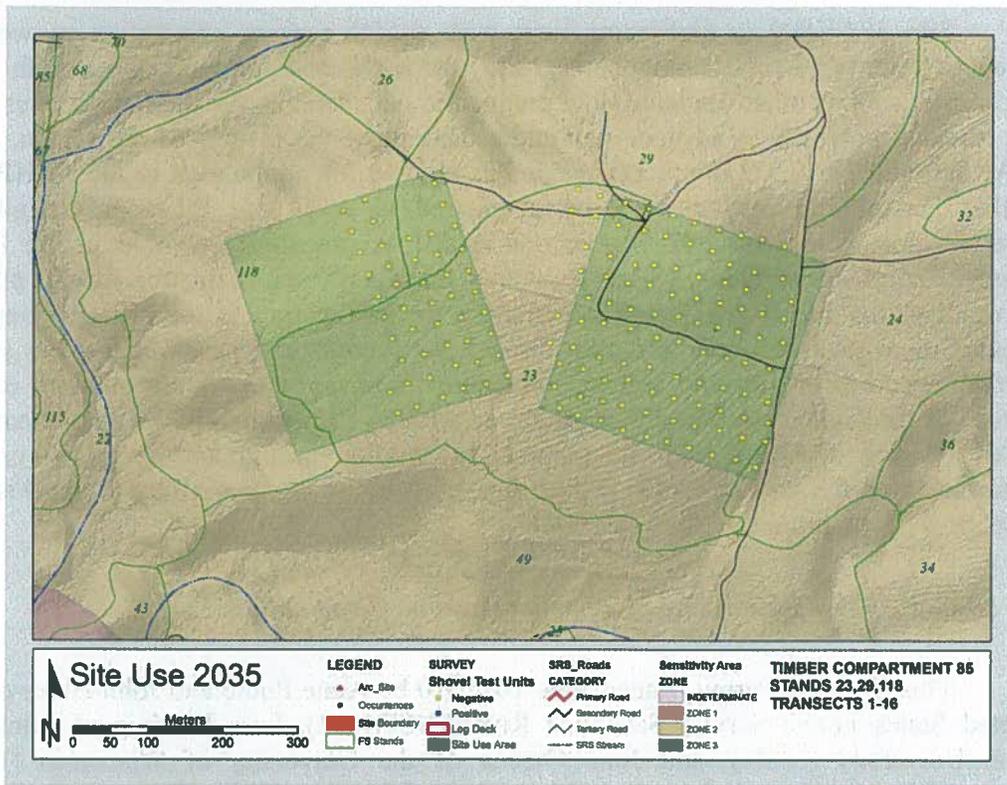


Figure I-4. SU Log No. 2035 survey area.

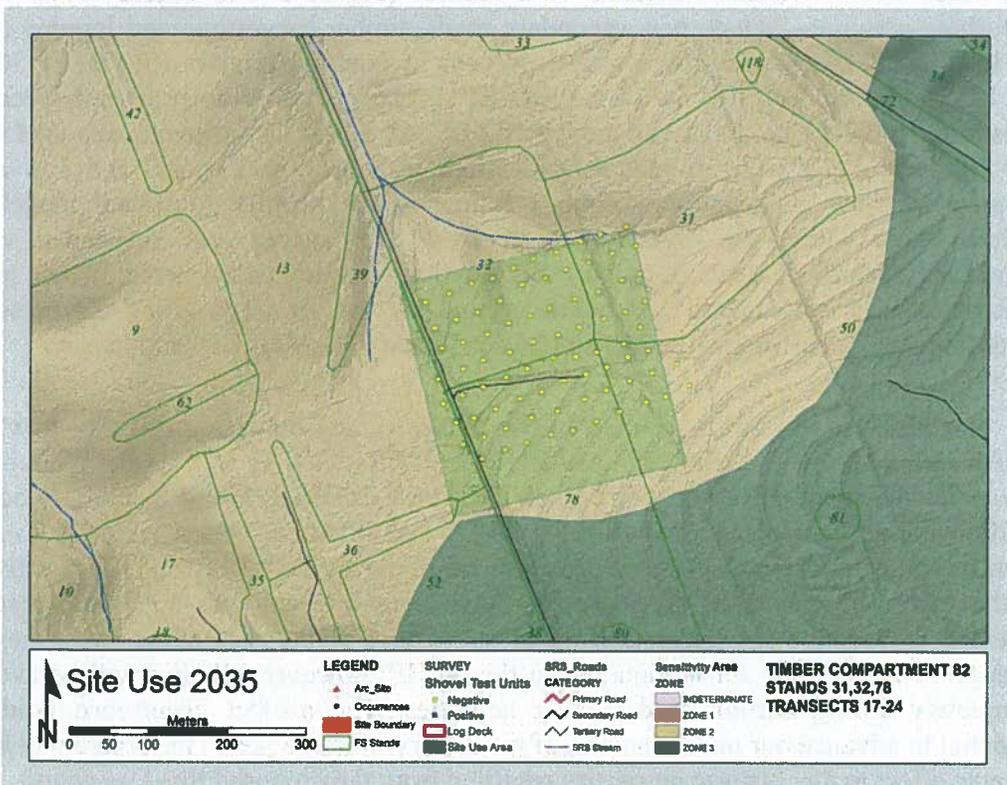


Figure I-5. SU Log No. 2035 survey area (continued).

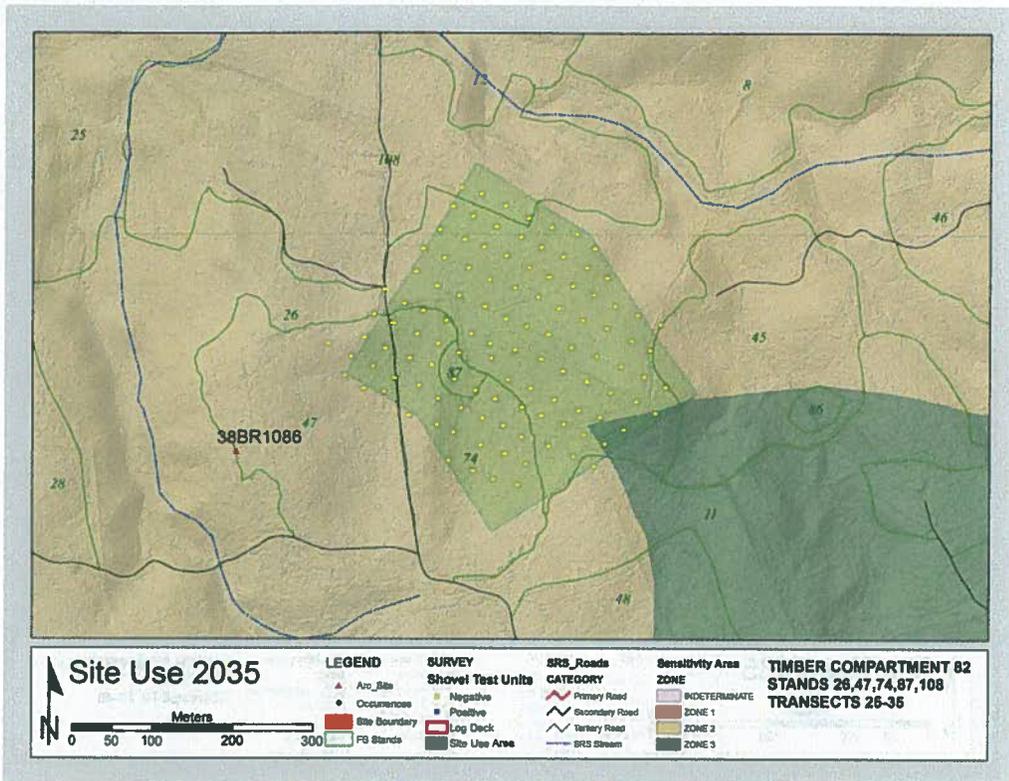


Figure I-6. SU Log No. 2035 survey area (continued).

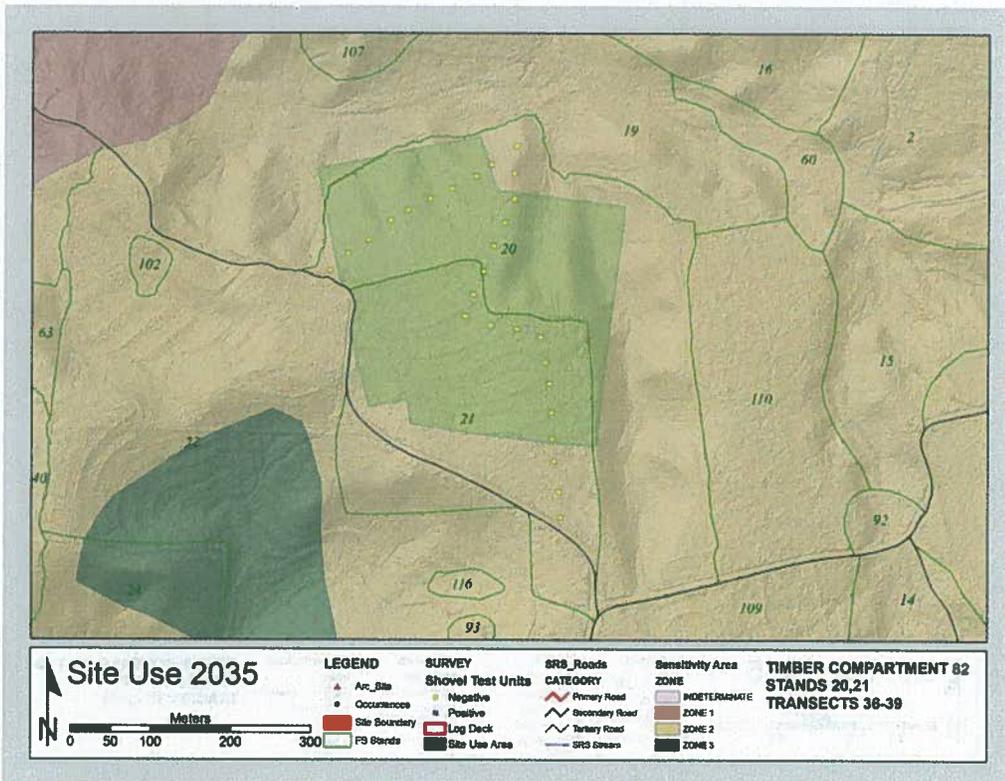


Figure I-7. SU Log No. 2035 survey area (continued).

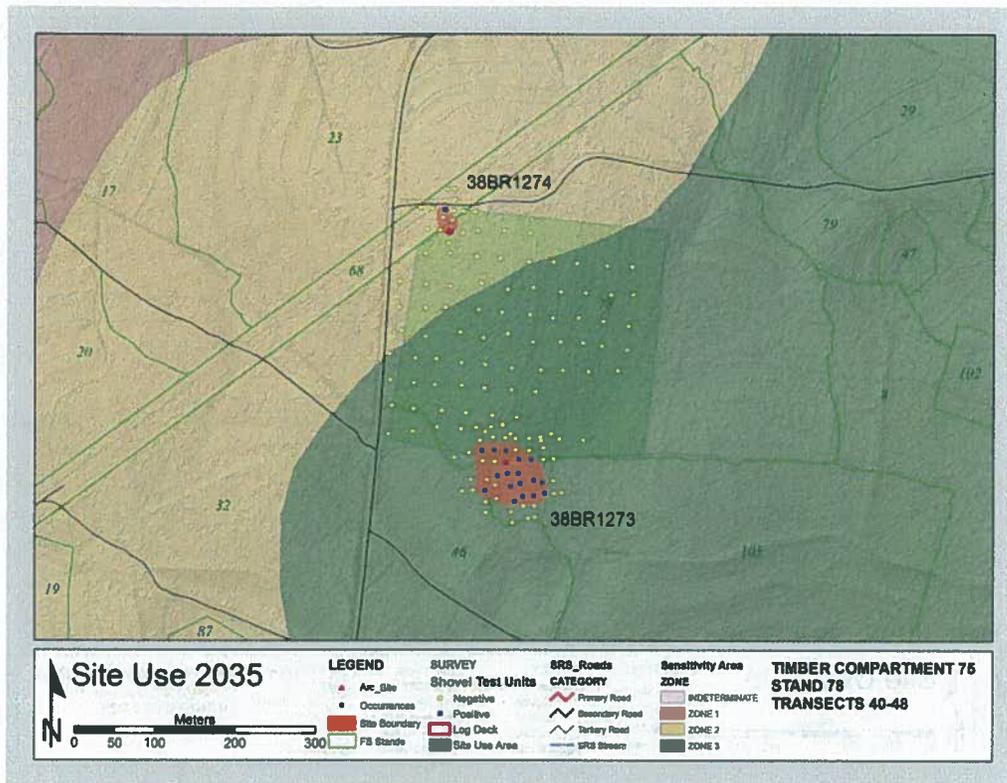


Figure I-8. SU Log No. 2035 survey area (continued).

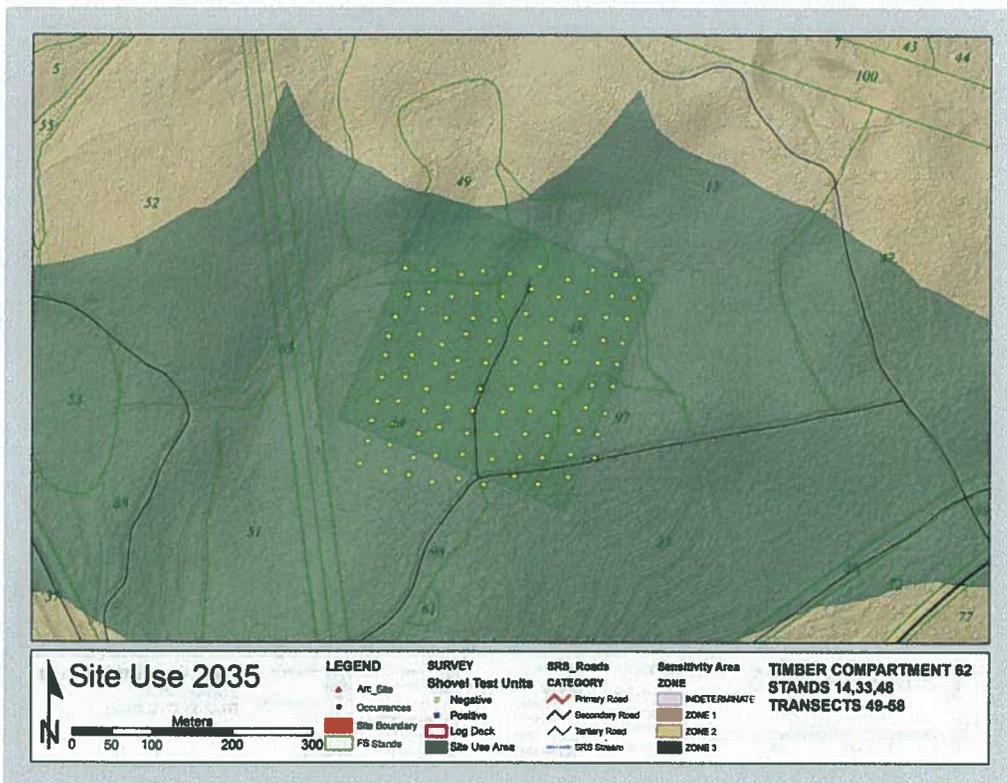


Figure I-9. SU Log No. 2035 survey area (continued).

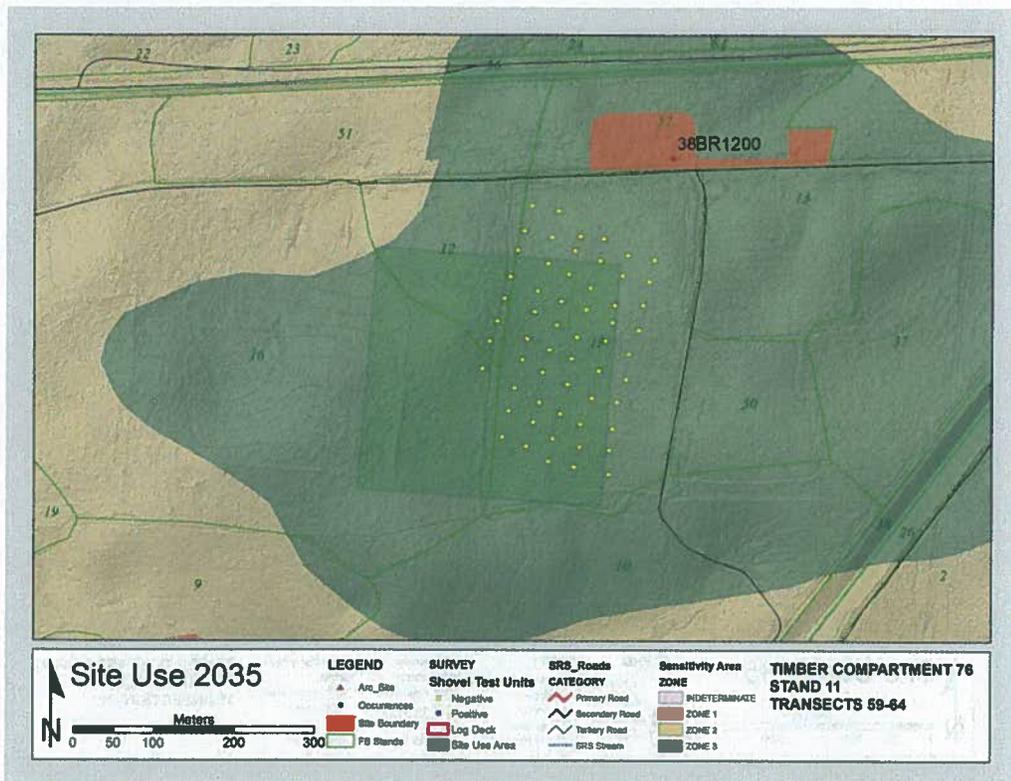


Figure I-10. SU Log No. 2035 survey area (continued).

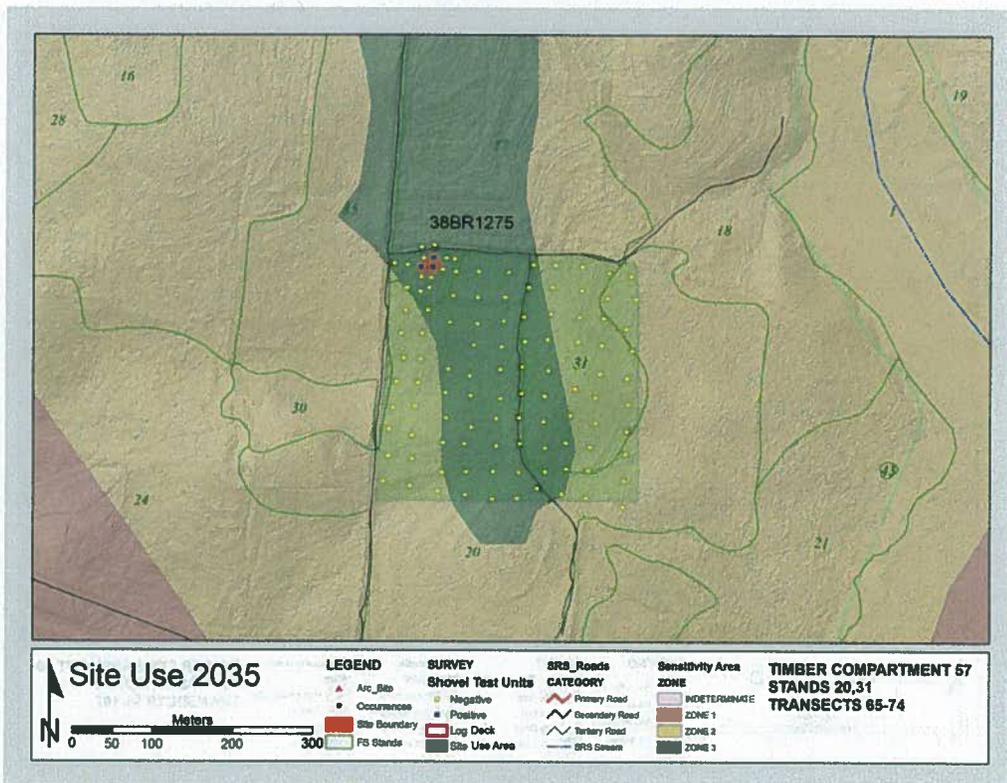


Figure I-11. SU Log No. 2035 survey area (continued).

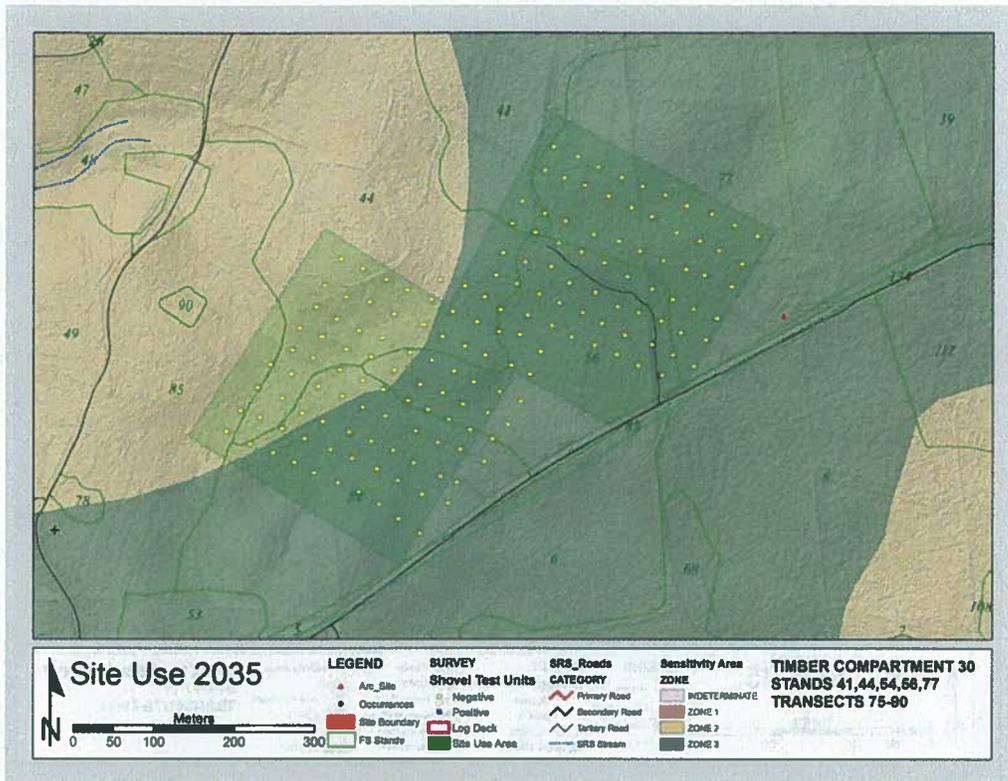


Figure I-12. SU Log No. 2035 survey area (continued).

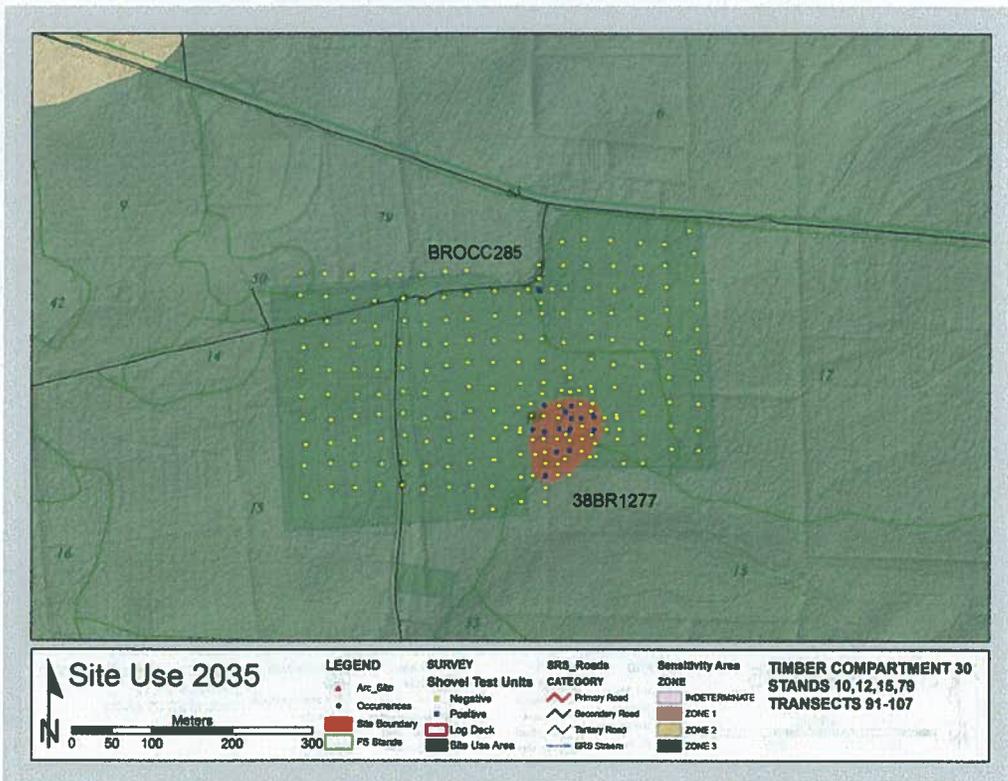


Figure I-13. SU Log No. 2035 survey area (continued).

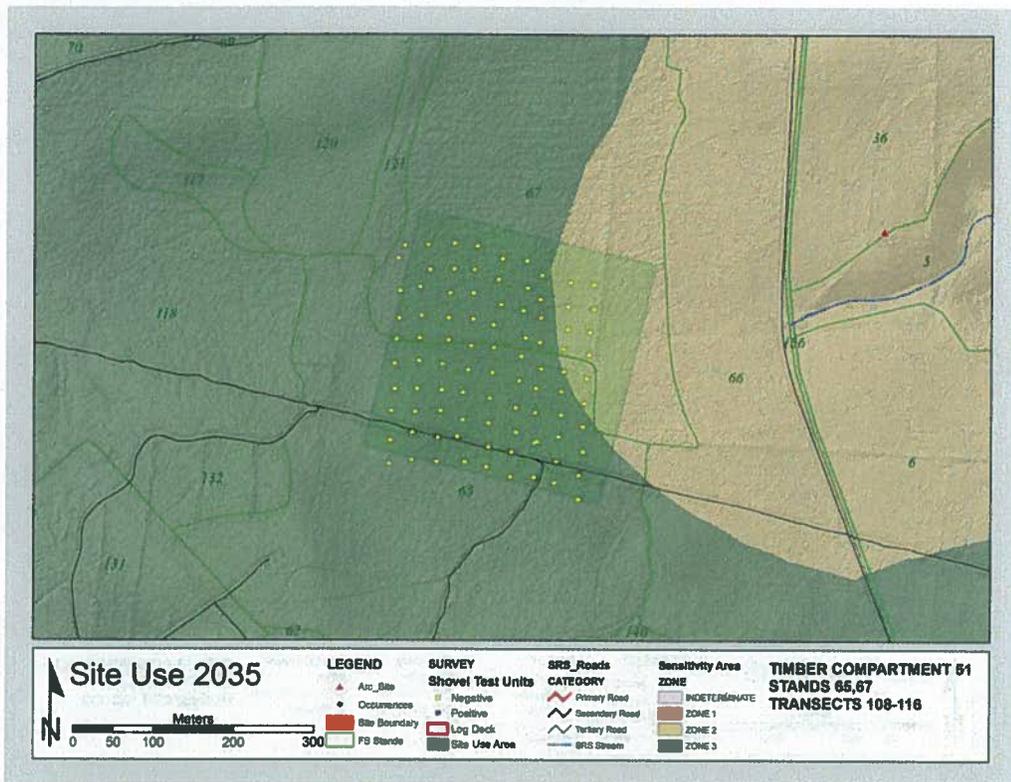


Figure I-14. SU Log No. 2035 survey area (continued).

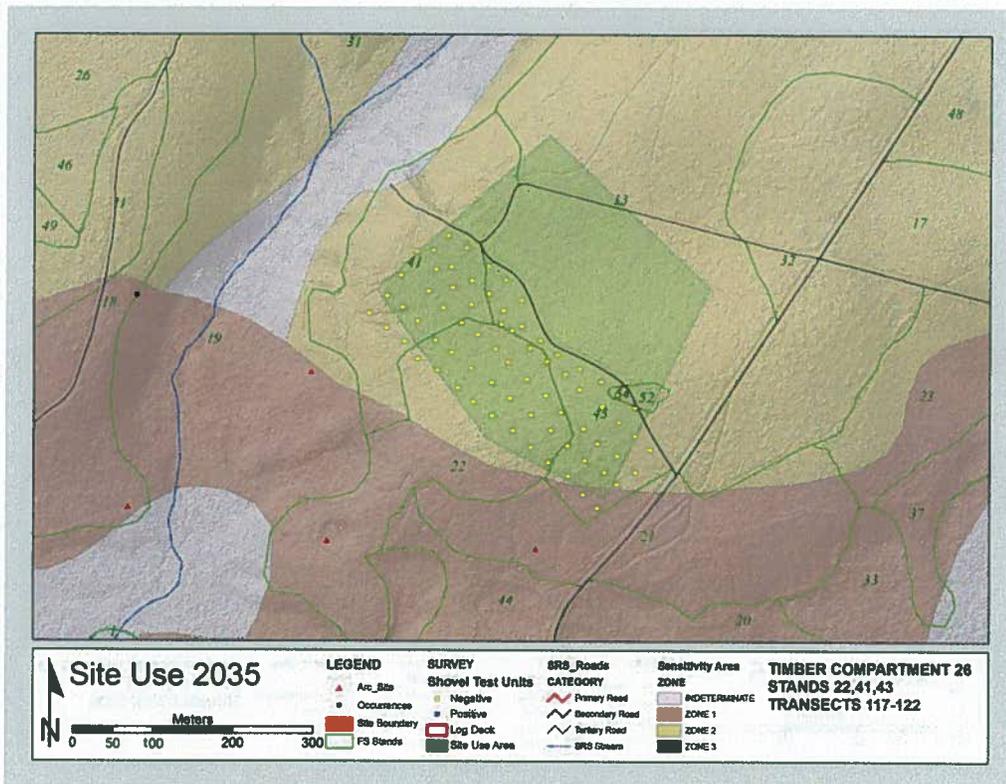


Figure I-15. SU Log No. 2035 survey area (continued).

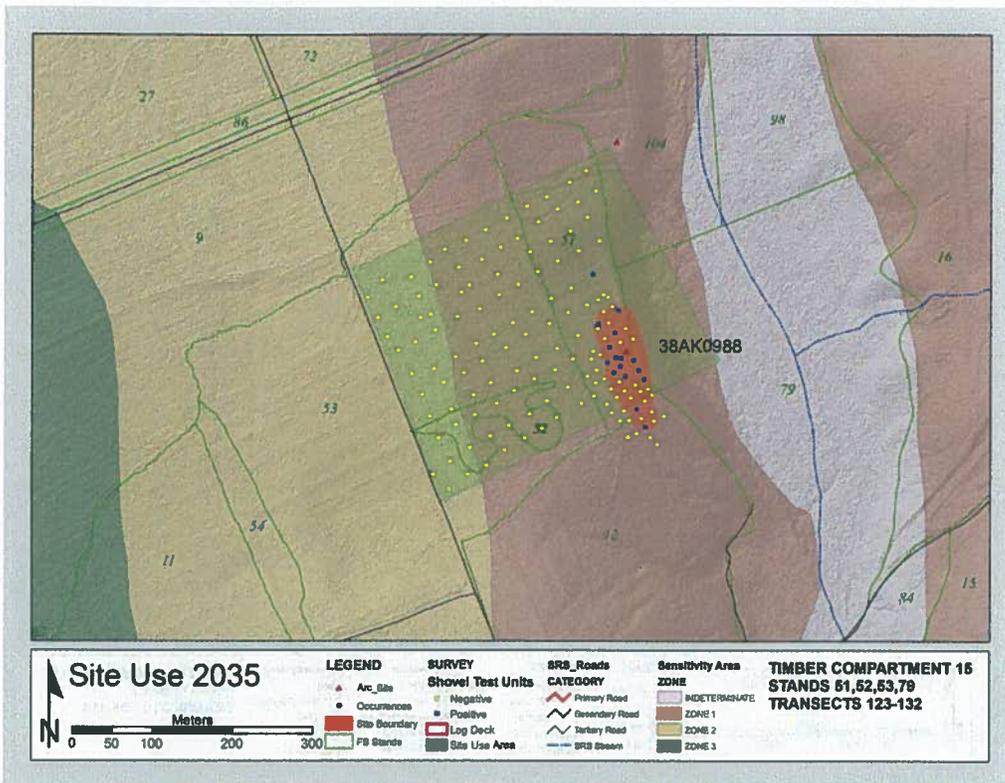


Figure I-16. SU Log No. 2035 survey area (continued).

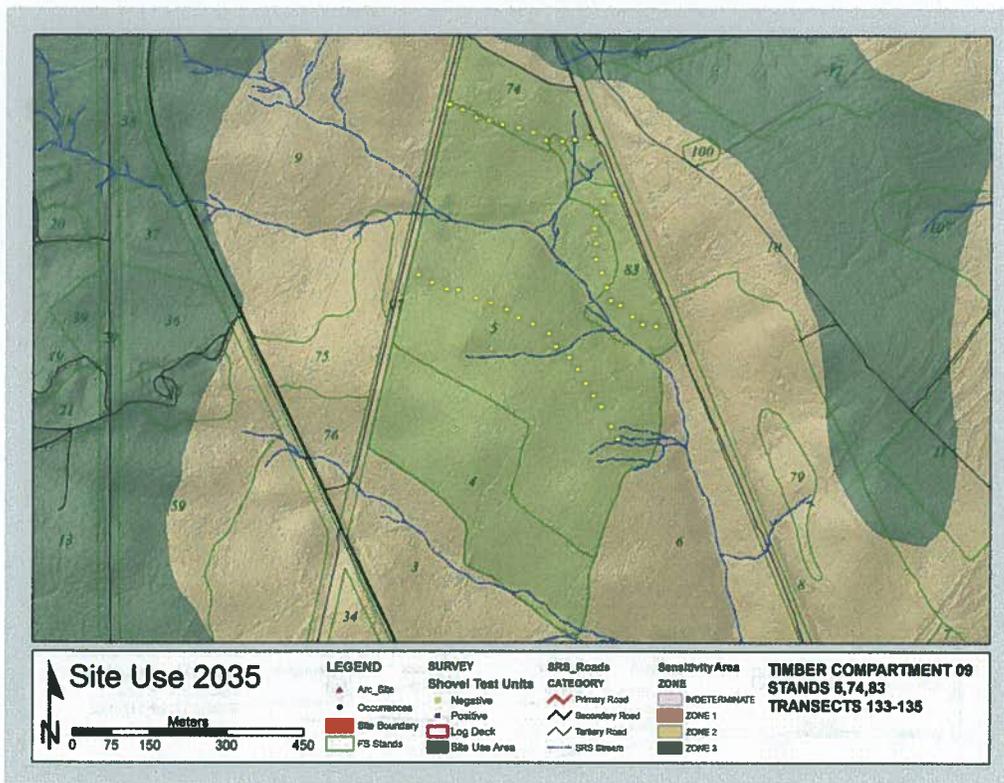


Figure I-17. SU Log No. 2035 survey area (continued).

SU Log No. 2042 – Geotechnical Investigation for Soft Zone North of D Area.

This Site Use Permit, initiated on July 26, 2010 by Jim Mason, Geotechnical Engineering and Brent Gutierrez, DOE Engineering Manager, proposed the use of a 4-acre tract for seismic testing with truck-mounted drill rigs to 40 ft. below surface, and possible trenching to expose the Santee Limestone (Figure I-18). Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of 21 STPs (0 positive) excavated on a 30-m grid within the project area. As this survey effort resulted in only negative STPs, no further archaeological work was required. Thus, there will be no adverse effect to any historic properties by the proposed Site Use action.

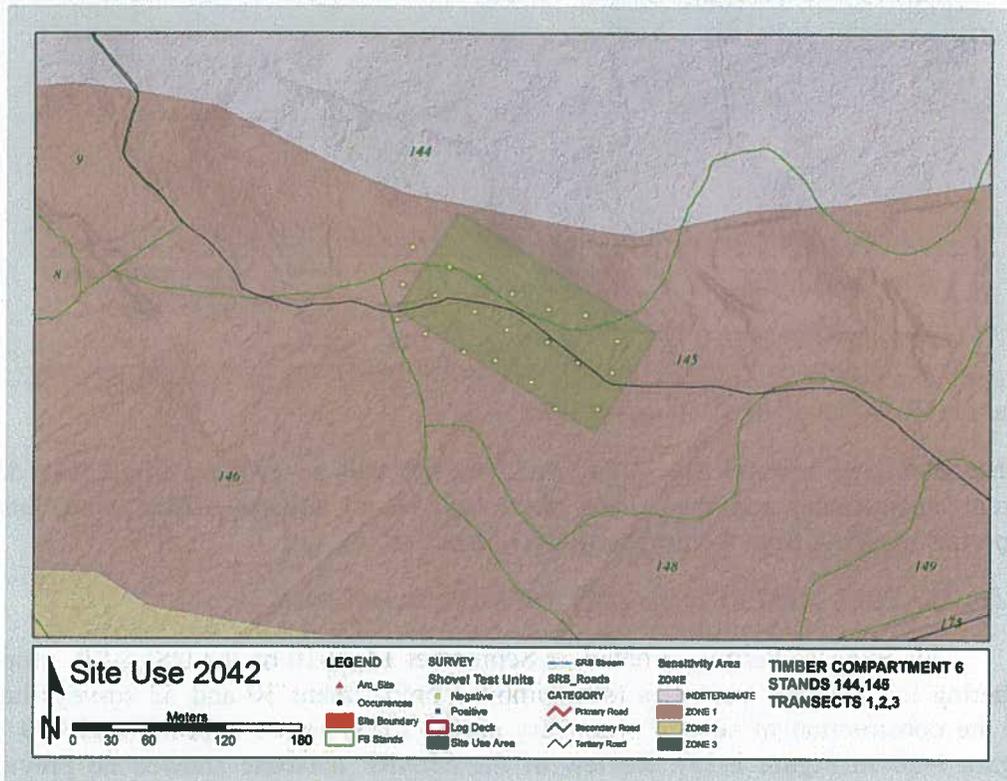


Figure I-18. SU Log No. 2042 survey area.

SU Log No. 2050 – A/M Area Soil/Groundwater Characterization

This Site Use Permit, initiated on August 18, 2010 by Brandon Kramer and Paul Eisenstat, proposed the drilling of soil borings across approximately 3 acres to characterize soil and groundwater, in addition to the construction of two secondary access roads (Figure I-19). Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of 13 STPs (2 positive) excavated at 30-m intervals along two separate linear transects. These survey efforts resulted in the discovery and delineation of one new site (38AK987). Site 38AK987 consists of Early and Late Woodland components, as well as a 19th-century occupation, and requires

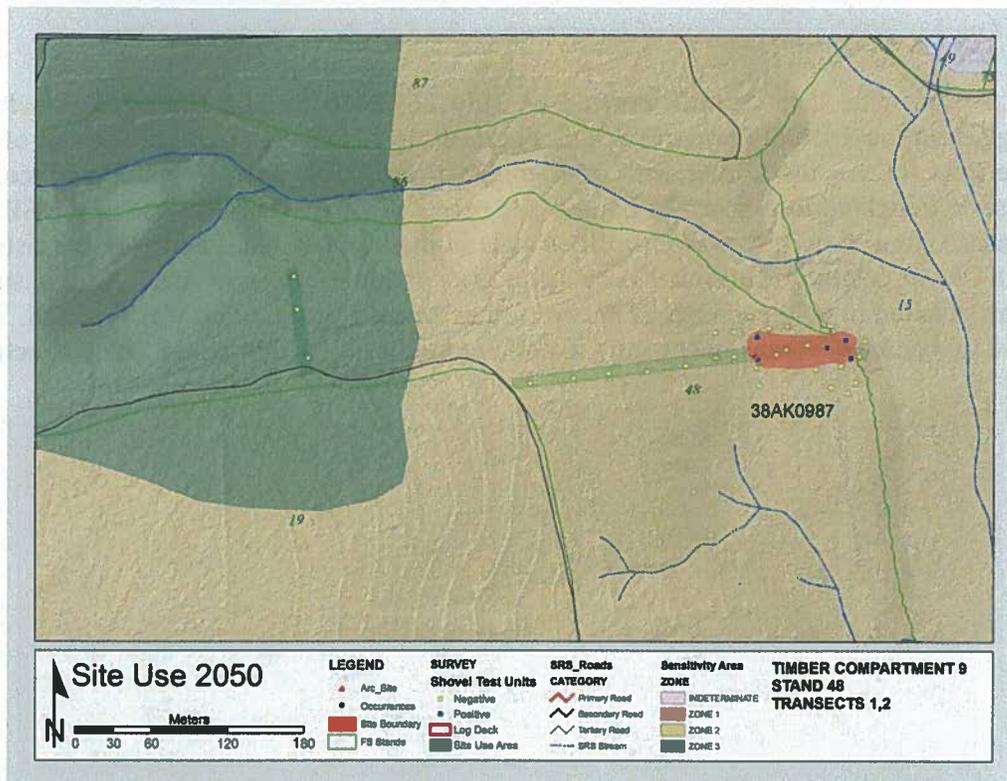


Figure I-19. SU Log No. 2050 survey area.

further testing or research for eligibility. This site will be avoided completely during current land-altering activities. Thus, there will be no adverse effect to any historic properties resulting from the proposed Site Use action.

SU Log No. 2053 – ATTA Project Plan and Road Construction

This Site Use Permit, initiated on September 14, 2010 by the USFS-SR, proposed timbering management activities (see Timber Compartment 30 and 52 surveys below) and the construction of several secondary access roads across approximately 10 acres (Figure I-20 to Figure I-23). Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of 41 STPs (0 positive) excavated at 30-m intervals on four separate linear transects. As this survey effort resulted in only negative STPs, no further archaeological work was required. Thus, there will be no adverse effect to any historic properties resulting from the proposed Site Use action.

SU Log No. 2070 – Additional Access Land for Biomass Steam Facility

This Site Use Permit, initiated on September 20, 2010 by Infrastructure Support Division (I&S), proposed the use of a 38-acre tract as a new road corridor. Previous surveys within the project area include that of Cabak et al. (1996), SU 1918 (SRARP 2008:15-16; 2009:10-12), and SU 1964 (SRARP 2009:23-25). No sites were discovered in the current project area during any of these previous surveys. No additional fieldwork was required for the current project as the land slope was too steep to allow survey. Thus, there will be no adverse effect to any historic properties by the proposed Site Use action.

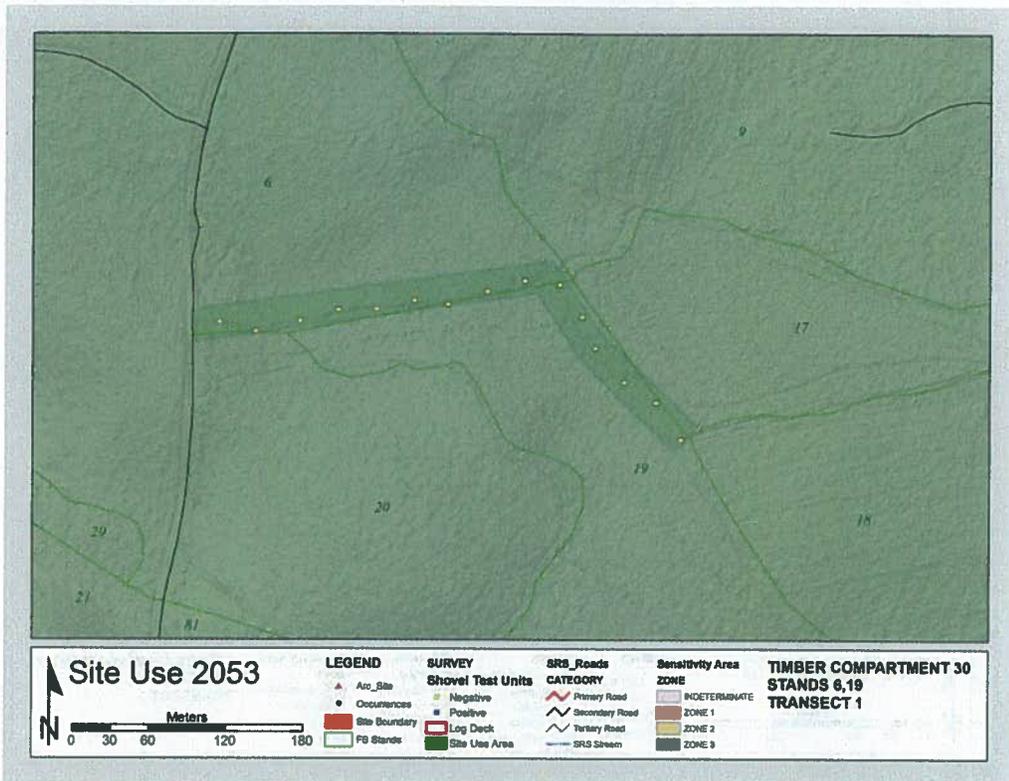


Figure I-20. SU Log No. 2053 survey area.

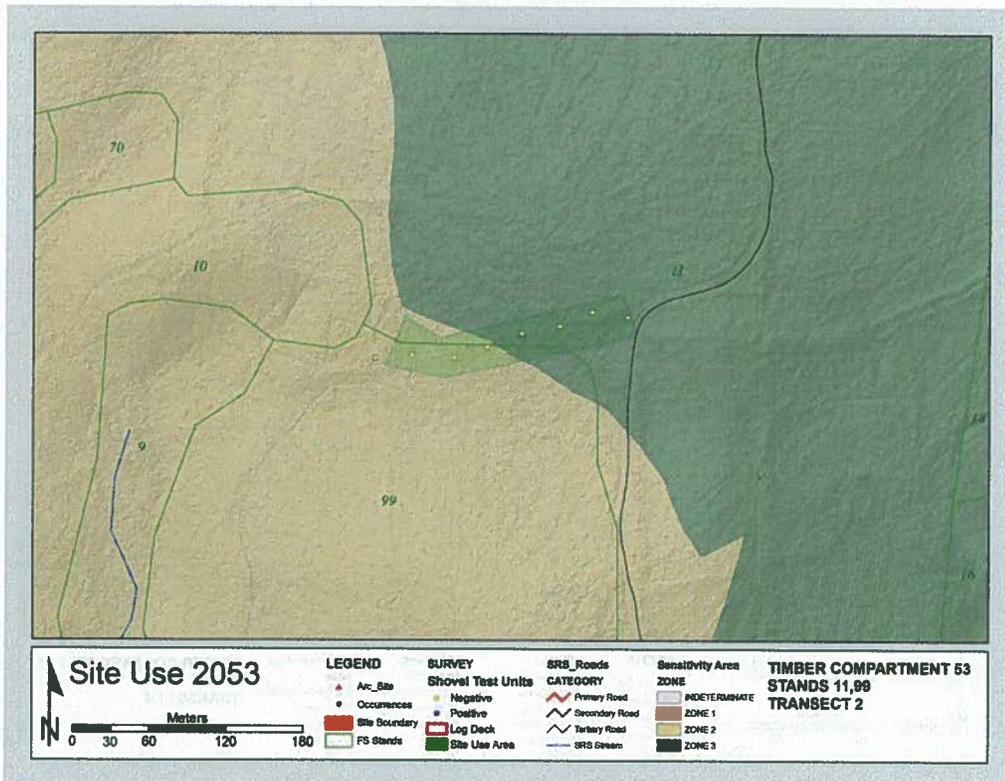


Figure I-21. SU Log No. 2053 survey area (continued).

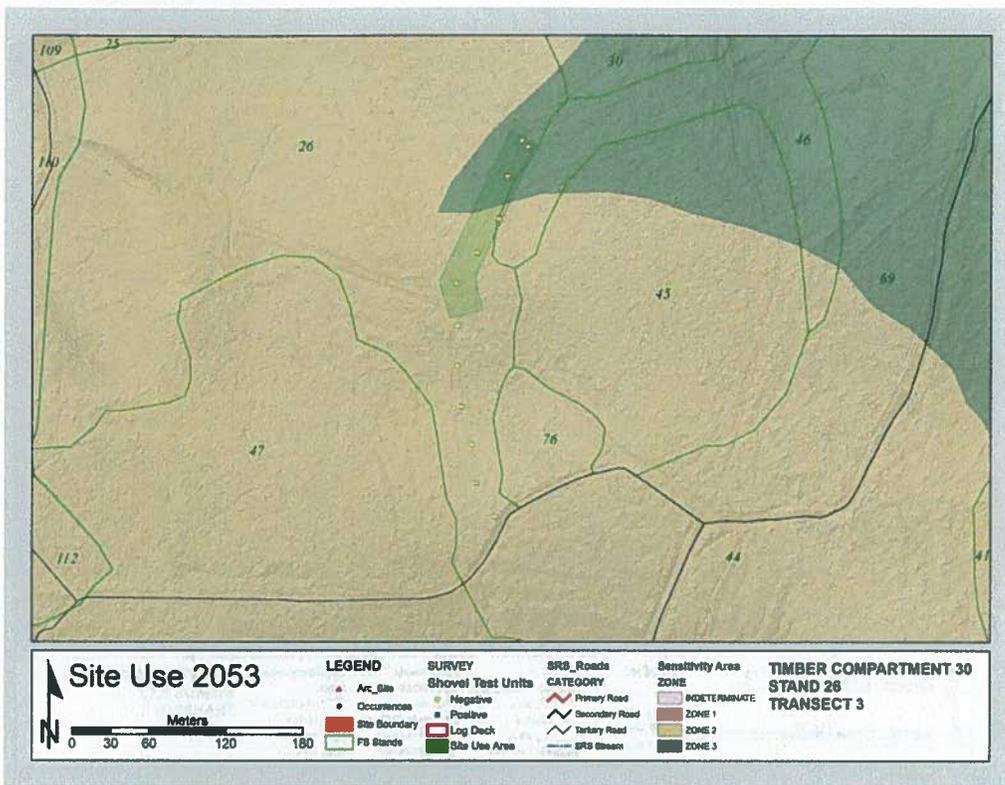


Figure I-22. SU Log No. 2053 survey area (continued).

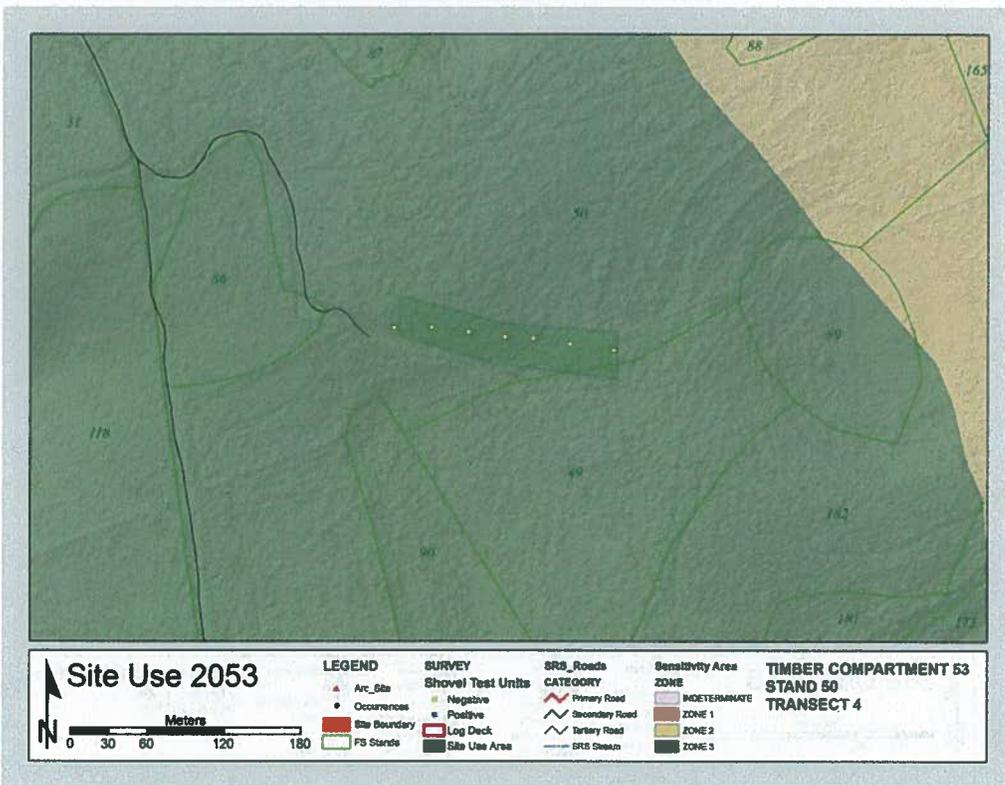


Figure I-23. SU Log No. 2053 survey area (continued).

SU Log No. 2072 – A/M Area DNAPL Characterization and In-Site Chemical Oxidation

This Site Use Permit, initiated February 2, 2011 by Andrew Preston and Sandra Smith, proposed the installation of soil borings to facilitate further characterization of DNAPL in the soil and groundwater. Review of the SRARP database showed no previously recorded sites in the project area. Field reconnaissance determined that the proposed project area is situated in the A Area locale and had been previously disturbed during early SRS activities. This condition of previous land disturbance of the project area precluded further archaeological survey. There will be no adverse effect to any historic properties by the proposed Site Use action.

SU Log No. 2073 – Herbicide Application to Improve Quail Habitat at Crackerneck WMA

This Site Use Permit, February 22, 2011 by Mike Caudell, South Carolina Department of Natural Resources (SCDNR), proposed the use of herbicides sprayed from skidders to control hardwood sprouting on 65 acres in Stand 6 of Timber Compartment 1. Consultation with Mr. Caudell ensured that no land disturbance would result from the proposed activity. Thus, there will be no adverse effect to any historic properties by the proposed Site Use action.

SU Log No. 2087 – Prescribed Fire Harvest in Timber Compartment 53

This Site Use Permit, initiated May 17, 2011 by the USFS-SR, recommended management treatment involving the removal of all dead and dying trees resulting from a prescribed fire in portions of Timber Compartment 53. Thirteen proposed Log Deck locations of 1 acre each were archaeologically surveyed (Figure I-24 and Figure I-25). A review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of 117 STPs (1 positive) excavated on a 30-m grid at each Log Deck location. These survey efforts resulted in the recovery of one isolated find (BR-OCC-295). This artifact occurrence has no research potential to advance our understanding of the history of the region. Thus, there will be no adverse effect to any historic properties by the proposed Site Use action.

SU Log No. 2088 – Right-of-Way for the 13.8KV Feeder to the Biomass Steam Facility

This Site Use Permit, initiated May 23, 2011 by the DOE-Infrastructure Support Division, requested a linear project tract for the routing of electrical poles that intersected with the historic town of Ellenton (Figure I-26). For this reason, the SRARP did not concur with the proposed Site Use action. The SRARP consulted with Site Use project coordinators in late May, which concluded with the possibility of rerouting the electrical line to avoid direct ground disturbance to historic resources at the site of Ellenton. As of the writing of this report, the SRARP has not been informed of any final decision on the part of DOE-Infrastructure Support Division coordinators regarding the rerouting of the proposed Right-of-Way for the electrical line to the Biomass Steam Facility.

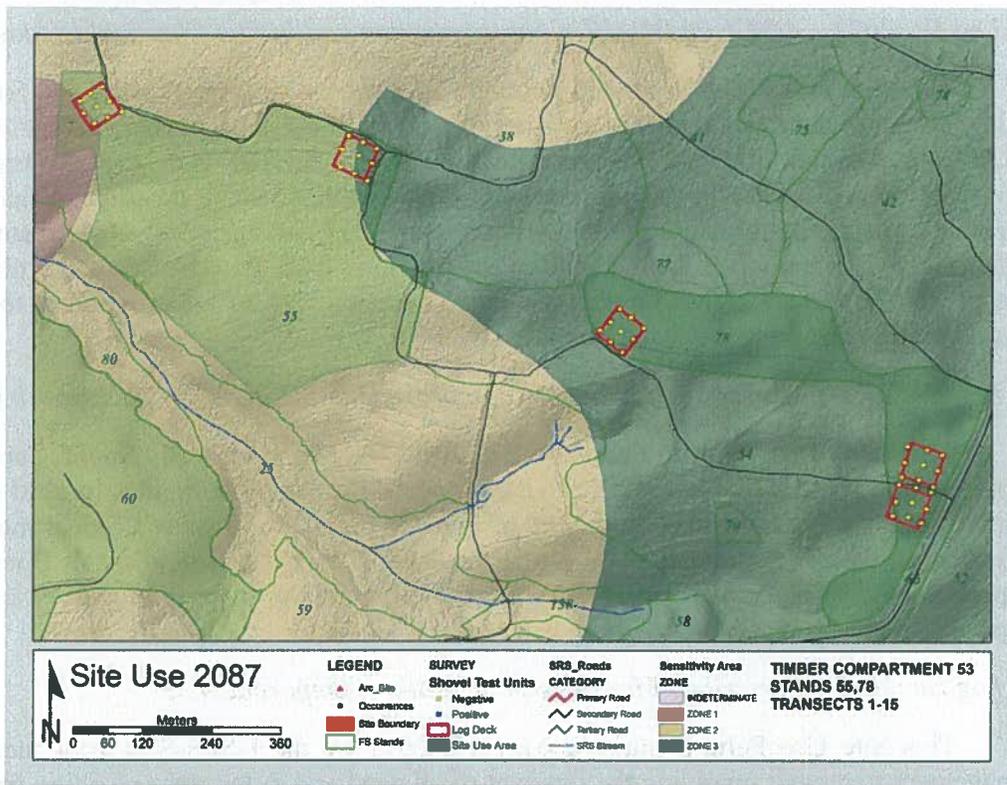


Figure I-24. SU Log No. 2087 survey area.

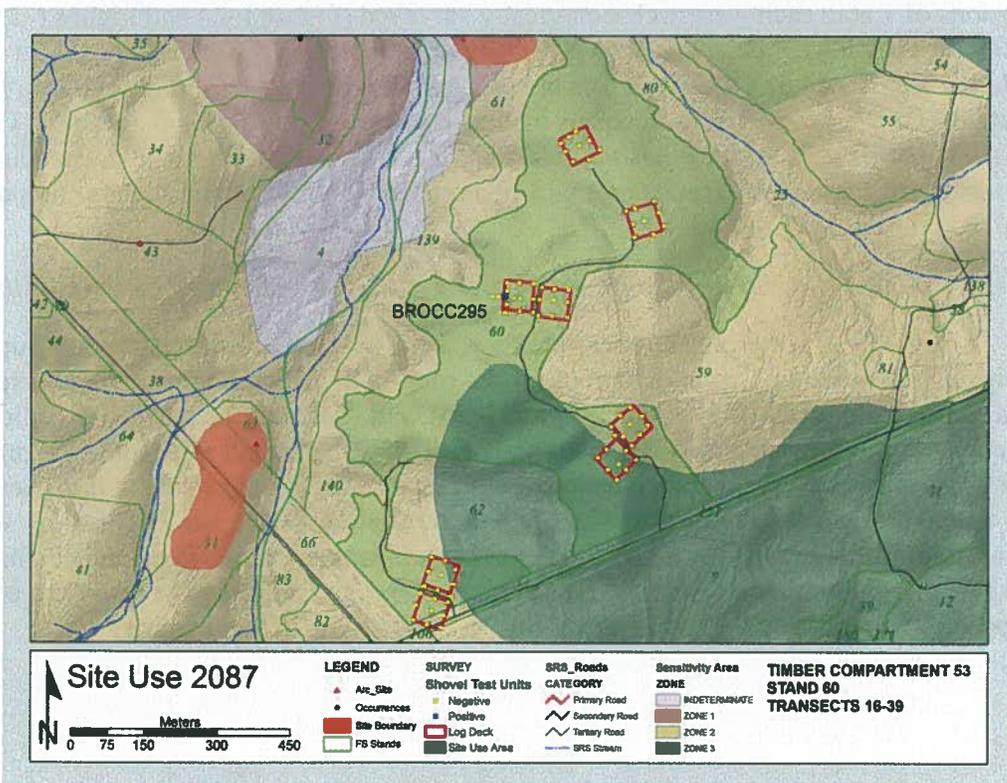


Figure I-25. SU Log No. 2087 survey area (continued).

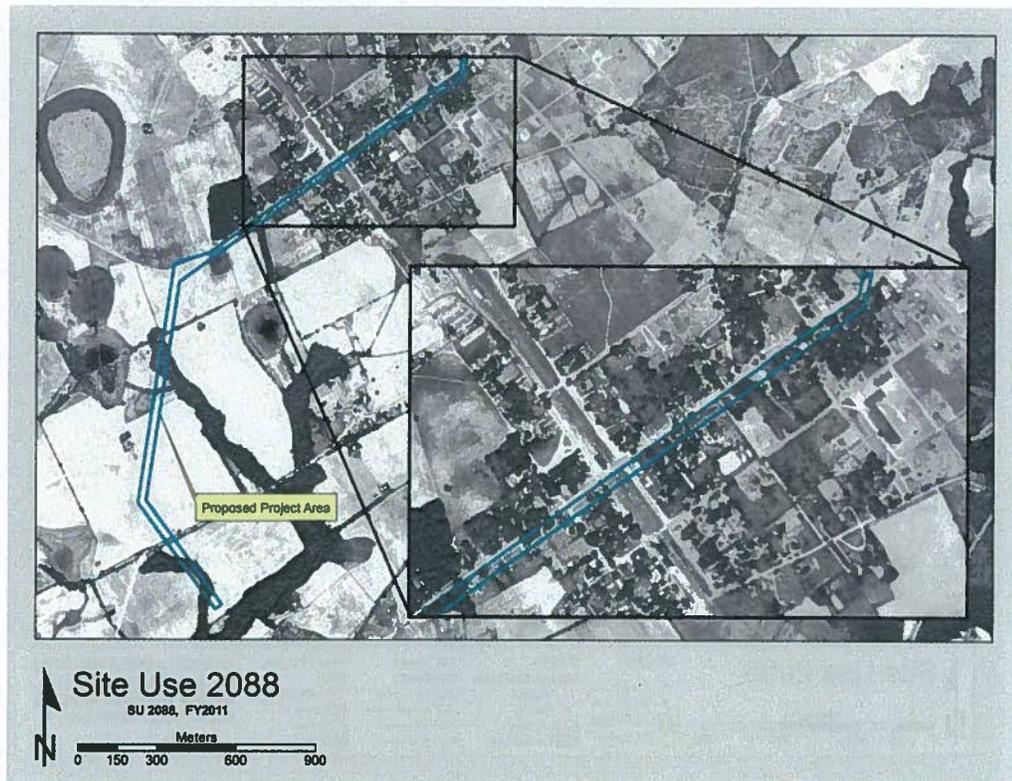


Figure I-26. SU Log No. 2088 survey area.

SU Log No. 2096 – Construction Boundary for Replacement of Bridge on US 278 over Upper Three Runs Creek

This Site Use Permit, initiated June 21, 2011 by Kevin Gantt and Eric Dickey, proposed the replacement of the US 278 bridge over Upper Three Runs Creek within a 32-acre construction boundary (Figure I-27). The actual fieldwork was conducted by New South Associates, Inc. under contract from the South Carolina Department of Transportation (SCDOT) using the ARPA permit of the SRARP. Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of 173 STPs (30 positive) excavated on a 30-m grid over the project area. These survey efforts resulted in the discovery and delineation within the SCDOT project boundary of two new sites (38AK989, 38AK990). Site 38AK989 consists of Late Archaic and Early Woodland period components and requires further testing or research for NRHP eligibility determination. Site 38AK990 consists of Early Woodland and Mississippian period components and requires further testing or research for NRHP eligibility determination. This project is ongoing while New South Associates, Inc. completes a report of all fieldwork and results, and the SRARP consults with SCDOT and SCSHPO regarding the eligibility status of sites 38AK989 and 38AK990.

SU Log No. 2097 – Secondary Road Construction to Groundwater Well Locations

This Site Use Permit, initiated June 22, 2011 by the USFS-SR, proposed the construction of two secondary roads allowing access to the installation of two separate groundwater monitoring wells (Figure I-28). Review of the SRARP database showed no

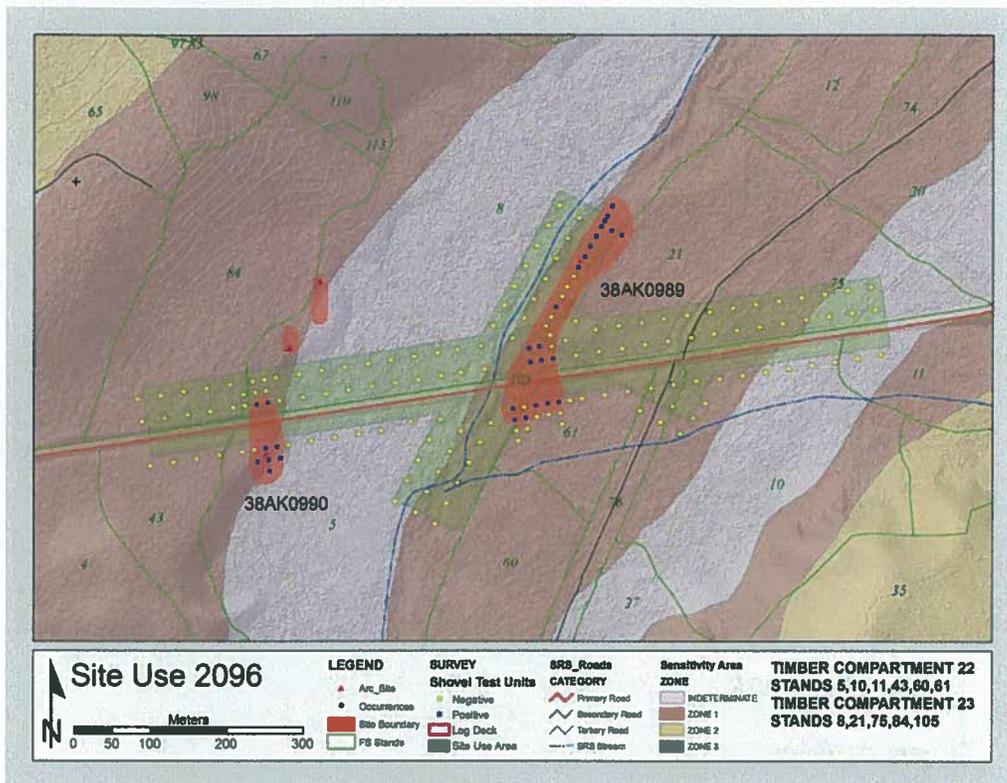


Figure I-27. SU Log No. 2096 survey area.

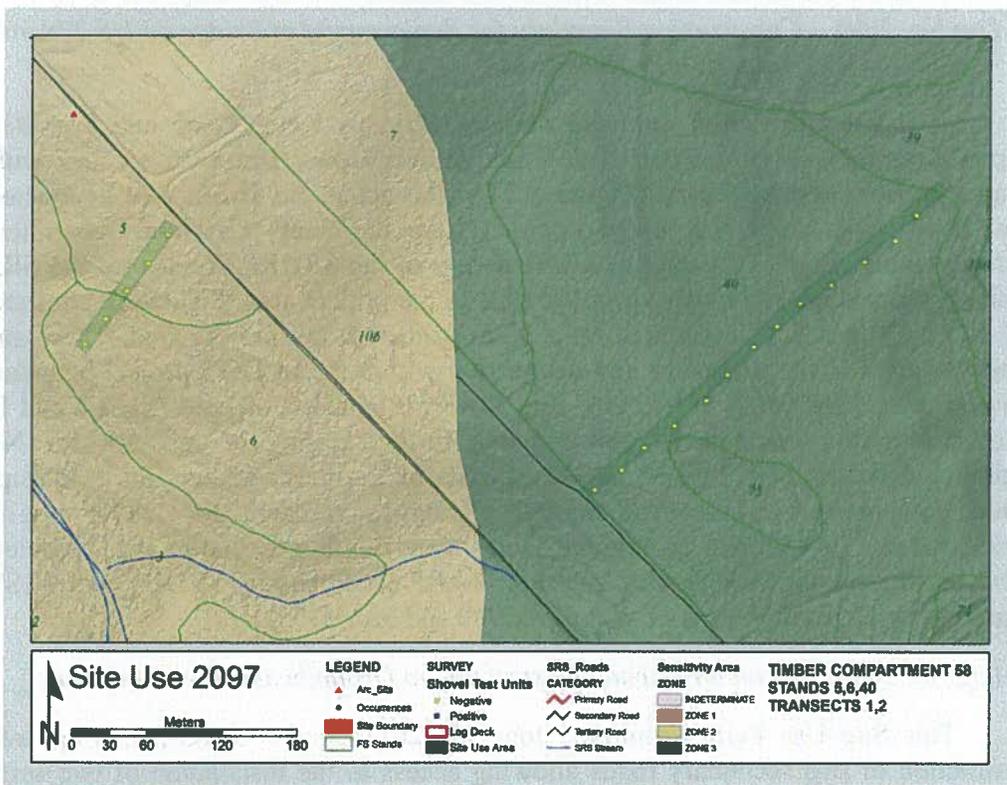


Figure I-28. SU Log No. 2097 survey area.

previously recorded sites in the project area. Fieldwork consisted of 18 STPs (0 positive) excavated at 30-m intervals along the proposed road corridors leading to the monitoring well locations. As all STPs were negative, no further archaeological testing was required for this project. There will be no adverse effect to any historic properties by the proposed Site Use action.

Timber Compartment Prescription Surveys

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 a 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. Employing these Prescriptions, the SRARP identifies areas that must be surveyed prior to any land-use activities. Because of the lead-time provided by way of 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 of the Site Use Application request detailing all proposed timber management actions. Additionally, the USFS-SR, in consultation with the SRARP, insures that all archaeological sites deemed significant for research potential are avoided completely during the development of secondary roads and timber loading decks. Finally, all historic and prehistoric 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 FY11. Surveys of Log Decks and Timber Stands were conducted in 24 Timber Compartments. These surveys involved 435 acres (44%) of the total survey area coverage in FY11. Table I-6 provides a listing by Timber Compartment of all sites investigated.

Certain aspects of archaeological work are standard for all projects. Prior to fieldwork, a review of 1951 aerial photographs is conducted to identify standing historic structures at the time of federal acquisition. The SRARP site files are consulted to identify previously recorded cultural resources. All STPs measure 35 x 35 cm and are excavated to a depth of at least 80 cmbs, unless a gravel or clay substratum is encountered. Upon completion of each survey project, point data for all STPs, all new and previously recorded sites, and isolated artifact occurrences are recorded using GPS equipment. Exceptions to this fieldwork procedure include historic site locations identified from 1951 aerial photographs that are situated in low-probability areas for prehistoric sites (see discussion of Archaeological Sensitivity Zones in SRARP 1989). At these locations, STPs are 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 is sifted through 0.25-in. wire mesh, and artifacts are collected and bagged by provenience.

Table I-6. Timber Compartment Prescription and Log Deck Surveys, FY11.

PROJECT	PROJECT STPs	PROJECT AREA SURVEYED (ac.)	NEW SITES	SITE REVISITS
Timber Comp. 08 Stands 02,03,15,37,72	54	6		
Timber Comp. 09 Stands 03,04,05	18	2		
Timber Comp. 10 Stands 11,12,18	81	9		
Timber Comp. 15 Stand 09	9	1		
Timber Comp. 17 Stands 08,09,13	27	3		
Timber Comp. 18 Stand 81	6	13		
Timber Comp. 19 Stand 18	9	1		
Timber Comp. 21 Stand 06	9	1		
Timber Comp. 25 Stand 20	9	1		
Timber Comp. 26 Stand 03	18	2		
Timber Comp. 29 Stands 23,29,70,100	27	3		
Timber Comp. 30 Stands 14,15,54,77	27	3		
Timber Comp. 32 Stands 07,08	9	1		
Timber Comp. 34 Stands 01,02,04,11,14,15, 23,32,34,35,39,47,63	159	17	38BR1276 38BR1288	
Timber Comp. 40 Stands 09,17,19,31,42,76,133	291	32	38BR1282	38BR397
Timber Comp. 51 Stands 43,45,72,115,135 Stands 65,67	124 9	149 1		
Timber Comp. 52 Stands 11,13,14,20,59 Stands 04,09,10,31,34,41	134 108	15 124	38BR1280 38BR1281	38BR231
Timber Comp. 53 Stands 08,22,24,26,28,121	81	9		
Timber Comp. 54 Stands 05,07,57,58,59,72,97, 122,123	99	11		
Timber Comp. 57 Stands 06,10,11,14,20,29,34	99	11		
Timber Comp. 62 Stand 97	9	1		
Timber Comp. 64 Stands 9,50	12	12		
Timber Comp. 82 Stands 21,50,74,78,108	33	5		
Timber Comp. 85 Stands 23,24,29	18	2		
TOTALS	1,479	435	5	2

Timber Compartment 8

Archaeological survey in Compartment 8 involved subsurface inspection of 6 proposed Log Decks totaling 1 acre each in extent in Stands 2, 3, 15, 37, and 72 (Figure I-29). Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of 54 STPs (0 positive) excavated on a 30-m grid at each Log Deck location. As these survey efforts resulted in only negative STPs, no further archaeological work was required. Thus, there will be no adverse effect to any historic properties as a result of the proposed USFS-SR management action for Compartment 8.

Timber Compartment 9

Archaeological survey in Compartment 9 involved subsurface inspection of 2 proposed Log Decks totaling 1 acre each in extent in Stands 3, 4, and 5 (Figure I-30). Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of 18 STPs (0 positive) excavated on a 30-m grid at each Log Deck location. As these survey efforts resulted in only negative STPs, no further archaeological work was required. Thus, there will be no adverse effect to any historic properties as a result of the proposed USFS-SR management action for Compartment 9.

Timber Compartment 10

Archaeological survey in Compartment 10 involved subsurface inspection of 9 proposed Log Decks totaling 1 acre each in extent in Stands 11, 12, and 18 (Figure I-31). Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of 81 STPs (0 positive) excavated on a 30-m grid at each Log Deck location. As these survey efforts resulted in only negative STPs, no further archaeological work was required. Thus, there will be no adverse effect to any historic properties as a result of the proposed USFS-SR management action for Compartment 10.

Timber Compartment 15

Archaeological survey in Compartment 15 involved subsurface inspection of 1 proposed Log Deck totaling 1 acre in extent in Stand 9 (Figure I-32). Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of 9 STPs (0 positive) excavated on a 30-m grid at each Log Deck location. As these survey efforts resulted in only negative STPs, no further archaeological work was required. Thus, there will be no adverse effect to any historic properties as a result of the proposed USFS-SR management action for Compartment 15.

Timber Compartment 17

Archaeological survey in Compartment 17 involved subsurface inspection of 3 proposed Log Decks totaling 1 acre each in extent in Stands 8, 9, and 13 (Figure I-33). Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of 27 STPs (0 positive) excavated on a 30-m grid at each Log Deck location. As these survey efforts resulted in only negative STPs, no further archaeological work was required. Thus, there will be no adverse effect to any historic properties as a result of the proposed USFS-SR management action for Compartment 17.

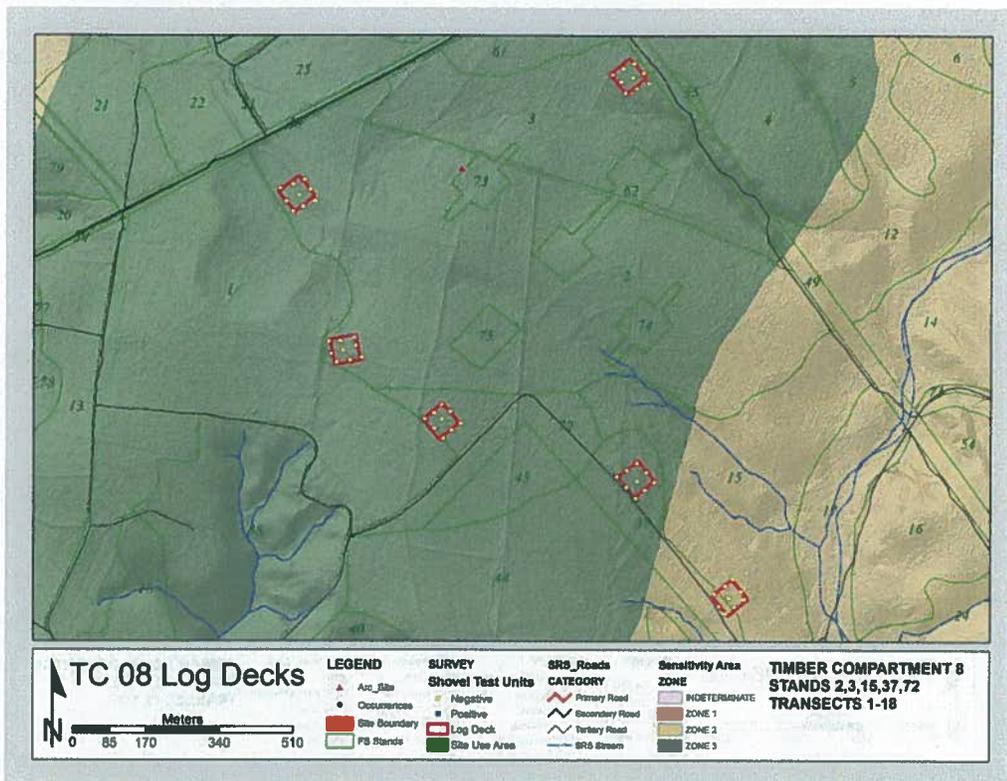


Figure I-29. Timber Compartment 8 survey area.

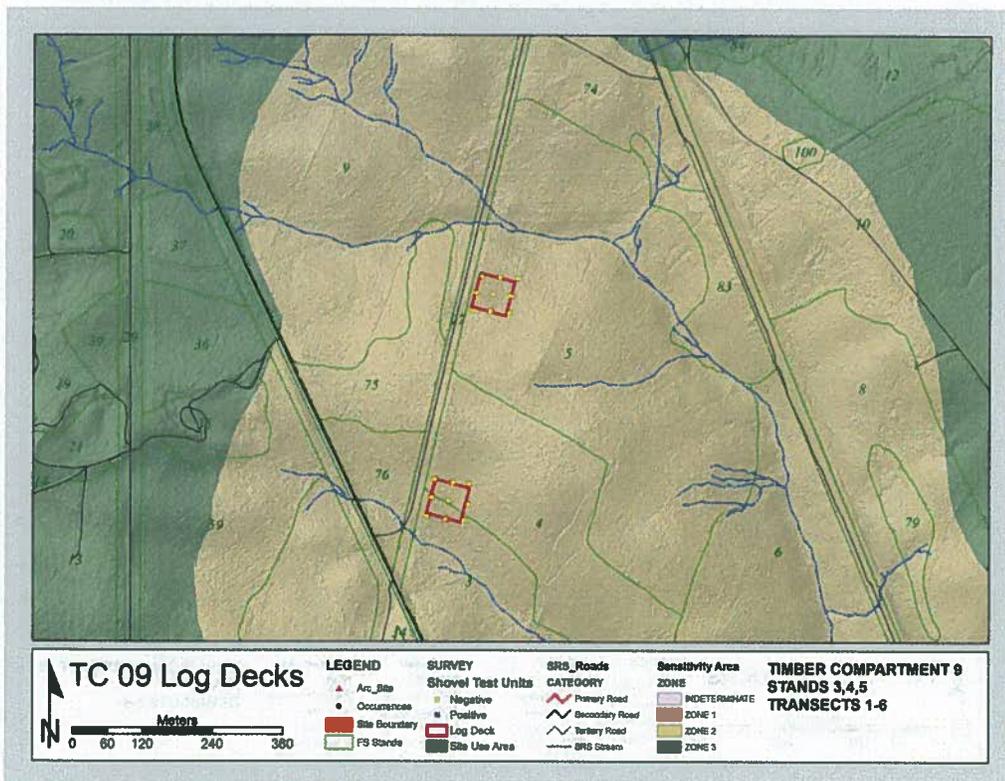


Figure I-30. Timber Compartment 9 survey area.

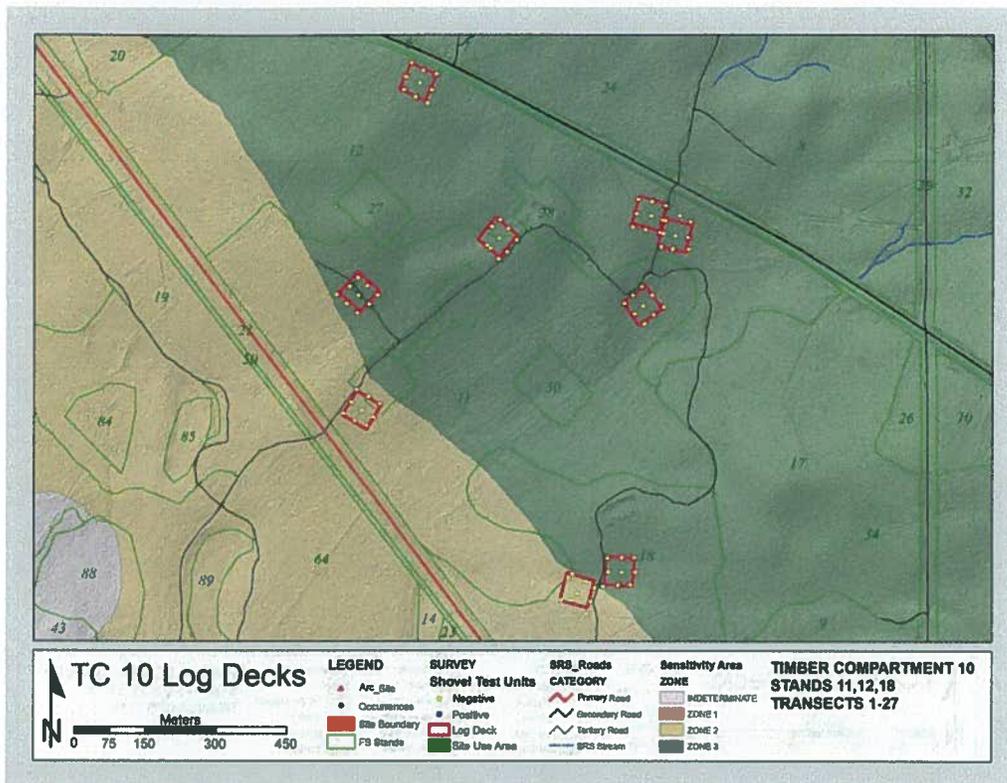


Figure I-31. Timber Compartment 10 survey area.

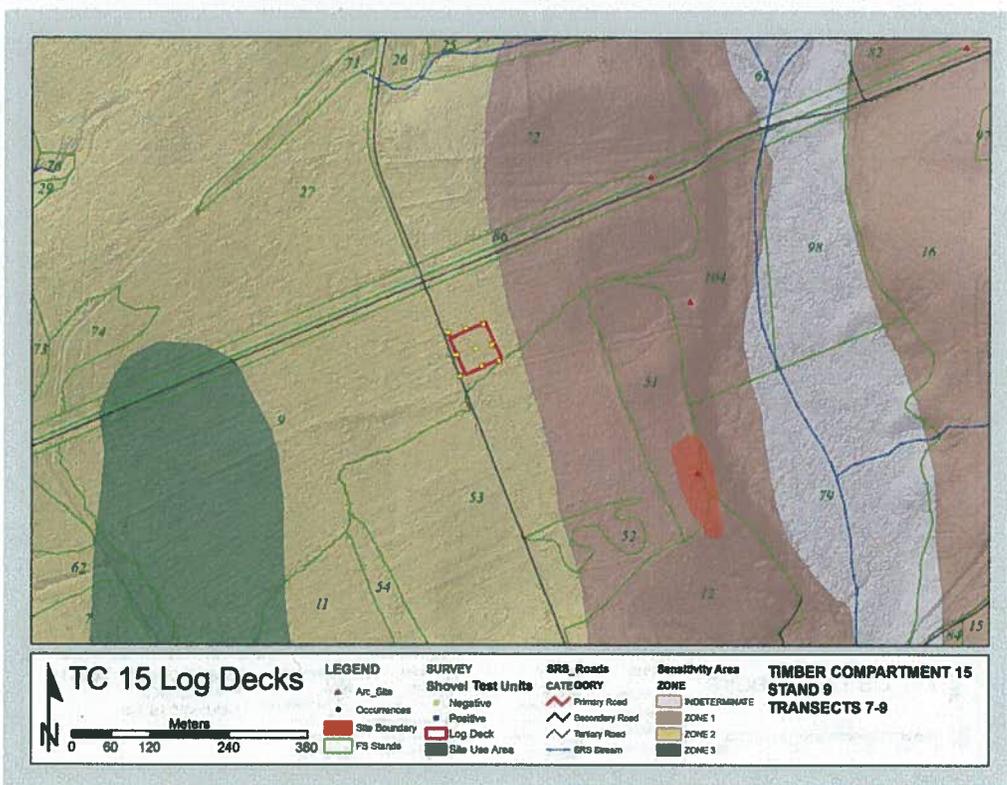


Figure I-32. Timber Compartment 15 survey area.

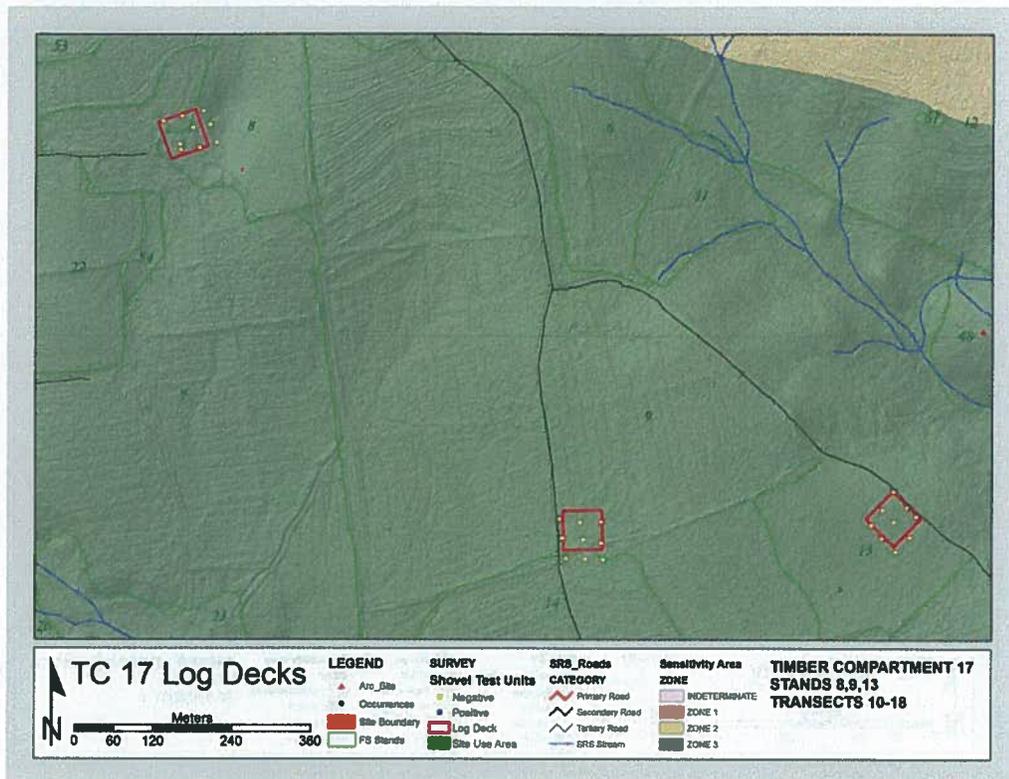


Figure I-33. Timber Compartment 17 survey area.

Timber Compartment 18

Archaeological survey in Compartment 18 involved subsurface inspection of 13 acres in Stand 81 slated for timbering (Figure I-34). Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of 6 STPs (0 positive) excavated along a single transect. As these survey efforts resulted in only negative STPs, no further archaeological work was required. Thus, there will be no adverse effect to any historic properties as a result of the proposed USFS-SR management action for Compartment 18.

Timber Compartment 19

Archaeological survey in Compartment 19 involved subsurface inspection of 1 proposed Log Deck totaling 1 acre in extent in Stand 18 (Figure I-35). Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of 9 STPs (0 positive) excavated on a 30-m grid at the Log Deck location. As this survey effort resulted in only negative STPs, no further archaeological work was required. Thus, there will be no adverse effect to any historic properties as a result of the proposed USFS-SR management action for Compartment 19.

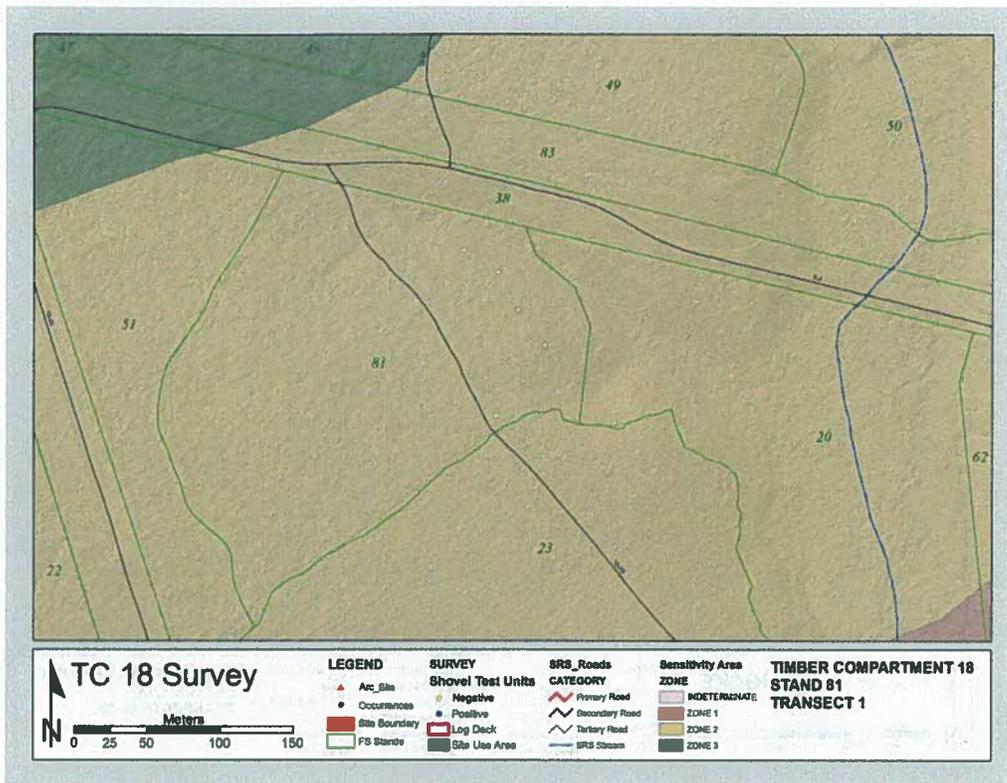


Figure I-34. Timber Compartment 18 survey area.

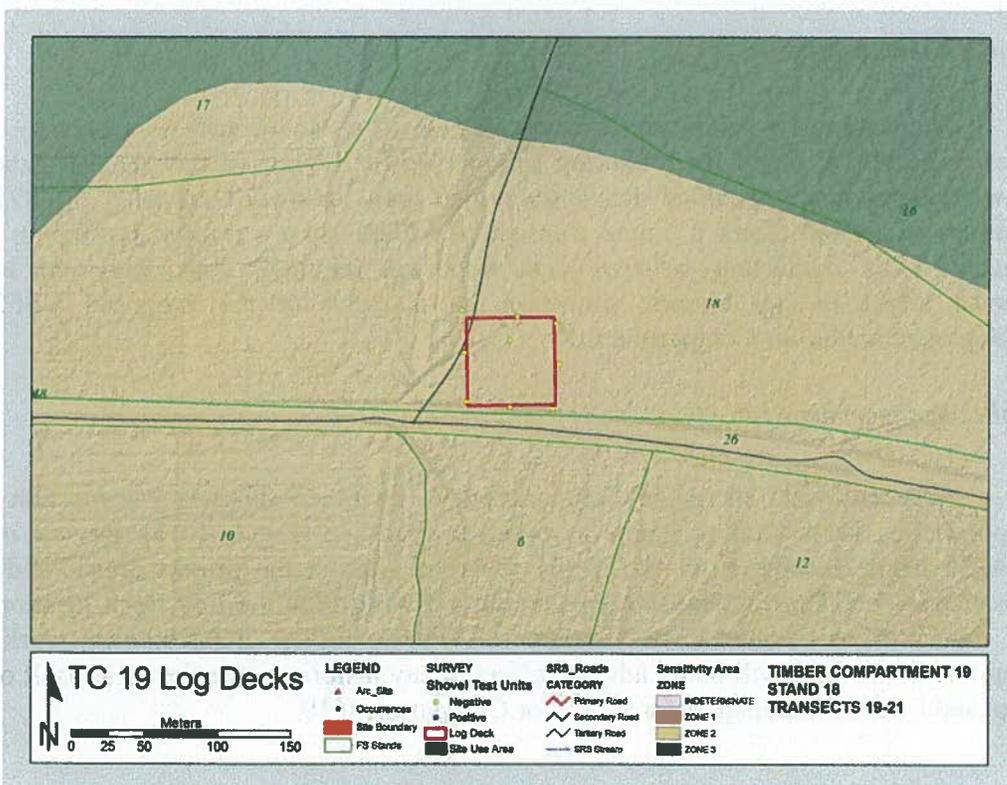


Figure I-35. Timber Compartment 19 survey area.

Timber Compartment 21

Archaeological survey in Compartment 21 involved subsurface inspection of 1 proposed Log Deck totaling 1 acre in extent in Stand 6 (Figure I-36). Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of 9 STPs (0 positive) excavated on a 30-m grid at the Log Deck location. As this survey effort resulted in only negative STPs, no further archaeological work was required. Thus, there will be no adverse effect to any historic properties as a result of the proposed USFS-SR management action for Compartment 21.

Timber Compartment 25

Archaeological survey in Compartment 25 involved subsurface inspection of 1 proposed Log Deck totaling 1 acre in extent in Stand 20 (Figure I-37). Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of 9 STPs (0 positive) excavated on a 30-m grid at the Log Deck location. As this survey effort resulted in only negative STPs, no further archaeological work was required. Thus, there will be no adverse effect to any historic properties as a result of the proposed USFS-SR management action for Compartment 25.

Timber Compartment 26

Archaeological survey in Compartment 26 involved subsurface inspection of 2 proposed Log Decks totaling 1 acre each in extent in Stand 3 (Figure I-38). Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of 18 STPs (0 positive) excavated on a 30-m grid at each Log Deck location. As these survey efforts resulted in only negative STPs, no further archaeological work was required. Thus, there will be no adverse effect to any historic properties as a result of the proposed USFS-SR management action for Compartment 26.

Timber Compartment 29

Archaeological survey in Compartment 29 involved subsurface inspection of 3 proposed Log Decks totaling 1 acre each in extent in Stands 23, 29, 70, and 100 (Figure I-39). Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of 27 STPs (0 positive) excavated on a 30-m grid at each Log Deck location. As these survey efforts resulted in only negative STPs, no further archaeological work was required. Thus, there will be no adverse effect to any historic properties as a result of the proposed USFS-SR management action for Compartment 29.

Timber Compartment 30

Archaeological survey in Compartment 30 involved subsurface inspection of 3 proposed Log Decks totaling 1 acre each in extent in Stands 14, 15, 54, and 77 (Figure I-40 and Figure I-41). Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of 27 STPs (0 positive) excavated on a 30-m grid at each Log Deck location. As these survey efforts resulted in only negative STPs, no further archaeological work was required. Thus, there will be no adverse effect to any historic properties as a result of the proposed USFS-SR management action for Compartment 30.

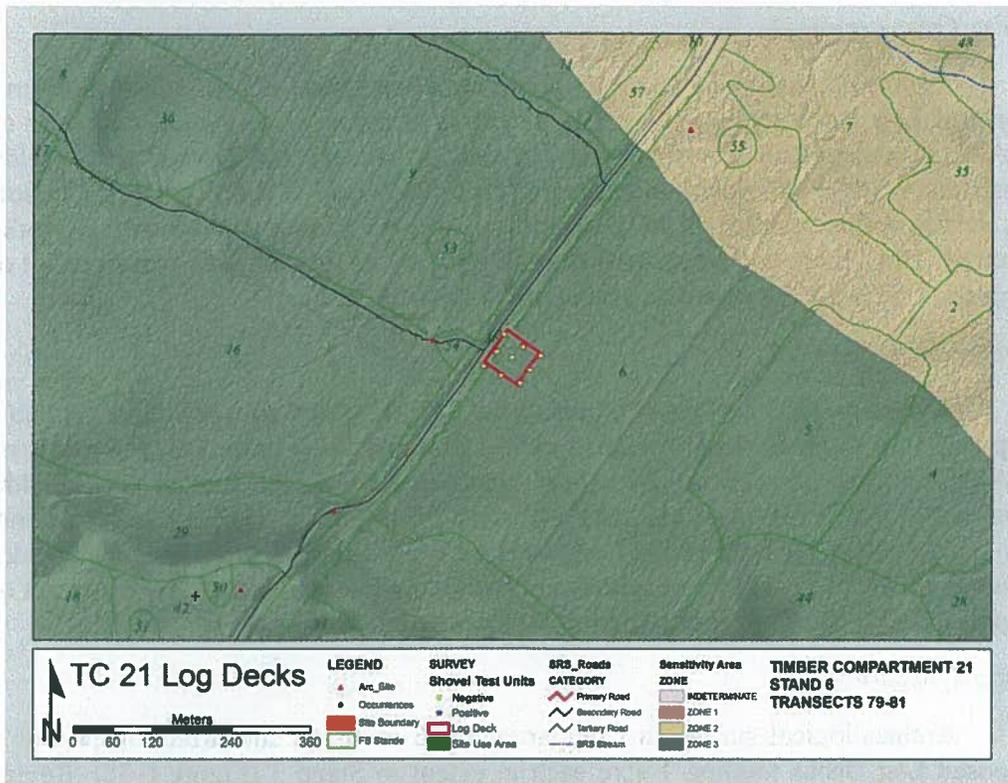


Figure I-36. Timber Compartment 21 survey area.

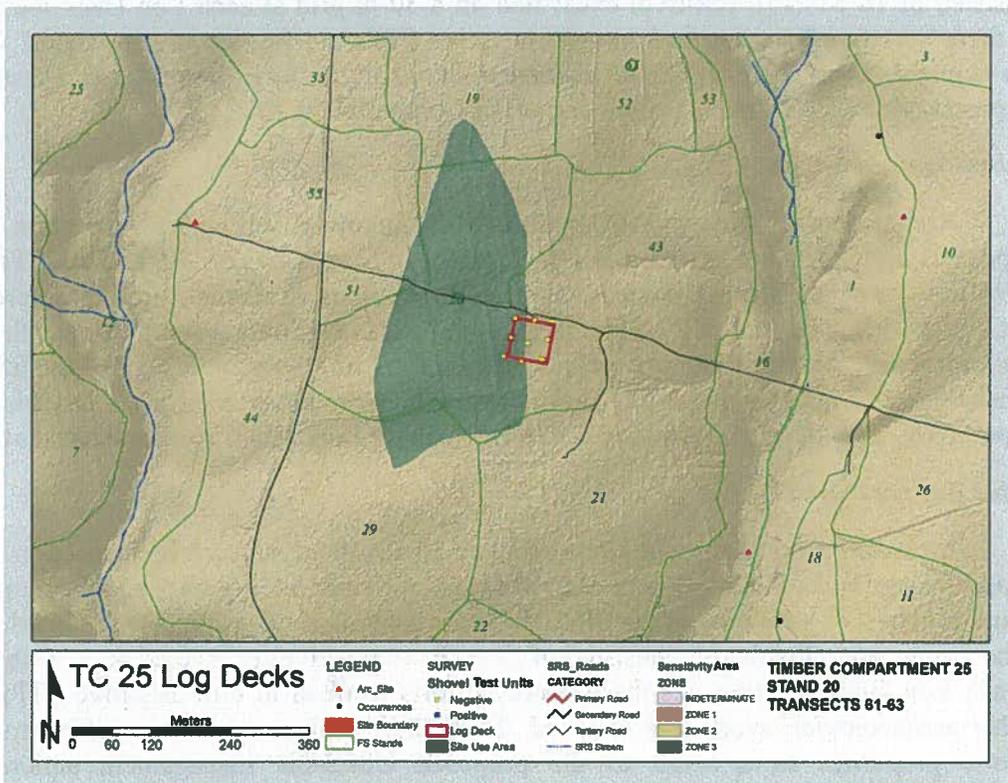


Figure I-37. Timber Compartment 25 survey area.

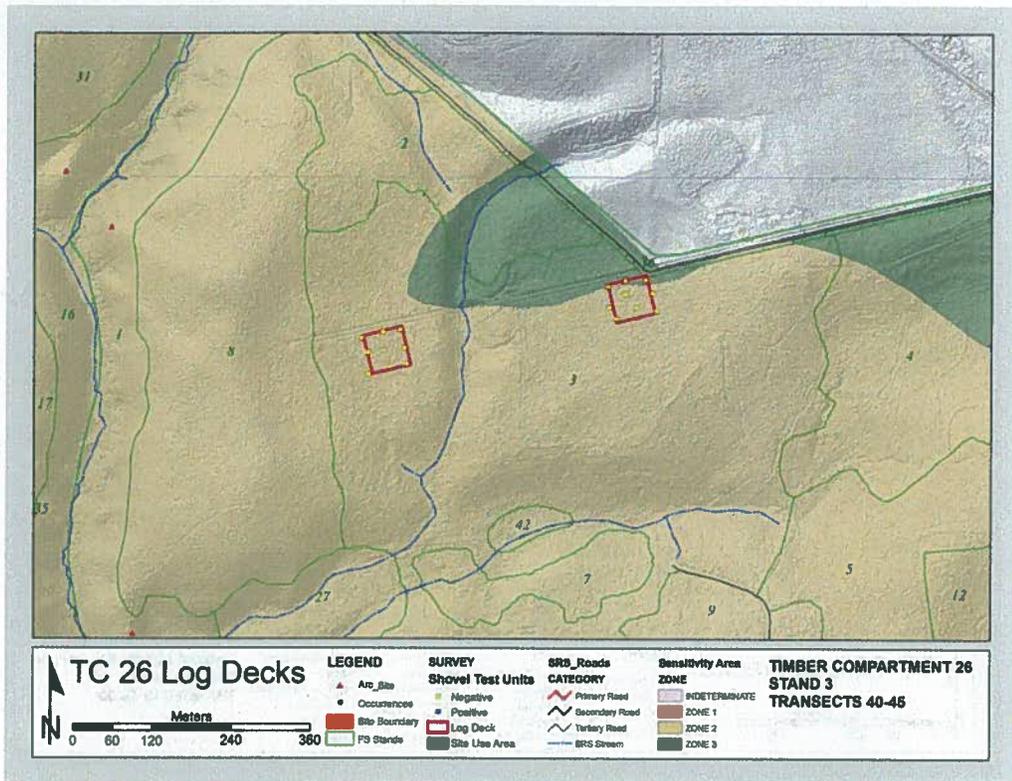


Figure I-38. Timber Compartment 26 survey area.

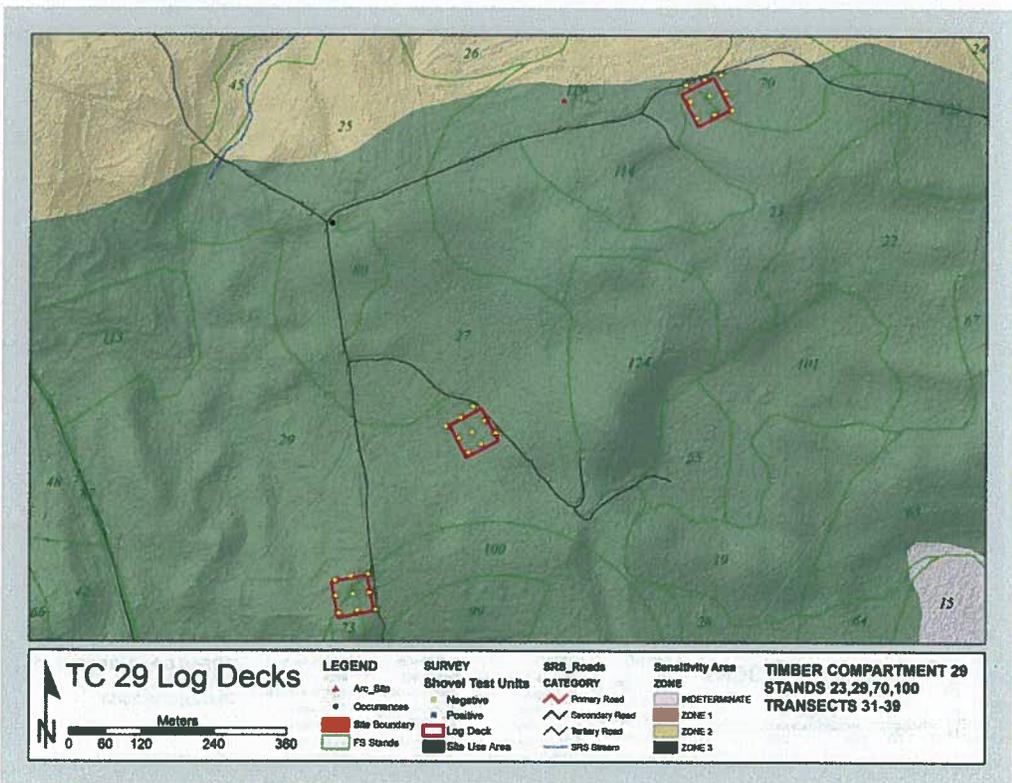


Figure I-39. Timber Compartment 29 survey area.

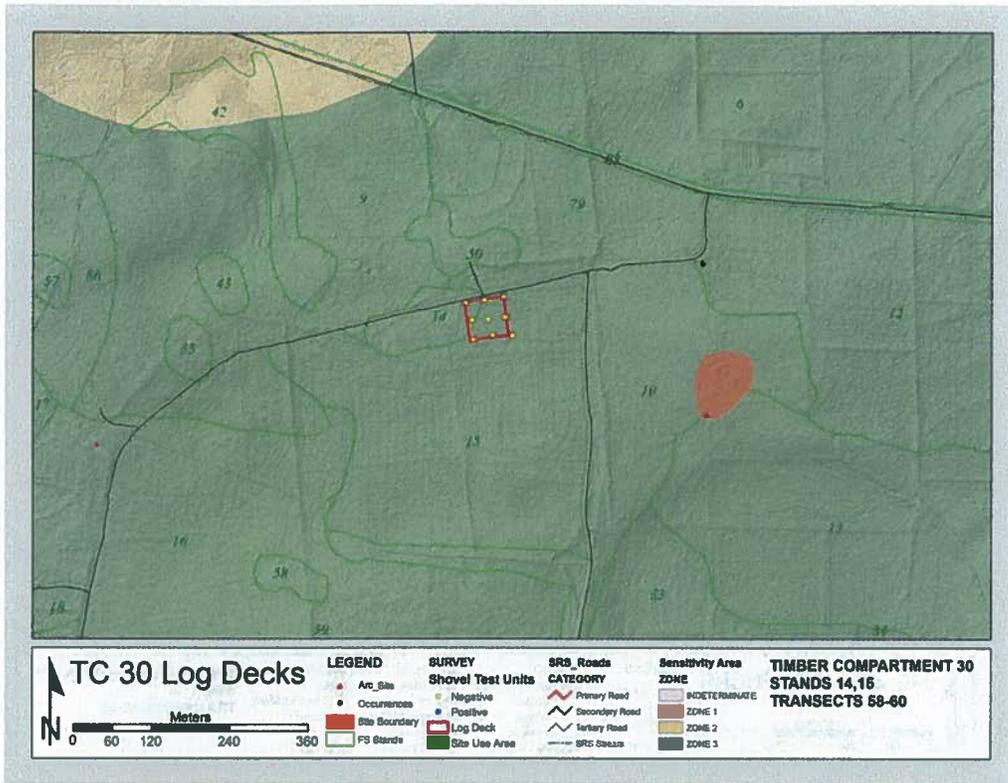


Figure I-40. Timber Compartment 30 survey area.

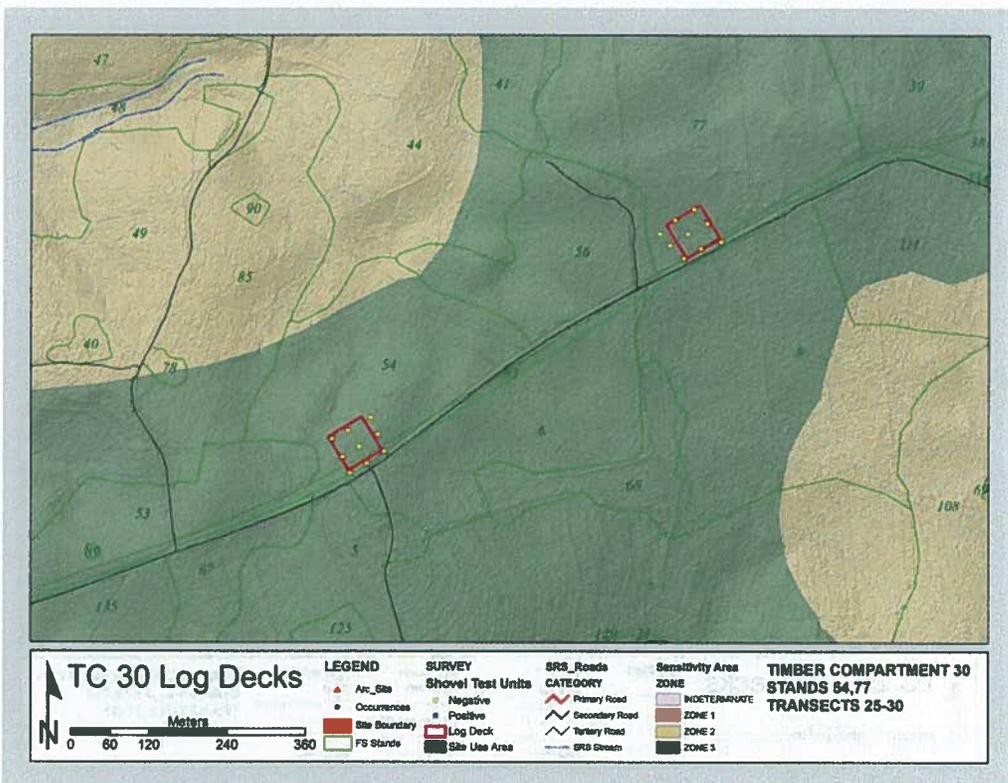


Figure I-41. Timber Compartment 30 survey area (continued).

Timber Compartment 32

Archaeological survey in Compartment 32 involved subsurface inspection of 1 proposed Log Deck totaling 1 acre in extent in Stands 7 and 8 (Figure I-42). Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of 9 STPs (0 positive) excavated on a 30-m grid at the Log Deck location. As this survey effort resulted in only negative STPs, no further archaeological work was required. Thus, there will be no adverse effect to any historic properties as a result of the proposed USFS-SR management action for Compartment 32.

Timber Compartment 34

Archaeological survey in Compartment 34 involved subsurface inspection of 17 proposed Log Decks totaling 1 acre each in extent in Stands 1, 2, 4, 11, 14, 15, 23, 32, 34, 35, 39, 47, and 63 (Figure I-43 to Figure I-45). Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of 159 STPs (3 positive) excavated on a 30-m grid at each Log Deck location. These survey efforts resulted in the discovery and delineation of two new sites (38BR1276, 38BR1288), as well as the recovery of one isolated artifact (BR-OCC-284). Site 38BR1276 consists of an unidentifiable prehistoric component and a 19th- to 20th-century homeplace. Additional testing is required to determine eligibility status. Site 38BR1288 consists of an unidentified prehistoric component and a 19th-century homeplace that requires additional testing or research for eligibility. These sites will be avoided completely during current timbering activities. The artifact occurrence holds no potential to advance our understanding of the history of the region. Thus, there will be no adverse effect to any historic properties as a result of the proposed USFS-SR management action for Compartment 34.

Timber Compartment 40

Archaeological survey in Compartment 40 involved subsurface inspection of 32 proposed Log Decks totaling 1 acre each in extent in Stands 9, 17, 19, 31, 42, 76, and 133 (Figure I-46 to Figure I-48). Review of the SRARP database showed one previously recorded site (38BR397) in the project area. Fieldwork consisted of 291 STPs (6 positive) excavated on a 30-m grid at each Log Deck location. These survey efforts resulted in the relocation of 38BR397, the discovery and delineation of one new site (38BR1282), and the recovery of three prehistoric isolated finds (BROCC293, BROCC294, BROCC298). Site 38BR397 is a Middle Woodland occupation that is considered eligible for nomination to the NRHP. Site 38BR1282 consists of a 20th-century homeplace that was razed during initial SRS land use activities in the early 1950s. As such, the site has poor integrity, holds little research potential to advance our understanding of the history of the region, and is considered not eligible for nomination to the NRHP. Both sites will be avoided completely during current timbering activities. The three artifact occurrences hold no potential to advance our understanding of the history or prehistory of the region. Thus, there will be no adverse effect to any historic properties as a result of the proposed USFS-SR management action for Compartment 40.

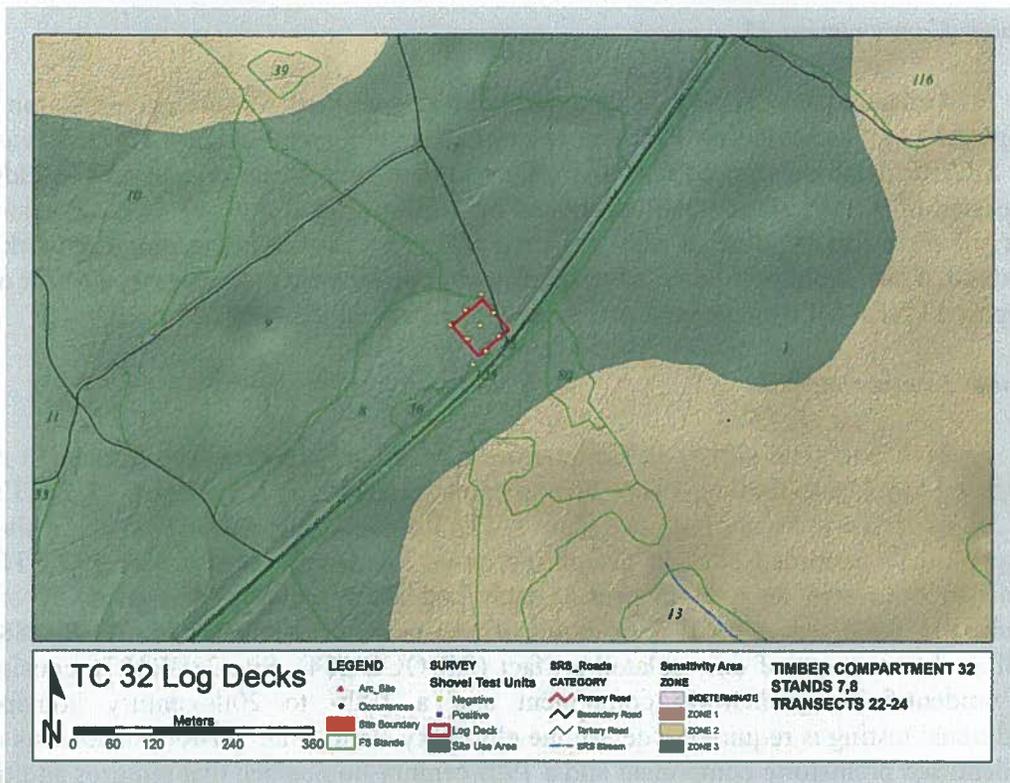


Figure I-42. Timber Compartment 32 survey area.

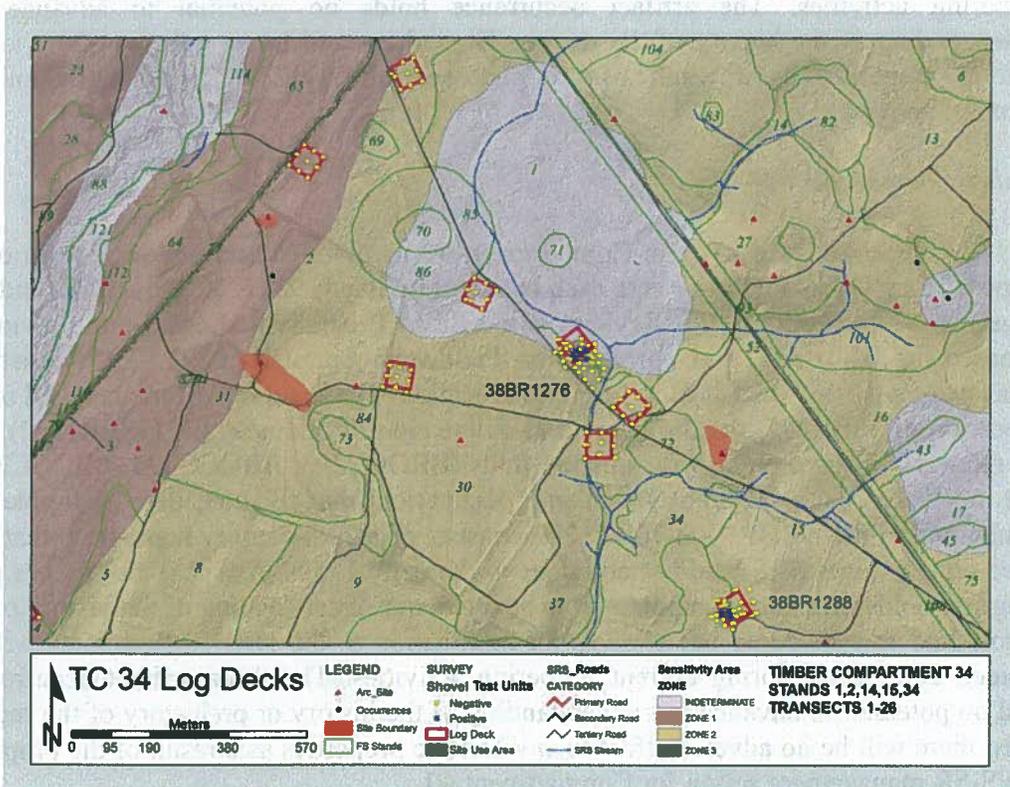


Figure I-43. Timber Compartment 34 survey area.

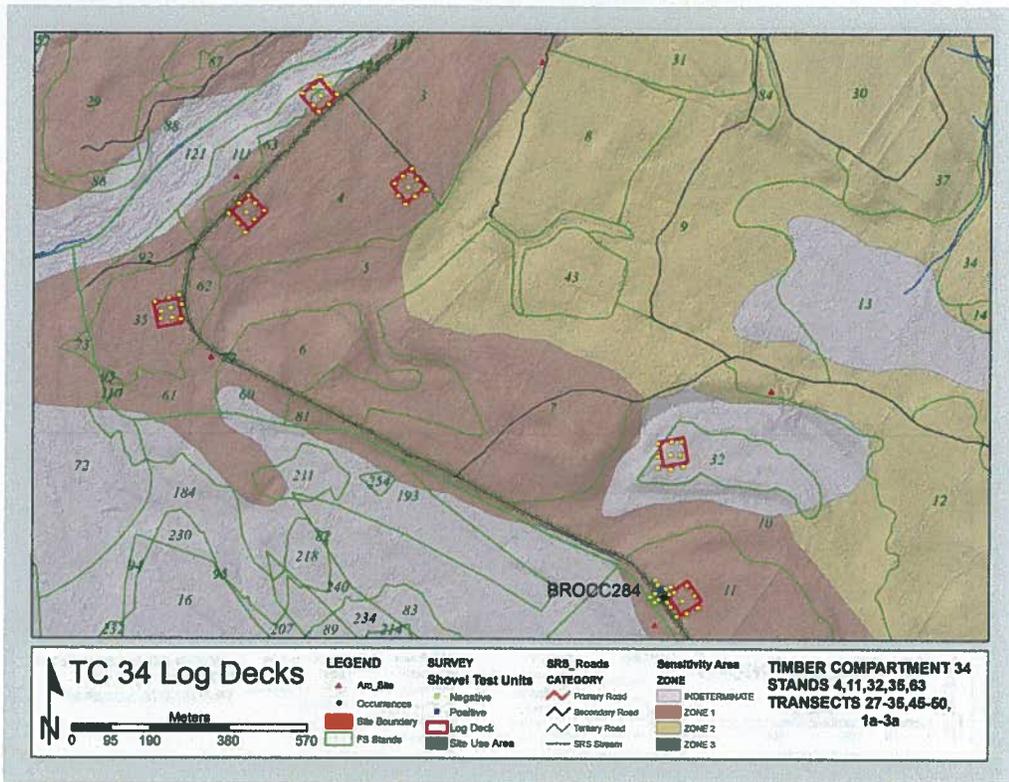


Figure I-44. Timber Compartment 34 survey area (continued).

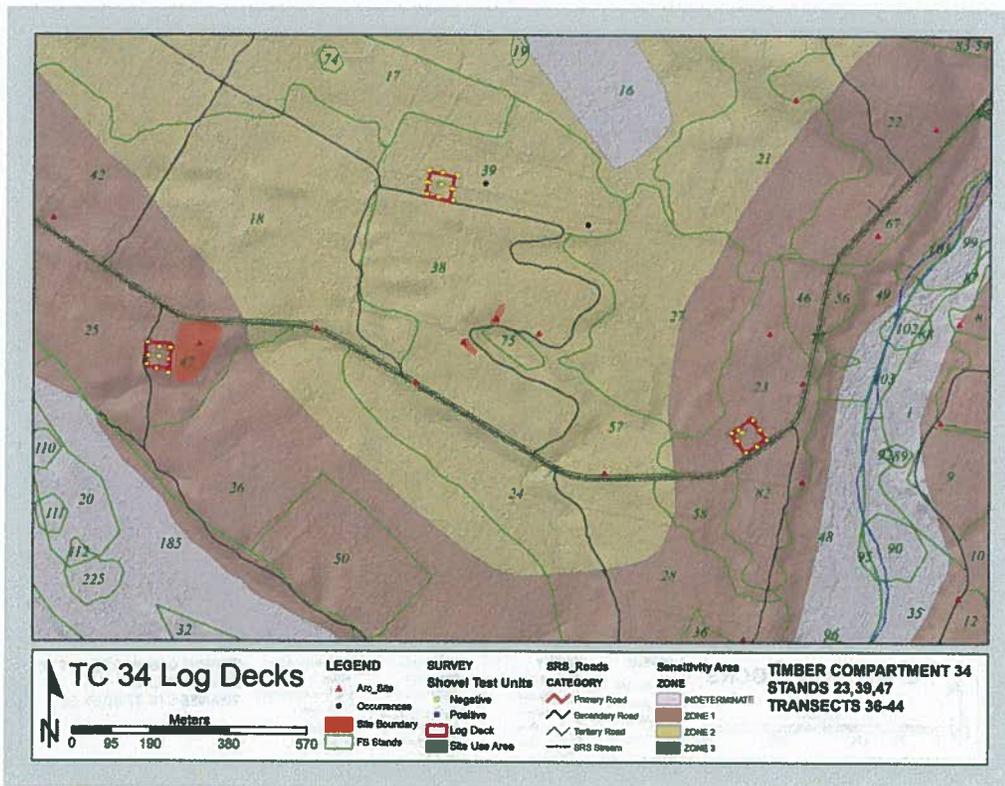


Figure I-45. Timber Compartment 34 survey area (continued).

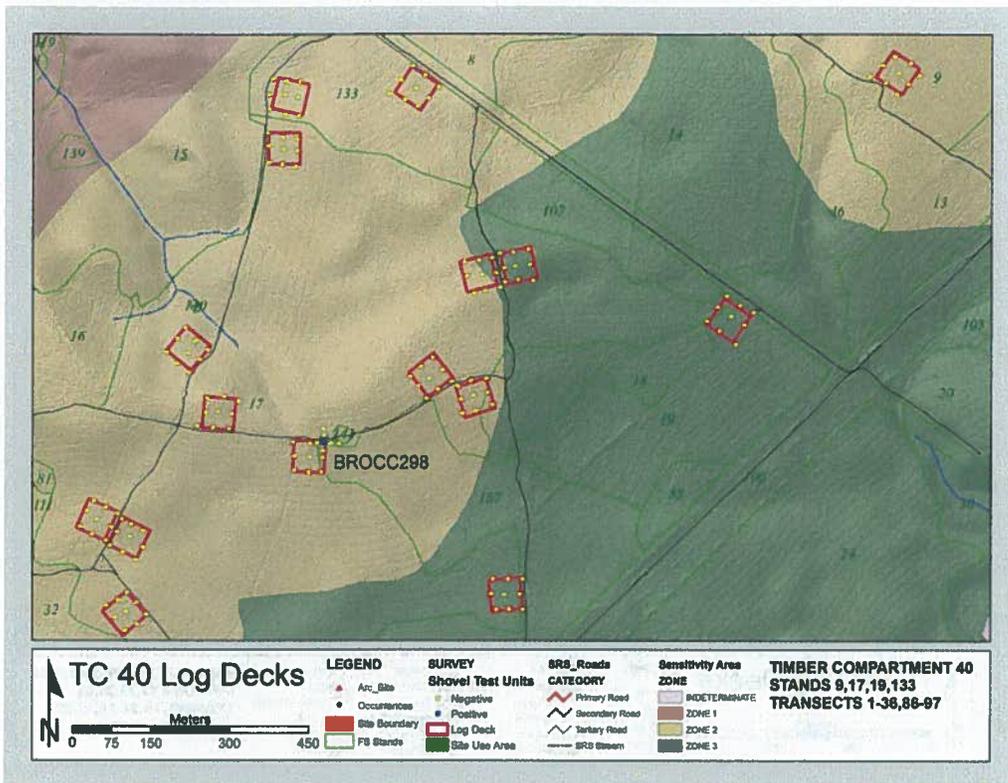


Figure I-46. Timber Compartment 40 survey area.

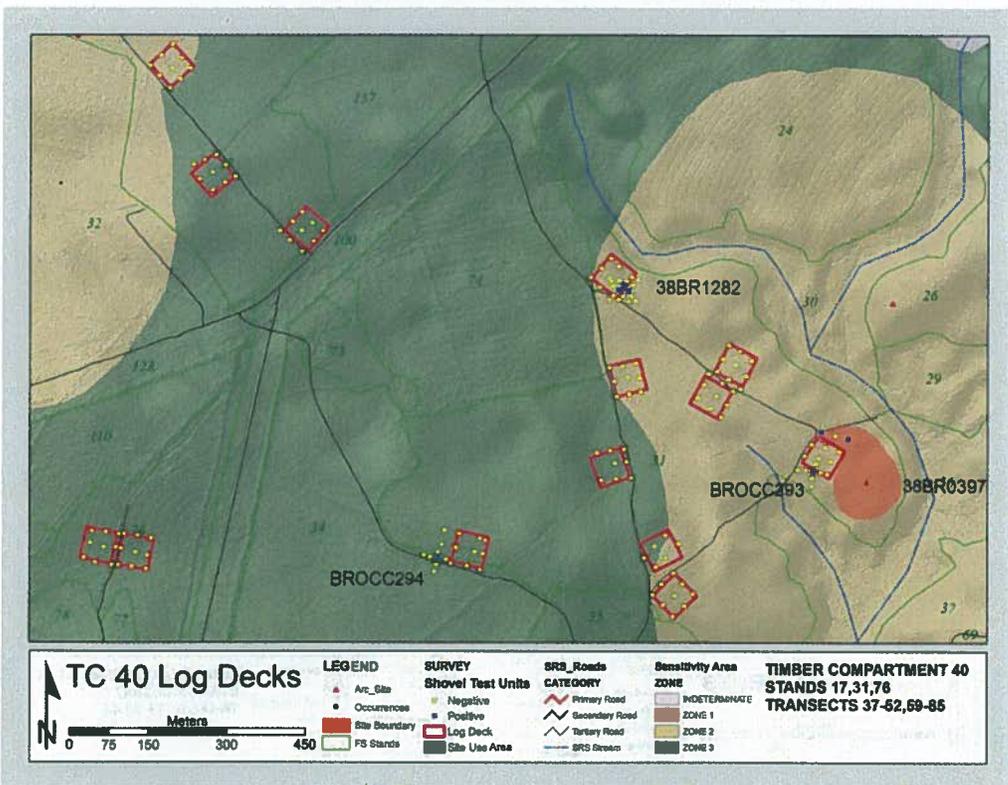


Figure I-47. Timber Compartment 40 survey area (continued).

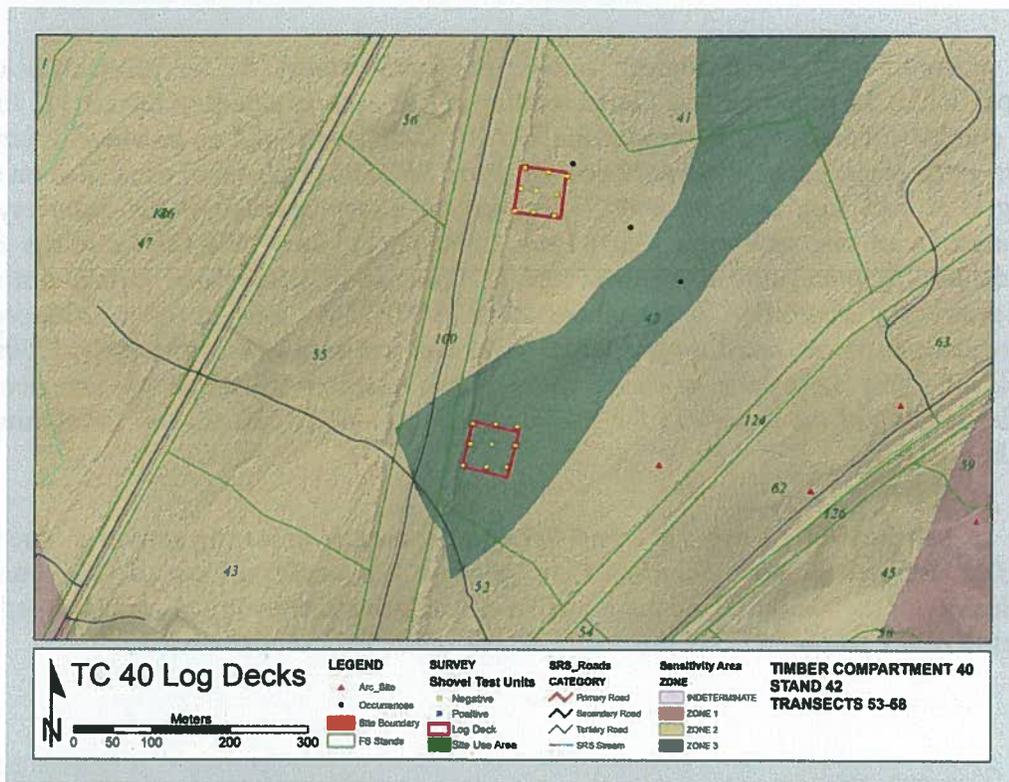


Figure I-48. Timber Compartment 40 survey area (continued).

Timber Compartment 51

Archaeological survey in Compartment 51 involved subsurface inspection of 149 acres in Stands 43, 45, 72, 115, and 135 slated for timbering (Figure I-49 to Figure I-52). Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of 124 STPs (0 positive) excavated along four separate transects. Additional archaeological survey involved subsurface inspection of 1 proposed Log Deck totaling 1 acre in extent in Stands 65 and 67 (Figure I-53). Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of 9 STPs (0 positive) excavated on a 30-m grid at the Log Deck location. As these survey efforts resulted in only negative STPs, no further archaeological work was required. Thus, there will be no adverse effect to any historic properties as a result of the proposed USFS-SR management action for Compartment 51.

Timber Compartment 52

Archaeological survey in Compartment 52 involved subsurface inspection of 124 acres in Stands 4, 9, 10, 31, 34, and 41 slated for timbering (Figure I-54 to Figure I-56). Review of the SRARP database showed one previously recorded site (38BR231) in the project area. Fieldwork consisted of 108 STPs (11 positive) excavated along five separate transects. These survey efforts resulted in the relocation and delineation of 38BR231 and eight prehistoric isolated finds (BROCC286, BROCC287, BROCC288, BROCC289, BROCC290, BROCC291, BROCC292, BROCC299). Site 38BR231 is a prehistoric multicomponent occupation that is considered eligible for nomination to the NRHP.

Additional archaeological survey in Compartment 52 involved subsurface inspection of 15 proposed Log Decks totaling 1 acre each in extent in Stands 11, 13, 14, 20, and 59 (Figure I-57). Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of 134 STPs (4 positive) excavated on a 30-m grid at each Log Deck location. These survey efforts resulted in the discovery and delineation of two new sites (38BR1280, 38BR1281). Site 38BR1280 consists of an unidentifiable prehistoric component and a 19th-century homeplace; further testing is necessary for eligibility determination. Site 38BR1281 consists of a 20th-century homeplace that was razed during initial SRS land use activities in the early 1950s. As such, the site has poor integrity, holds little research potential to advance our understanding of the history of the region, and is considered not eligible for nomination to the NRHP.

All sites will be avoided completely during current timbering activities. The eight artifact occurrences hold no potential to advance our understanding of the history or prehistory of the region. Thus, there will be no adverse effect to any historic properties as a result of the proposed USFS-SR management action for Compartment 52.

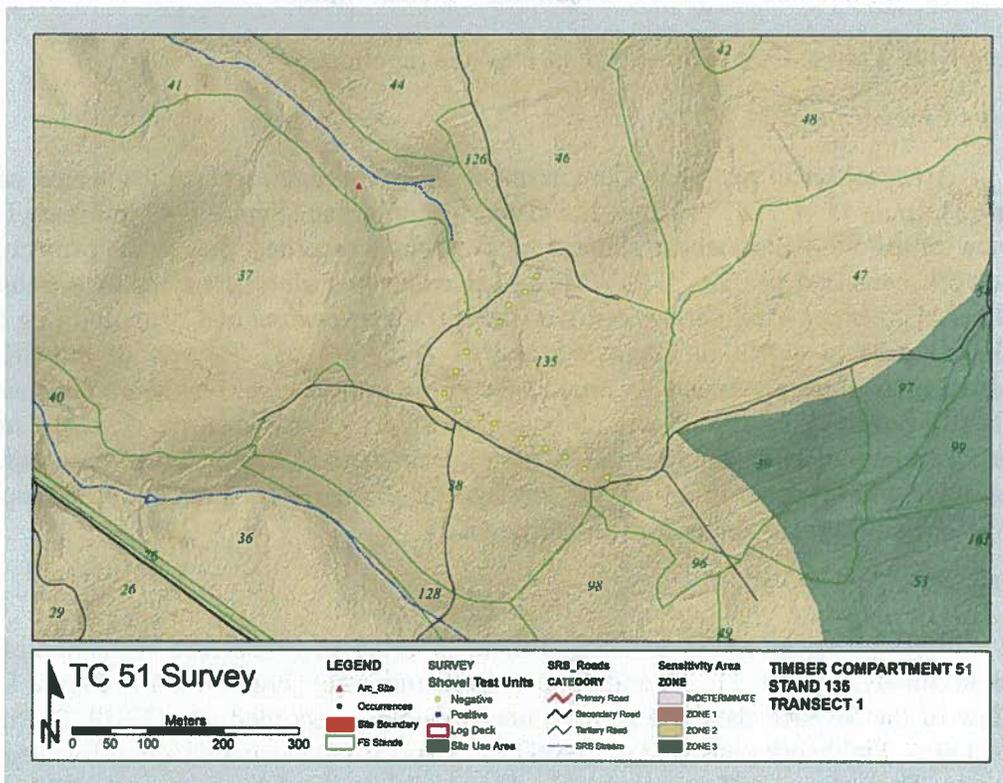


Figure I-49. Timber Compartment 51 survey area.

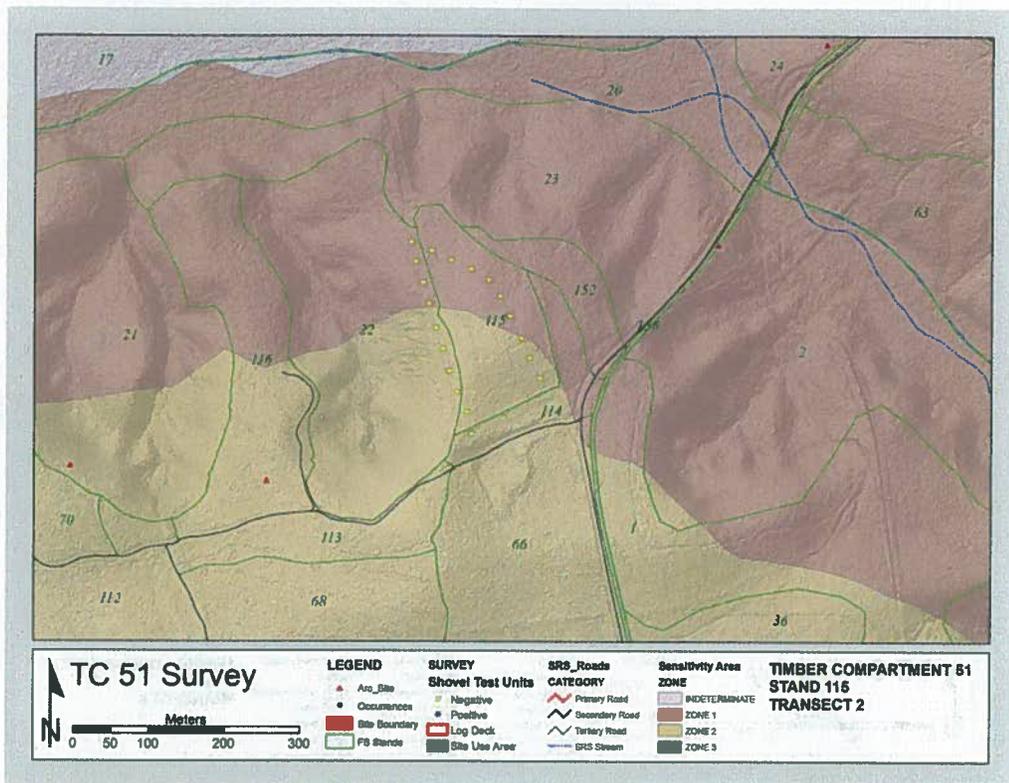


Figure I-50. Timber Compartment 51 survey area (continued).

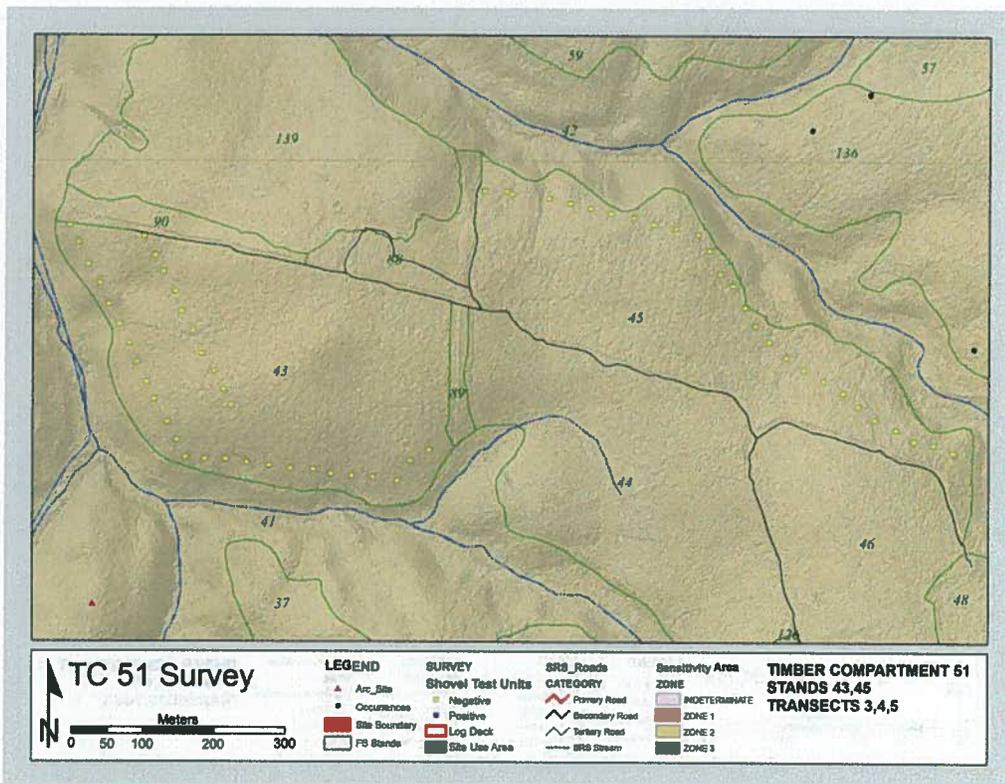


Figure I-51. Timber Compartment 51 survey area (continued).

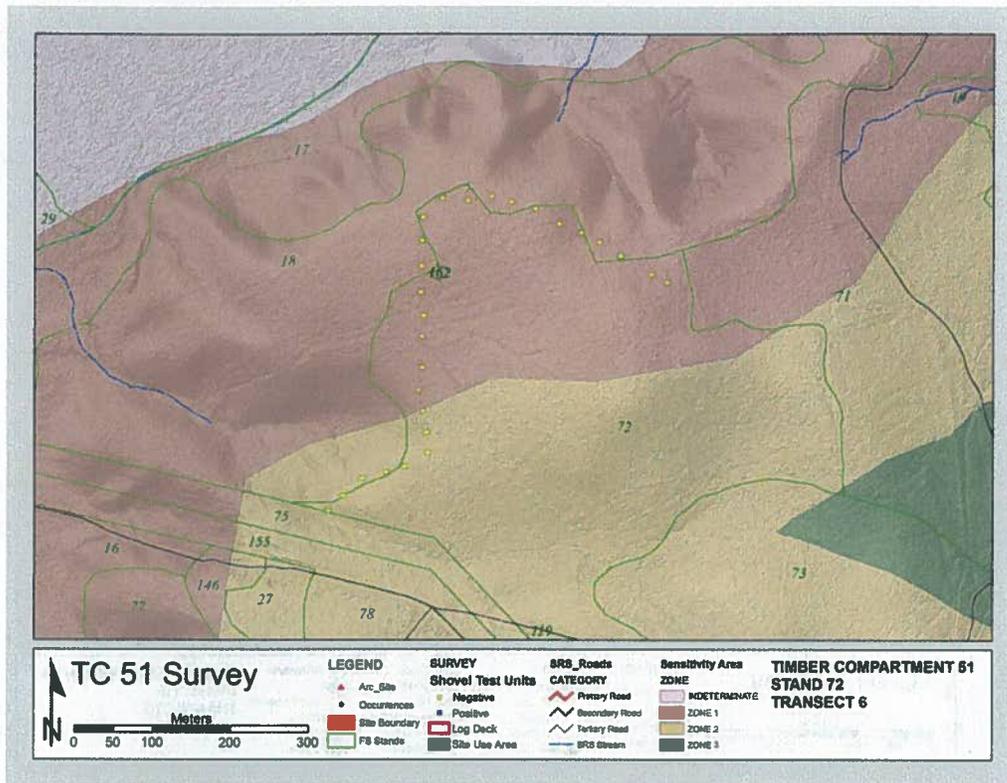


Figure I-52. Timber Compartment 51 survey area (continued).

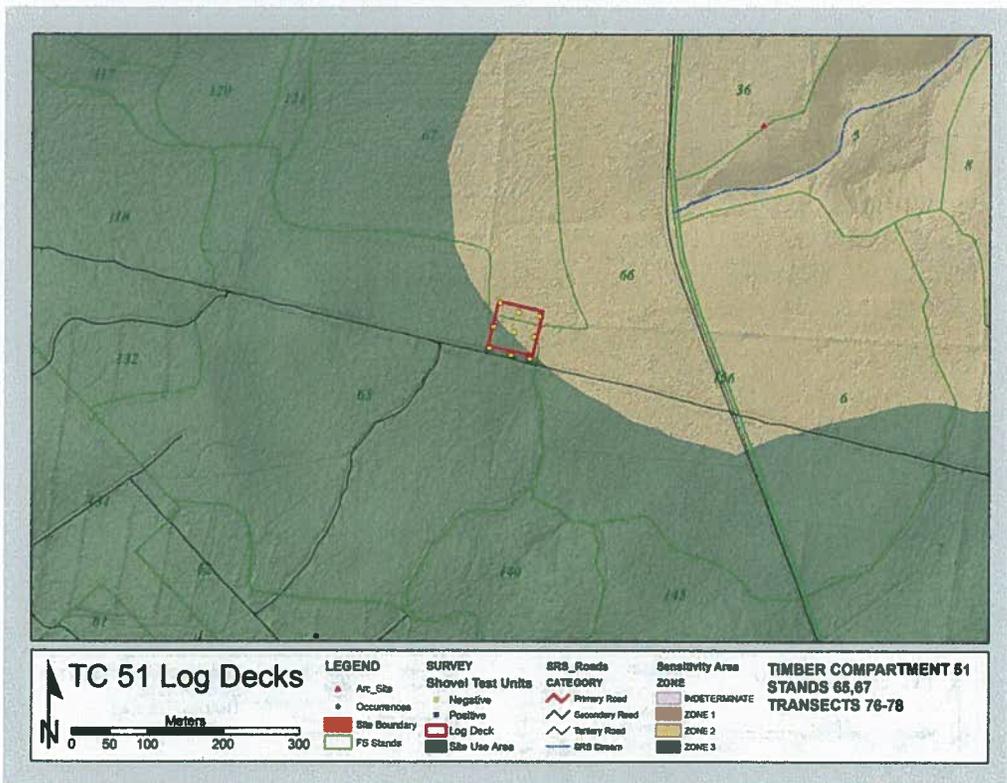


Figure I-53. Timber Compartment 51 survey area (continued).

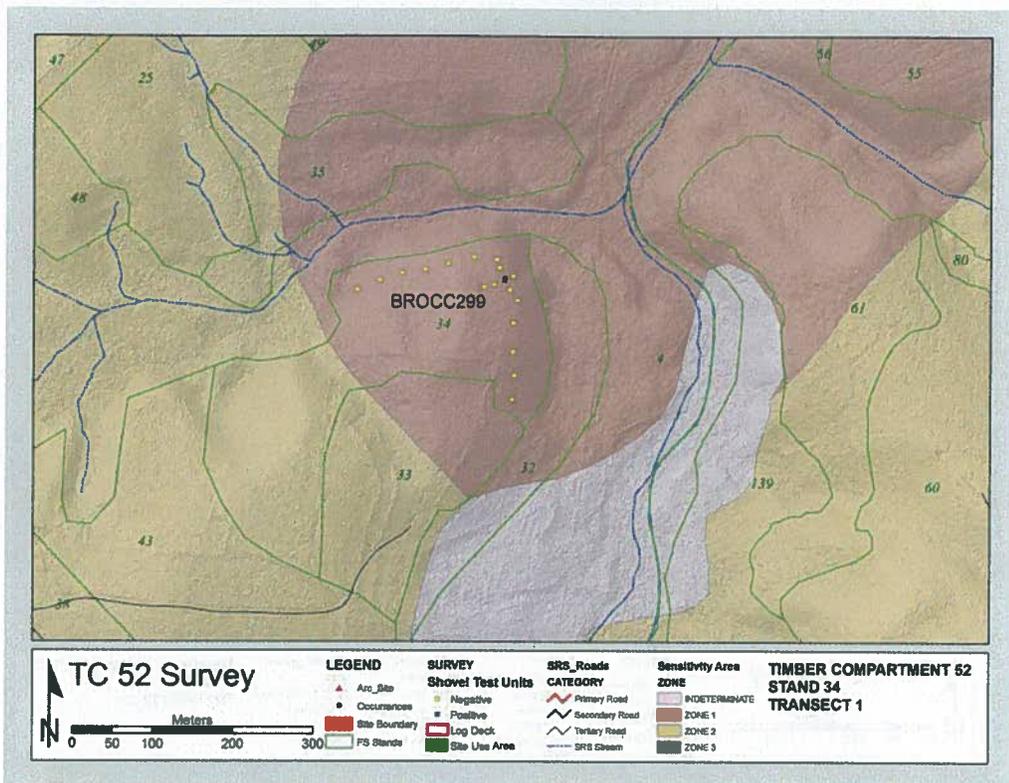


Figure I-54. Timber Compartment 52 survey area.

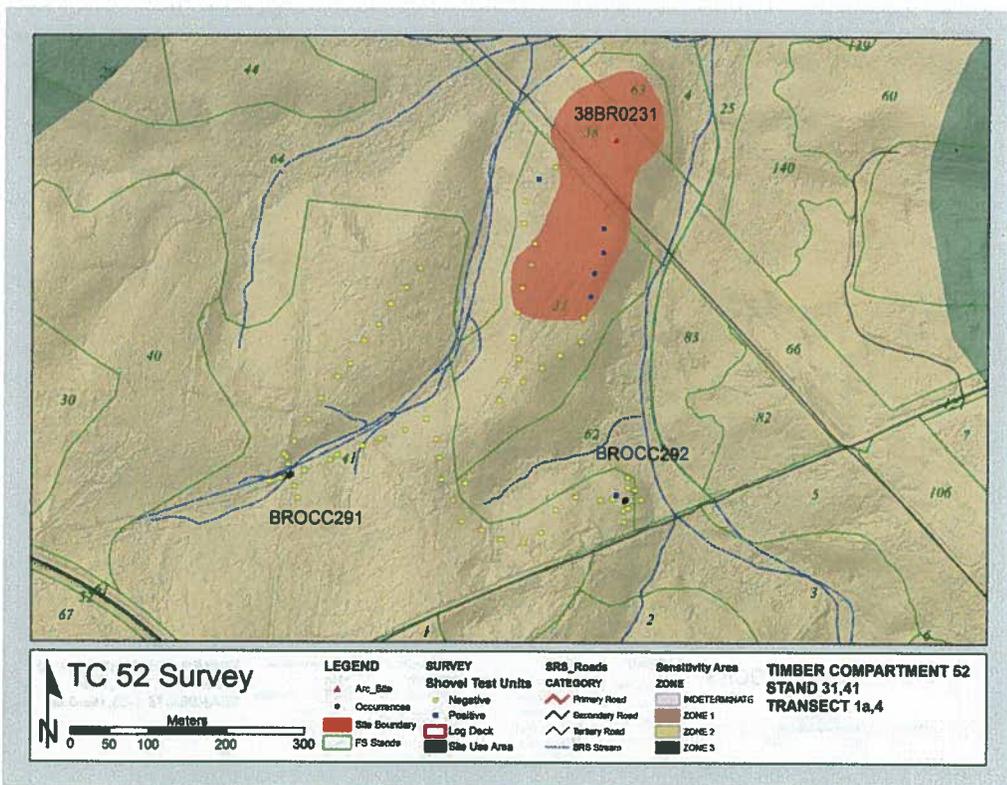


Figure I-55. Timber Compartment 52 survey area (continued).

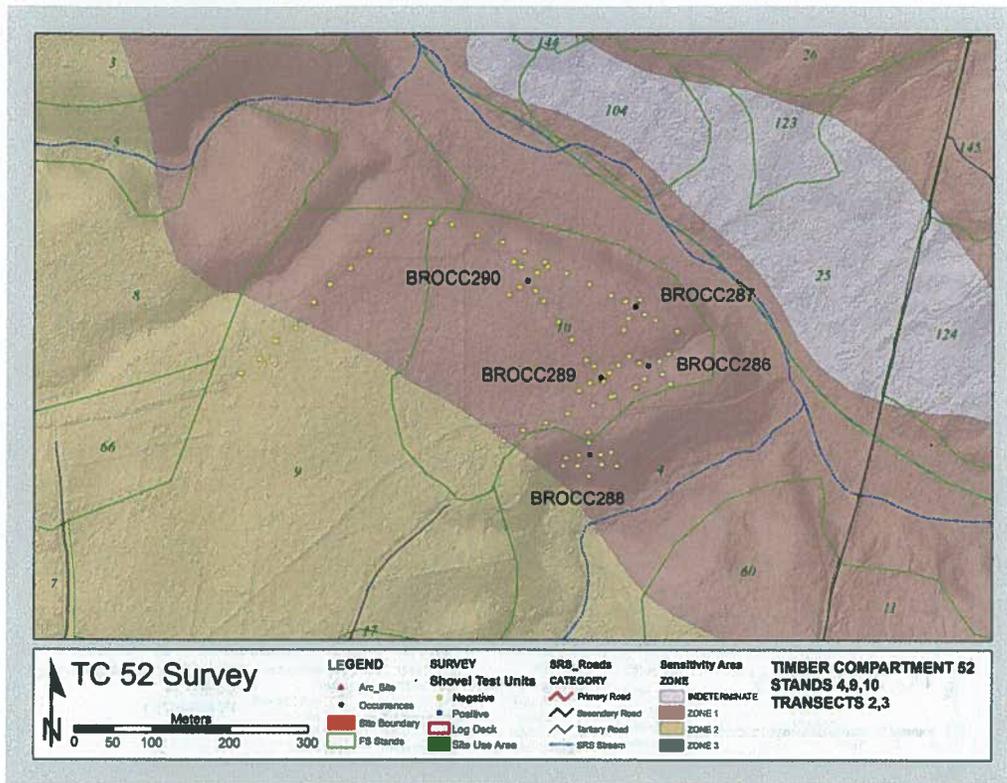


Figure I-56. Timber Compartment 52 survey area (continued).

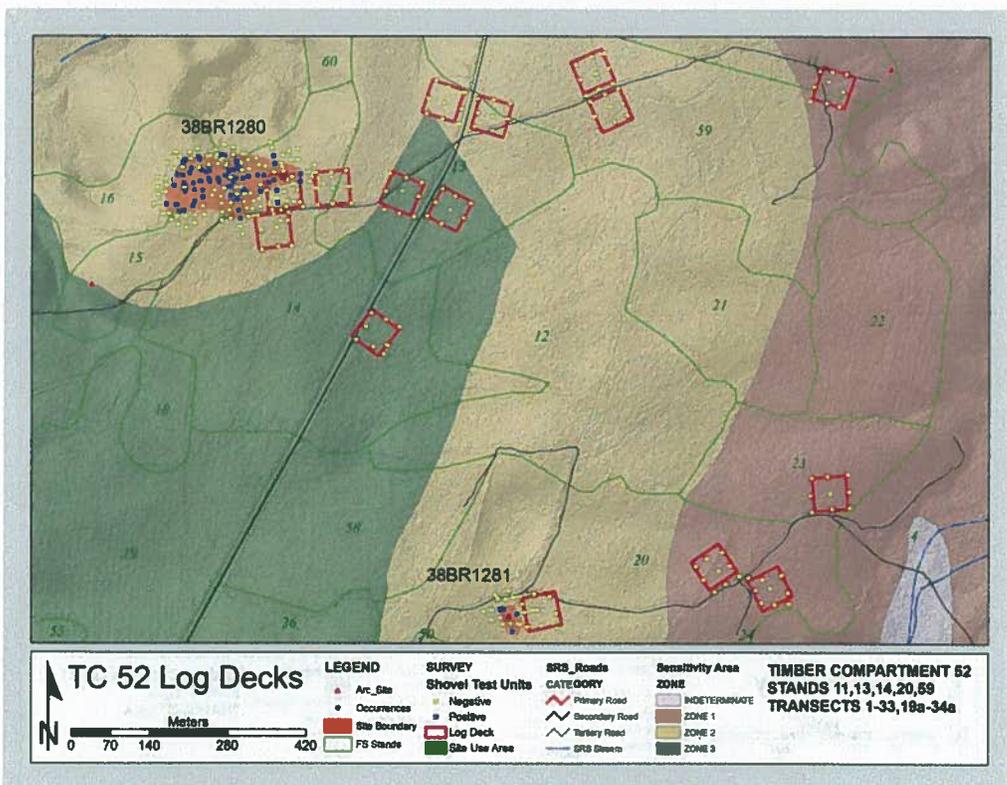


Figure I-57. Timber Compartment 52 survey area (continued).

Timber Compartment 53

Archaeological survey in Compartment 53 involved subsurface inspection of 9 proposed Log Decks totaling 1 acre each in extent in Stands 8, 22, 24, 26, 28, and 121 (Figure I-58 and Figure I-59). Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of STPs excavated on a 30-m grid at each Log Deck location. Altogether, 81 STPs (0 positive) were dug in this manner. As these survey efforts resulted in only negative STPs, no further archaeological work was required. Thus, there will be no adverse effect to any historic properties as a result of the proposed USFS-SR management action for Compartment 53.

Timber Compartment 54

Archaeological survey in Compartment 54 involved subsurface inspection of 11 proposed Log Decks totaling 1 acre each in extent in Stands 5, 7, 57, 58, 59, 72, 97, 122, and 123 (Figure I-60 and Figure I-61). Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of STPs excavated on a 30-m grid at each Log Deck location. Altogether, 99 STPs (2 positive) were dug in this manner. These survey efforts resulted in the recovery of two isolated finds: one prehistoric (BROCC296) and one historic (BROCC297). The artifact occurrences hold no potential to advance our understanding of the history or prehistory of the region. Thus, there will be no adverse effect to any historic properties as a result of the proposed USFS-SR management action for Compartment 54.

Timber Compartment 57

Archaeological survey in Compartment 57 involved subsurface inspection of 11 proposed Log Decks totaling 1 acre each in extent in Stands 6, 10, 11, 14, 20, 29, and 34 (Figure I-62). Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of STPs excavated on a 30-m grid at each Log Deck location. Altogether, 99 STPs (0 positive) were dug in this manner. As these survey efforts resulted in only negative STPs, no further archaeological work was required. Thus, there will be no adverse effect to any historic properties as a result of the proposed USFS-SR management action for Compartment 57.

Timber Compartment 62

Archaeological survey in Compartment 62 involved subsurface inspection of 1 proposed Log Deck totaling 1 acre in extent in Stand 97 (Figure I-63). Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of 9 STPs (0 positive) excavated on a 30-m grid at the Log Deck location. As this survey effort resulted in only negative STPs, no further archaeological work was required. Thus, there will be no adverse effect to any historic properties as a result of the proposed USFS-SR management action for Compartment 62.

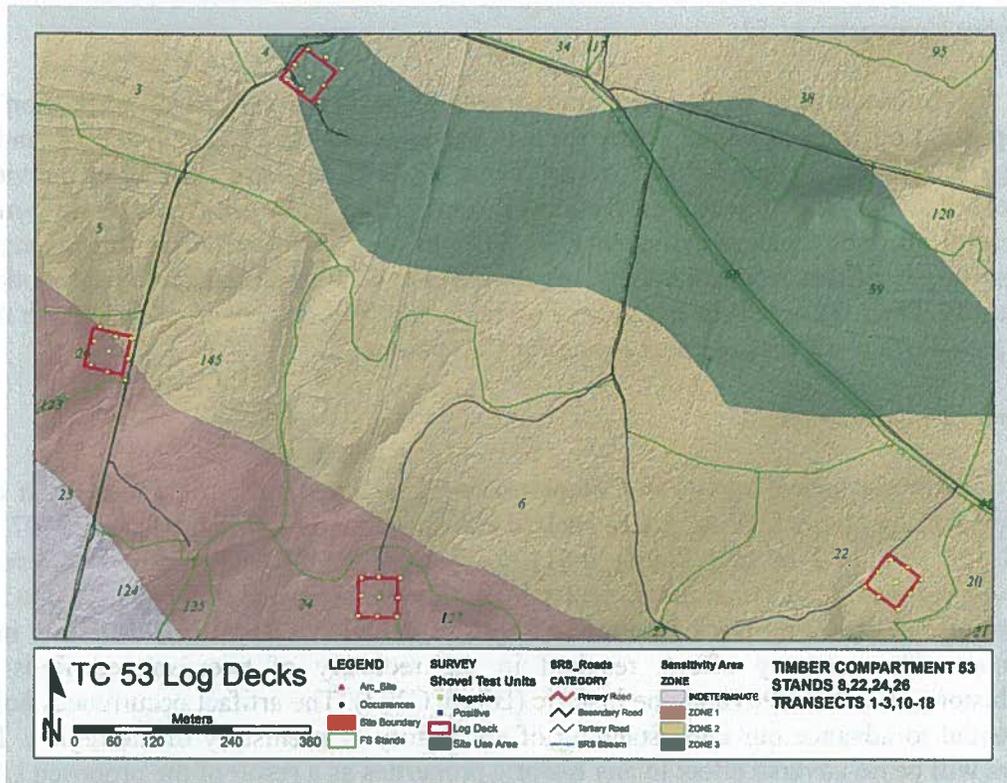


Figure I-58. Timber Compartment 53 survey area.

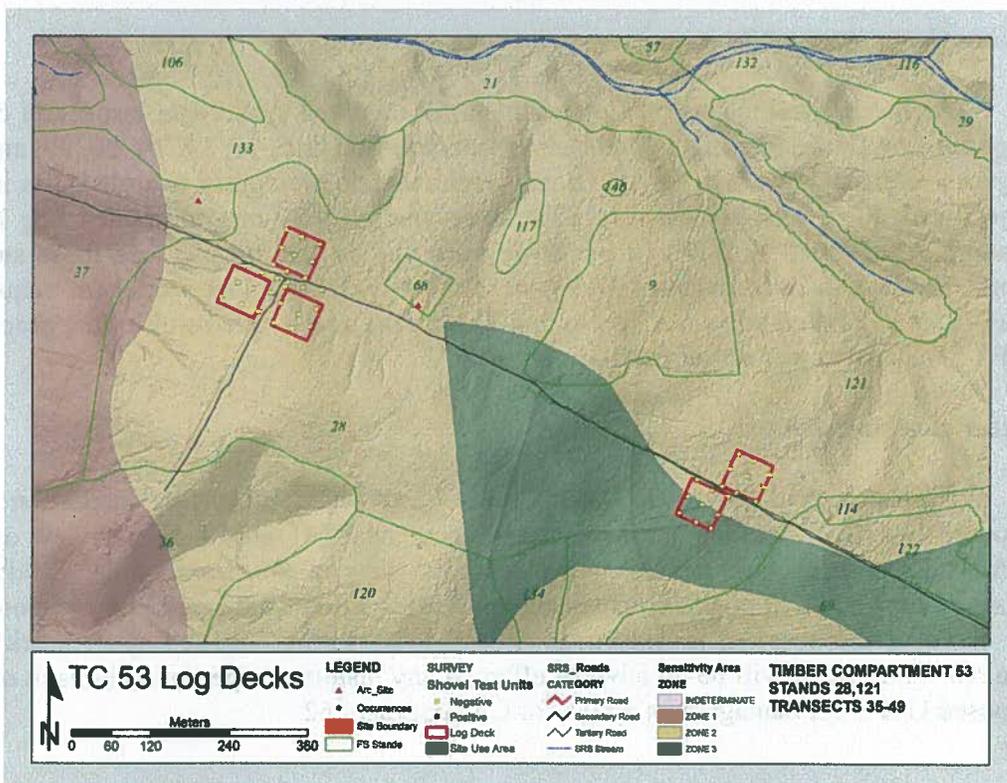


Figure I-59. Timber Compartment 53 survey area (continued).

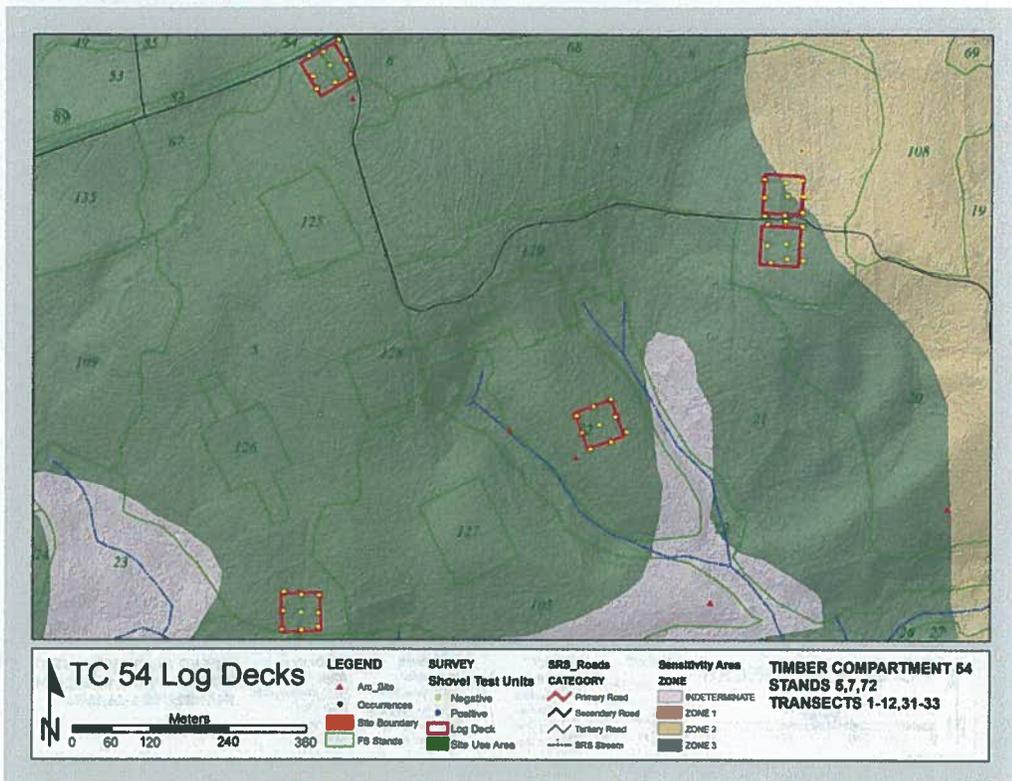


Figure I-60. Timber Compartment 54 survey area.

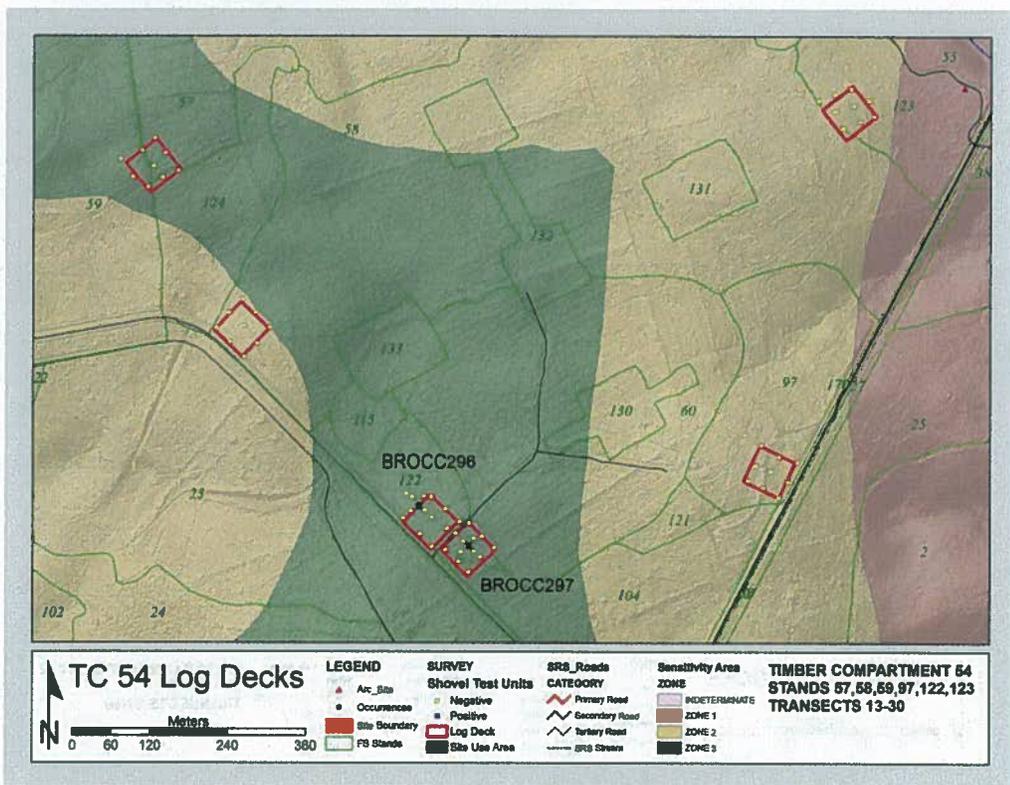


Figure I-61. Timber Compartment 54 survey area (continued).

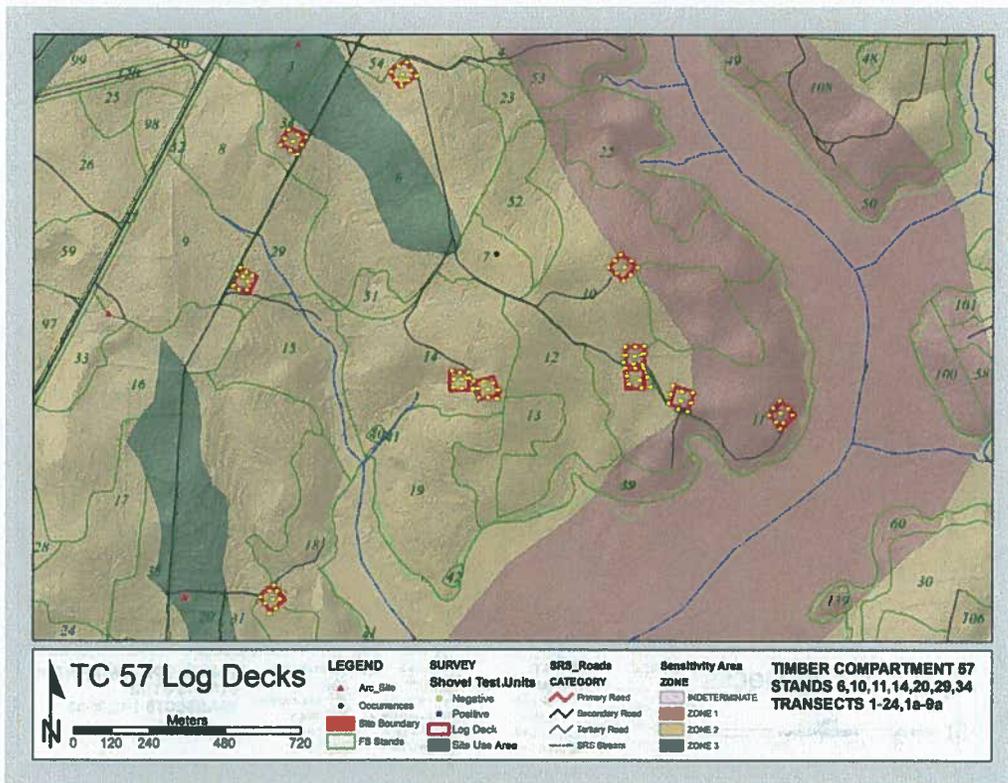


Figure I-62. Timber Compartment 57 survey area.

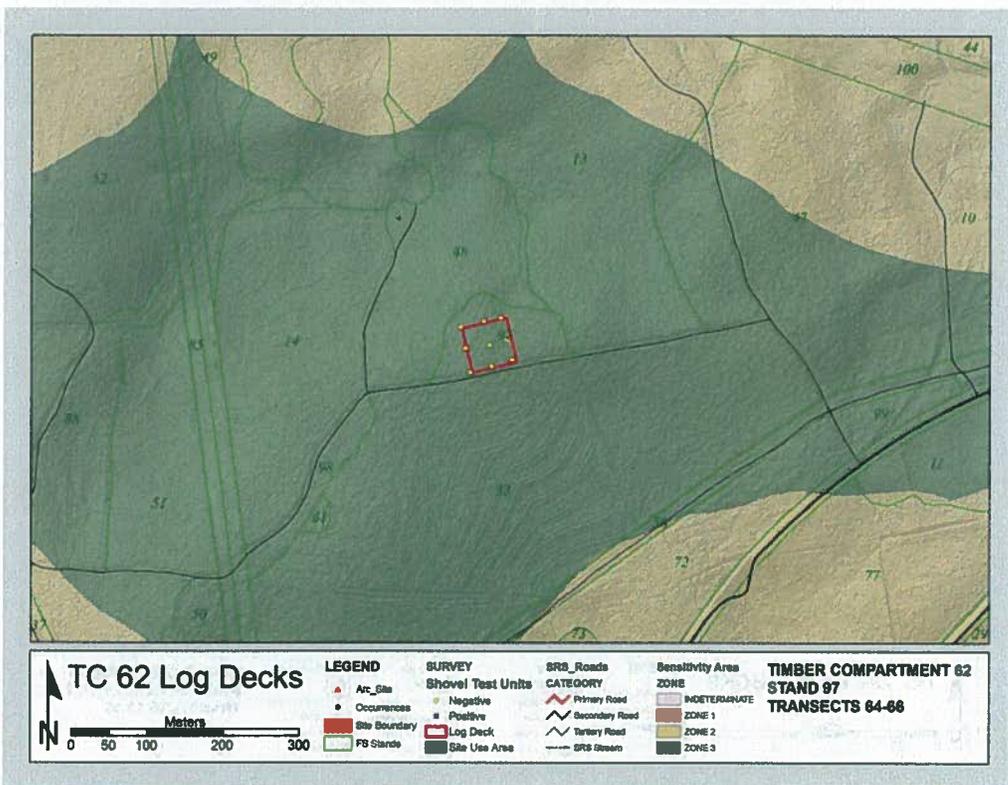


Figure I-63. Timber Compartment 62 survey area.

Timber Compartment 64

Archaeological survey in Compartment 64 involved subsurface inspection of 12 acres in Stands 9 and 50 slated for timbering (Figure I-64). Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of 12 STPs (0 positive) excavated along 2 separate transects. As this survey effort resulted in only negative STPs, no further archaeological work was required. Thus, there will be no adverse effect to any historic properties as a result of the proposed USFS-SR management action for Compartment 64.

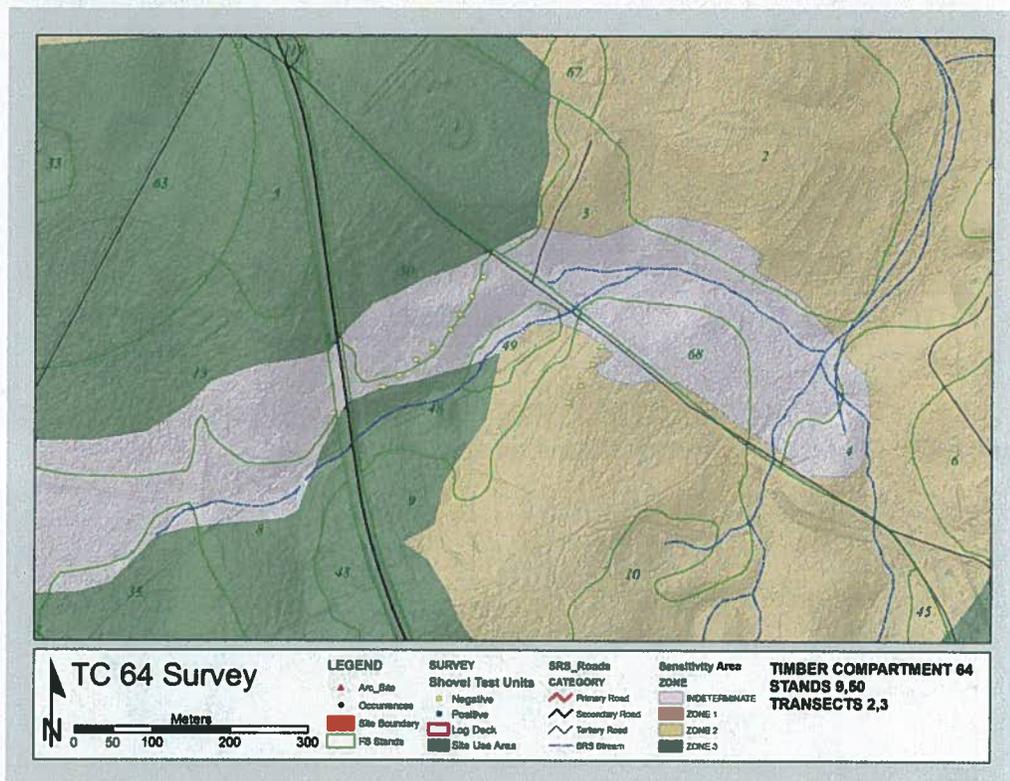


Figure I-64. Timber Compartment 64 survey area.

Timber Compartment 82

Archaeological survey in Compartment 82 involved subsurface inspection of 5 acres in Stands 21, 50, 74, 78, and 108 slated for timbering (Figure I-65 and Figure I-66). Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of 33 STPs (0 positive) excavated on a 30-m grid at each Log Deck location. As this survey effort resulted in only negative STPs, no further archaeological work was required. Thus, there will be no adverse effect to any historic properties as a result of the proposed USFS-SR management action for Compartment 82.

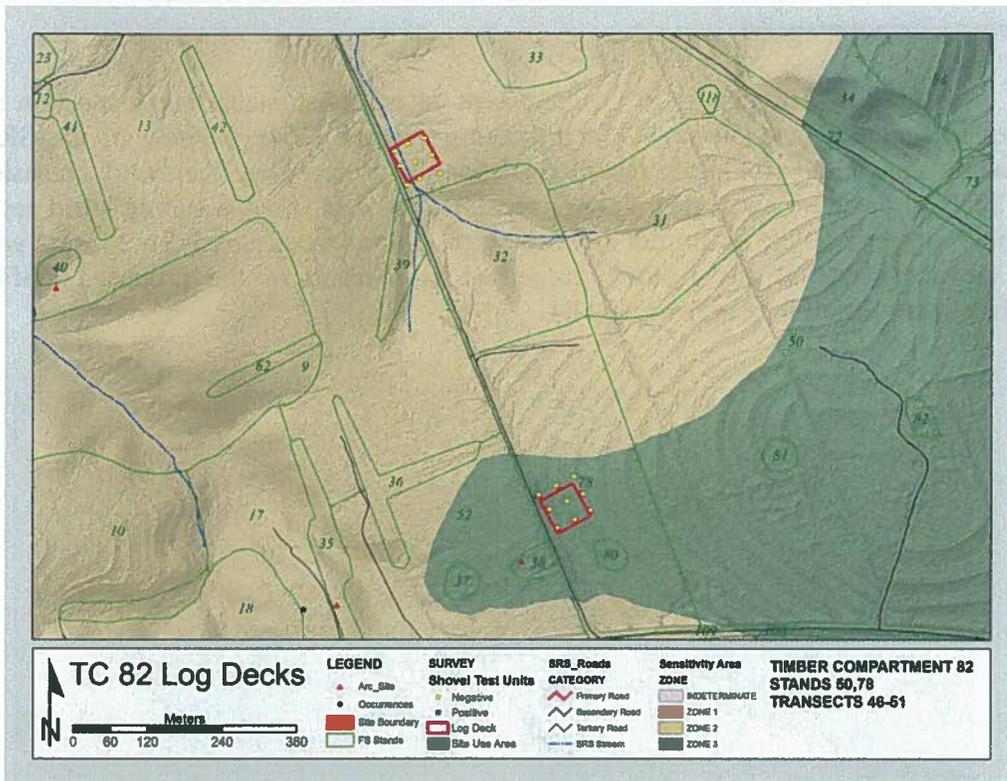


Figure I-65. Timber Compartment 82 survey area.

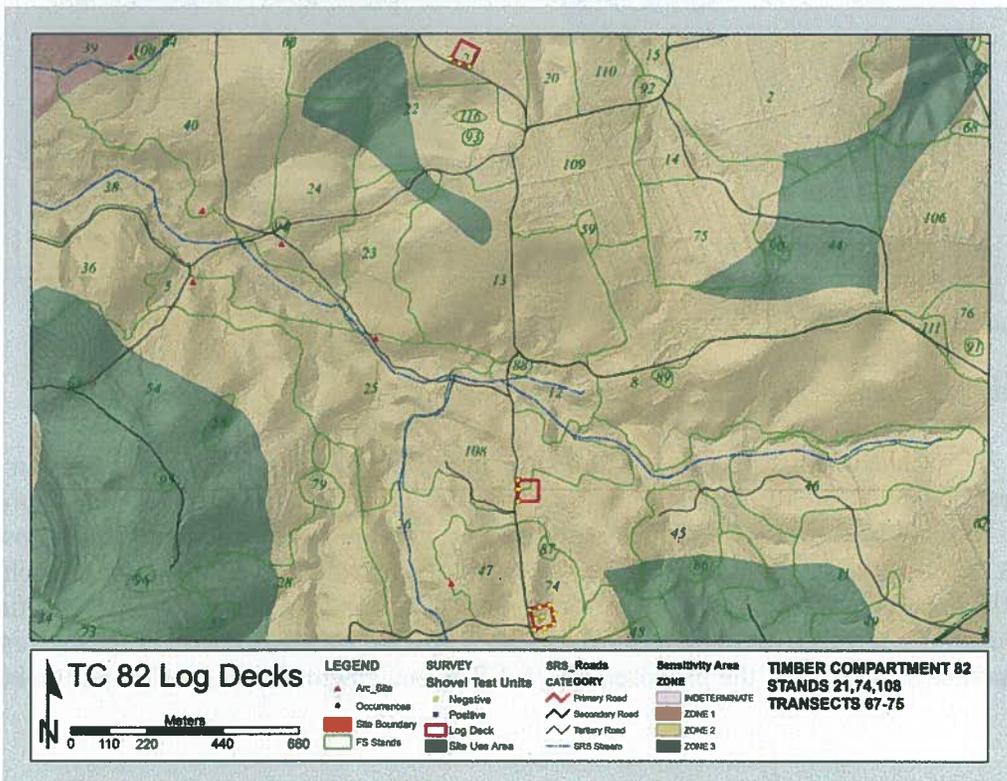


Figure I-66. Timber Compartment 82 survey area (continued).

Timber Compartment 85

Archaeological survey in Compartment 85 involved subsurface inspection of 2 acres in Stands 23, 24, and 29 slated for timbering (Figure I-67). Review of the SRARP database showed no previously recorded sites in the project area. Fieldwork consisted of 18 STPs (0 positive) excavated on a 30-m grid at each Log Deck location. As this survey effort resulted in only negative STPs, no further archaeological work was required. Thus, there will be no adverse effect to any historic properties as a result of the proposed USFS-SR management action for Compartment 85.

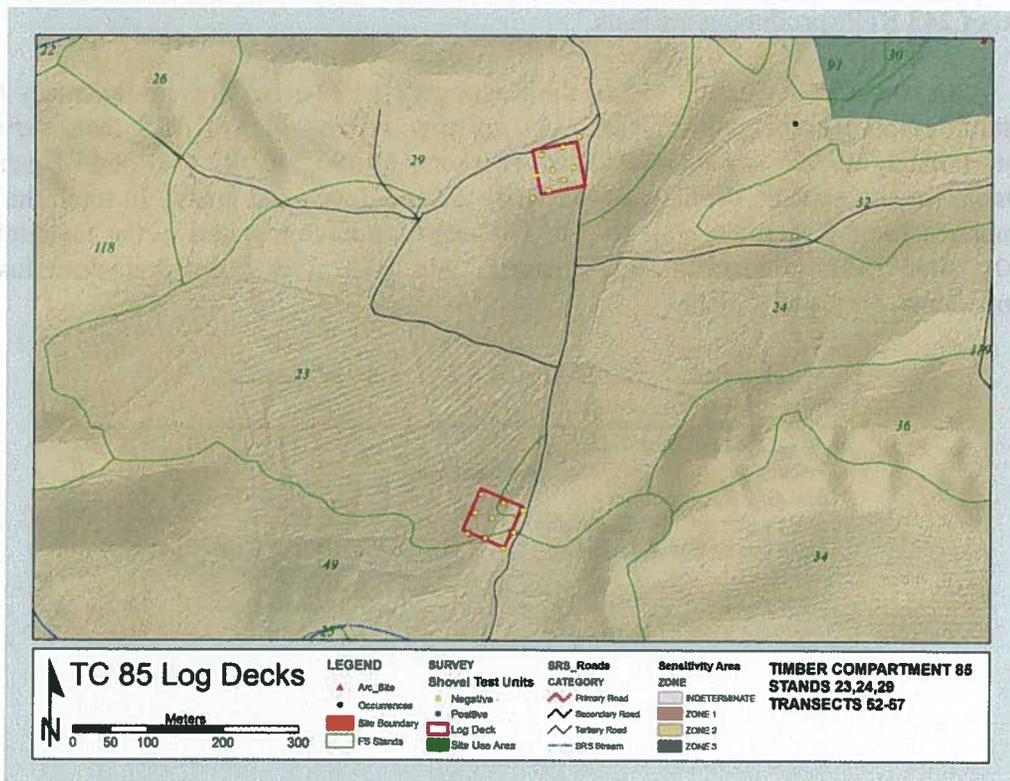


Figure I-67. Timber Compartment 85 survey area.

Survey Results

To summarize, Table I-7 lists the results of FY11 compliance survey. Altogether, 13 new sites were recorded and delineated, and 4 previously recorded sites were revisited. Additionally, one previously recorded site (38AK801) could not be relocated during FY11 survey. Of the total sites investigated during FY11, three are considered eligible and six are considered not eligible for inclusion in the NRHP. The remaining eight sites have been assigned an unevaluated (requires testing or research for eligibility) 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. Seventeen isolated artifact occurrences were also recorded during FY11. 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 Table I-1 and Table I-2. Evaluations of these sites are provided in Table I-3. Finally, a tabulation of isolated artifact occurrences by project type is provided in Table I-4.

The SRARP surveyed 985 acres in FY11 for 12 Site Use Permits and 24 Timber Compartment Prescriptions. Of the total area surveyed, 550 acres (56%) involved Site Use Permit projects and 435 acres (44%) involved Timber Compartment Stands slated for harvesting or Log Deck use. Altogether, 3,853 STPs were excavated in FY11 during site surveys, archaeological site delineations, and isolated artifact occurrence locations with a total of 243 STPs producing artifacts.

In conclusion, Section 110 of the Regulatory process requires an inventory of all cultural resources on public lands. As of this report, the SRARP has surveyed approximately 66,055 acres (34.0%) out of a total of 193,276 (97.4%) of SRS acreage suitable for survey (i.e., excluding SRS wetlands and developed areas). In total, the SRS comprises 198,344 acres or 310 sq. mi. These efforts have resulted in the inventory of 1,901 sites (931 prehistoric, 492 historic, and 478 with both prehistoric/historic components) recorded to date.

Table I-7. Summary of FY11 Survey Results.

Site Use Application Surveys	12
Timber Compartment Prescription Surveys	24
Total STPs Excavated	3,853
Total Positive STPs Excavated	243
Total Area Surveyed (acres)	985
New Sites	13
Site Revisits	4
Isolated Artifact Occurrences	17

CURATION COMPLIANCE ACTIVITIES

Tammy F. Herron

As a result of the analysis of artifacts recovered through daily compliance activities and the analysis of artifacts recovered from excavations conducted at the Greene site (38AK953) and Flamingo Bay (38AK469), approximately 19,026 artifacts have been curated over the course of the past fiscal year. Compliance related excavations conducted throughout the year account for 1,044 of these artifacts. Primary analysis of artifacts from 38AK469 yielded approximately 10,000 artifacts, while analysis of artifacts from 38AK953 totaled 7,982 artifacts.

The Master Baseline Database (MBD) created by Environmental Systems Research Institute (ESRI) continues to be wrought with problems. This database houses many of the site forms and artifact summary sheets, as well as GIS/GPS data recorded by provenience and level for the archaeological sites surveyed on the SRS. As a result of problems associated with the database, up to and including automatic deletion of information, the staff decided to cease entering data into the database. Rob Moon, Field Director of CRM Survey, worked in-house to create a database intended to integrate the compliance, curation, and GIS/GPS data into one efficient package to better aid the SRARP in future management issues. Unfortunately, Rob left the program in June 2011; however, we will begin entering data for the FY2012 year into the Access database that he created.

Since 1993, the lack of dedicated curation space has been a major issue here at the SRARP. Currently, the Central Curation Facility houses 660 boxes of artifacts in a climate controlled area. Of note, is the fact that 724 boxes of artifacts are currently being stored outside of the Central Curation Facility due to a lack of dedicated curation space. Boxes of artifacts are stored wherever possible in the offices of staff members, under tables and desks, in corners, and stacked as high as feasibly possible in some areas. These practices, however, are in violation of 36CFR79—leaving the artifacts more susceptible to theft and damage from a lack of environmental control, as well as creating a safety hazard in some instances due to the height of the stacked boxes and the location of the stacks. The need for an increase in dedicated curation space continues to be a primary concern of the program.

THE SRARP ARCHAEOLOGICAL GEOGRAPHIC INFORMATION SYSTEM

J. Christopher Gillam

The SRARP archaeological Geographic Information System (GIS) in FY11 involved ongoing use of the SRARP GeoDatabase with ArcGIS 9.3.1 and a transition of the curation database to Microsoft Access format. The decision to develop a loosely-coupled ArcGIS and Access curation database was made to address stability problems of the GeoDatabase caused by the high number of records in the SRARP curation database and the expense of converting the existing GeoDatabase to ArcGIS 10 format given

ongoing budget constraints. The archaeological point and polygon layers were updated, and errors from previous records were corrected. The site-wide survey coverage and associated database were updated by the SRARP staff. The SRARP staff continues updating the curation and site file databases as new data are collected from the field and also continued research on new data products for future use by the SRARP. Two Trimble Juno SB GPS units and associated software were purchased at the end of the fiscal year to address concerns about the reliability of aging GeoXH units (2005 models) and software compatibility problems with 64-bit Windows 7 PC operating systems.

DOE COMPLIANCE SHORTFALLS AND FUTURE REQUIREMENTS

Tammy F. Herron

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 archaeological 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 archaeological 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 FY1993 through FY2010, 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. The rear entrance of the building flooded yet again several times throughout the year due to an ineffective drainage system behind the building. Staff members monitor the drainage ditch and clean it out as necessary. Water alarms were placed on the floor adjacent to the rear entrance and in the Central Curation Facility along an exterior wall in an area subjected to past flooding episodes. Water snakes were purchased to soak up the water when it floods the back foyer in an effort to keep the water from spreading to other sections of the building. We also purchased a dehumidifier to assist in pulling moisture from the air inside the building when these flooding episodes occur. The dehumidifier has also been used when the humidity rises too high in the building at other times throughout the year, particularly during the summer months.

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, but 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 outlined two scenarios for converting Building 315-M into the SRS Curation Facility. Case A would convert 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. Offices and an analysis area/working curation room would be incorporated to house personnel associated with the Cold War History Program, as well as the SRARP when on-site, while the main offices for the SRARP personnel 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. During FY10, Case A was selected, and the Washington Savannah River Company (WSRC) was contracted by the DOE-SR to complete the design of the Savannah River Site Curation Facility.

During FY10, new heating, ventilation, and air conditioning (HVAC) systems were installed throughout the building, exterior siding was replaced where necessary, and repairs to the roof were made as well. Due to the height of the ceilings, ceiling fans were installed in the curation areas to assist with air flow. The interior of the building was almost completely refurbished. Walls and floors were painted. The restroom facilities were dismantled and rebuilt with practically all new construction and are now Americans with Disabilities Act (ADA) compliant. The plumbing system throughout the building has been revamped as well. The existing offices are slated to be cleaned and left as is when construction is complete.

Unfortunately, the projected move-in date of December 2010 was not met due to a lack of funds to complete the project. In May 2011, the SRARP received notice that funding was procured and work would commence during the summer with a completion date projected for 30 September 2011; however, the building failed a pressurization test, and engineers realized more work would have to be done to make the building usable as a curation facility. The building is constructed of sheet metal and is approximately 30 years old. As such, the structure leaked air at about 3,000 cubic feet per minute (cfm), whereas the design criteria called for 300 cfm (Eric Gerstenberger 2011, electronic communication). As work on the structure progressed during FY11, a number of noteworthy improvements were completed at the 315-M Curation Facility including:

- Application of Foam Insulation - Foam was applied to the exterior walls of Rooms 1, 2, and 3, as well as to the interior wall between Rooms 3 & 4. The previously existing insulation was removed and disposed of. The walls were foamed to ensure complete sealing around all edges of the wall and all penetrations. The foam was then coated with a fire retardant material.

- Removal of Particle Board Shelves – The particle board shelves have been removed from the Archaeology Storage Room and replaced with metal shelves.
- Exterior Painting – The exterior finish of the facility was a mixture of old and new; therefore, the subcontractor was tasked with painting the entire exterior of the building (walls, gutters, doors, etc.).
- Roof Coating – Under the original scope, the contractor only coated the repaired section of the roof. The roof has been coated in its entirety to eliminate any leakage and improve longevity.
- The fire dampers were reworked to remove the safety hazard.
- The HVAC units were repaired. One unit had a fire alarm panel signal problem, and three units had Freon leakage problems which were repaired but will need to be monitored.
- Painted three support columns in the storage room yellow.
- Repaired and painted cubicle walls.
- Painted three sets of steps and handrails.
- Painted 6"x20' yellow stripe at loading dock.
- Painted nonskid surface at doorways.
- Replaced missing office door (with window).
- Repaired/replaced damaged insulation with tape or spare insulation.
- Repaired concrete floor surface.
- Sealed/fixd all exterior and interior room doors.
- A large, new sign has been installed on the exterior of the building.
- Relocation of Cold War artifacts from C-Reactor and other areas began on Monday, August 29, 2011.

One very important task that remains to be completed is to “have the consultant perform the leakage test in each of the 3 [storage] rooms, as previously required and specified” to determine whether the structure will now pass the pressurization test (Eric Gerstenberger 2010, 2011, electronic communication). The SRARP has not received any details as to when this test will be performed.

The goal of the new Savannah River Site Curation Facility is to bring DOE into compliance with 36CFR79 and relieve the overcrowded state of the collections presently stored at Building 760-11G. We appreciate DOE's efforts to make this facility a reality, and upon completion of this report will turn our attention toward moving the artifact collection to the new and much improved curation facility.

SAFETY COMPLIANCE

George L. Wingard

During FY11, the SRARP continued compliance with federal and state regulations governing human health and safety. As Director of Safety, George Wingard shared with the staff a variety of topics pertaining to their health and safety at meetings held throughout the year. The topics included:

January	Cold and Flu
February	Home Ergonomics

March Assorted DOE/SRS/USC Safety Topics
June Weather Safety
July Safe Driving/SRS Driving

PART II. RESEARCH**RESEARCH ABSTRACTS***Changes in Holocene Vegetation of the Sandhills: Influenced by Climate, Driven by Fire?*

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

Paper presented in the symposium "Across the Border—An Archaeological and Environmental Discussion of the Sandhills Physiographic Province: A View from North and South Carolina," Pinehurst, NC.

Climate, geology, soils, and biological processes conspire to shape a landscape. The modern Sandhills stretches across Georgia and South Carolina and northward into North Carolina below the Piedmont, at the inner edge of the Coastal Plain. Modern climate is mild and moist (100-130 cm of rain annually), modern soils are largely sandy and droughty, and the modern vegetational mosaic is dominated by pine.

Paleoenvironmental records show consistently that the late Pleistocene at the time of the last glacial maximum was cool and dry in the Sandhills, as in adjacent regions. During the Holocene, after around 11-10 ka cal BP, climate was generally warm, but inferences about moisture have been contentious. A transition from oak dominance to pine dominance has been interpreted as a signal event in the Holocene. However, this transition appears to have occurred at widely different times at sites within the Sandhills and across the southeastern Coastal Plain (as early as 7-8 ka cal BP, as late as after 4.5 ka cal BP).

Changes in fluvial geomorphology (Leigh and colleagues) support the inferences of a wetter early Holocene climate (10-5 ka cal BP) across the southeastern Coastal Plain. Other records from the Sandhills suggest subsequent fluctuations in hydrologic regimes. Pine dominance depends on fire or other disturbances of similar effect. We suggest that the asynchronous oak-pine transitions during the Holocene were influenced by climate, but driven by fire. The mid-Holocene expansions of human populations plausibly contributed to these transitions and to their subsequent maintenance.

*Late Pleistocene and Holocene Vegetation Changes in the Sandhills, Ft. Jackson, South Carolina.*Barbara E. Taylor, Fredrick J. Rich, Mark J. Brooks, Andrew H. Ivester, and
Christopher O. Clement*Southeastern Geology*, 48(3):147-163.

A small streamhead pocosin wetland at Fort Jackson, South Carolina, preserves a history of late Pleistocene and Holocene plant communities in an upland habitat of the Sandhills of the upper Coastal Plain. During the late Pleistocene, the pollen assemblage of *Pinus* (pine, including *P. banksiana* [jack pine]), *Picea* (spruce), and Asteroideae (a subfamily of Asteraceae, the sunflower family) signals a cold, dry climate. *Quercus* (oak) was sparse; *Liquidambar* (sweetgum) and *Nyssa* (tupelo) were absent. During the Holocene,

pine dominated except for an interval of oak dominance beginning after 9,520 cal yr BP and ending around 7,400 cal yr BP. Sediment characteristics suggest higher or more intense precipitation in the earlier segments of the Holocene record. Evidence from the pollen record is equivocal. Higher proportions of *Nyssa* (probably *N. biflora*, an obligate wetland species, or *N. sylvatica*, a facultative wetland species, or both) during the oak interval dominance could indicate expansion of the wetland, reduced fire frequency, or decreased pollen contributions from other sources, such as pine in the uplands. The rapid transition back to pine dominance was accompanied by decreases in *Nyssa* and *Fagus* (beech, prominent only in the uppermost sample of the mid-Holocene oak interval) and an increase in Gramineae (grasses), suggesting an increase in fire frequency or intensity, a decrease in moisture, or both. Asynchronies in the oak-pine transition across the Coastal Plain suggest that it is a poor proxy for Holocene climate change. The asynchronies may be in part a consequence of the importance of fire in shaping these communities.

Evidence for Widespread Eolian Activity in the Coastal Plain Uplands of North and South Carolina Revealed by High-Resolution LiDAR Data

Christopher R. Moore and Mark J. Brooks

Poster presented at the 60th Annual Meeting of the Southeastern Section, Geological Society of America, Wilmington, NC.

High resolution LiDAR (Light Detection and Ranging) elevation data have been available in North Carolina for several years and were produced by the North Carolina Floodplain Mapping Program (<http://www.ncfloodmaps.com/>) in response to Hurricane Floyd in 1999. Since that time, South Carolina has initiated a Statewide LiDAR Consortium where individual counties working with state and federal agencies have produced LiDAR data for participating counties. These data are now becoming available to researchers and offer potential to investigate large-scale, low-relief geomorphic features not visible or easily recognizable prior to the collection of LiDAR data.

An analysis of LiDAR data for various coastal counties in North Carolina, along with areas recently made available in South Carolina, have revealed visual evidence for widespread and large-scale (i.e., kilometers long) eolian activity in the Coastal Plain uplands. These generally low-relief geomorphic features include large swaths or ribbons of coalescing parabolic dunes, transverse or nested parabolic dunes, flat blowout regions near the point of dune origin, and hummocky terrain typical of eolian geomorphic features. Although dune topography in the Coastal Plain has been recognized and mapped prior to the development of LiDAR, these deposits appear to represent an under-recognized or at least underappreciated geomorphic feature within many areas of the Coastal Plain of North and South Carolina. Eolian features appear associated with dominant westerly winds within flat upland regions of the Coastal Plain and often originate from incised upland terraces and incised headwater regions of small upland feeder streams. As such, eolian deposition may be linked to periods of downcutting and fluvial incision providing a sand source for eolian remobilization downwind of incised terraces and streams. These dunes, although likely Pleistocene in origin, have

implications for archaeological sites in the Coastal Plain uplands where limited Holocene reworking of a plentiful sand source may have contributed to site burial and preservation. Future work should focus on ground truthing these features to verify an eolian origin along with the application of luminescence (OSL) dating to determine the timing of eolian events and linkages to regional paleoclimate data.

Pine Barrens and Possum's Rations: Early Archaic Settlement in the North Carolina Sandhills

Christopher R. Moore and Jeffrey D. Irwin

Paper presented in the symposium "Across the Border—An Archaeological and Environmental Discussion of the Sandhills Physiographic Province: A View from North and South Carolina," Pinehurst, NC.

Competing models of Early Archaic settlement in the Southeast suggest broad-scale organization conditioned by either lithic raw material availability or seasonal exploitation of biotic resources and social interaction. In this paper, a view from beyond the quarries and away from the river is offered with data from the North Carolina Sandhills, a unique physiographic zone of the interior Coastal Plain. Distributional analysis of Early Archaic tools, analysis of tool assemblages from possible upland base camps, and consideration of possible overland corridors are used to place local evidence of raw material use and settlement within a larger cultural landscape of the Early Holocene. The implications of Sandhills data for competing settlement models are explored.

Cultural Syncretism at Etowah as seen through Form, Theme, and Style

Adam King

Paper presented at the 67th Annual Meeting of the Southeastern Archaeological Conference, Lexington, KY.

Recent evidence suggests that Etowah's fourteenth century florescence was presaged by an influx of people from outside of northern Georgia. The mixing of local and nonlocal material and ideological traditions at Etowah is evidenced by the appearance of new architectural forms, grave forms, and new ritual themes, as well as by the blending of local and nonlocal traditions in shell gorget decoration, pottery form and decoration, and regalia associated with individuals. In the paper, I discuss this evidence for cultural syncretism and explore what it means in the history of the Etowah site.

Remote Sensing Data from Etowah's Mound A: Architecture and the Re-Creation of Mississippian Tradition

King, Adam, Chester P. Walker, Robert V. Sharp, F. Kent Reilly, and Duncan P. McKinnon

American Antiquity 76:355-371

This paper presents the results of a gradiometer survey conducted on the summit of Etowah's largest mound, Mound A, which stands some 19 m tall. Those results are compared to limited excavation data from the summit of Mound A, as well as

information from the wider region on mound summit architecture. The gradiometer results reveal the presence of as many as four buildings and an open-ended portico that are arranged around an open space and obscured from view below in the plaza. We argue that decisions about the kinds of buildings constructed and their arrangement reveal the interplay between agency and structure at a point of ambiguity in the history of Etowah. The buildings located on the summit of Mound A were built after the site had been abandoned and reoccupied. With that reoccupation, agents and their followers both connected to local traditions and attempted to reformulate them.

Archival Research of the Hollywood Mound Site Collection

Adam King and Keith Stephenson

Paper presented at the 2011 Spring Meeting of the Society for Georgia Archaeology, McDonough, GA, and the Annual SOGART Coastal Plain Conference, Douglas, GA.

Hollywood (9RI1) is a double-mound Mississippian period site located 12.75 miles below the Fall Line near Augusta. It was investigated by Henry Reynolds of the Bureau of American Ethnology in 1889-1890. Reynolds' Mound B excavation revealed an impressive collection of elaborate, nonlocal materials incorporated into mortuary deposits along with local pottery. Those objects figured prominently in the definition of a widespread set of art styles and ritual themes collectively called the Southeastern Ceremonial Complex (SECC). In recent years, the exact dating of those deposits has become part of a larger debate over the dating of so-called SECC goods. Our radiocarbon chronology for the Hollywood site indicates a date range from A.D. 1250 to 1350. This places the appearance of those goods at a time when Mississippian chiefdoms were just forming in the middle Savannah River valley. We suspect those SECC goods and the beliefs that accompanied them formed part of the impetus for the formation of a distinctive version of Mississippian society, which is most clearly reflected in the archaeological record during the Mississippian period in the middle Savannah River valley. The blending of both foreign and local practice and belief can be seen in the arrangement of people, objects, and archaeological features within Mound B at Hollywood.

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

Keith Stephenson and Adam King

Paper presented at the 76th Annual Meeting of the Society for American Archaeology, Sacramento, CA.

Our research focusing on the political economy of Mississippian mound centers in the middle Savannah River valley has prompted a reevaluation of current interpretations regarding societal complexity. We conclude the clearest expression of classic Mississippian riverine-adaptation is evident at centers immediately below the Fall Line with their political ties to Etowah. By contrast, those centers on the interior Coastal Plain were politically autonomous with minimal signatures in social ranking. The scale of appropriated labor and resulting level of surplus production, necessitated by settlement on

the Aiken Plateau, fostered social contradictions making communally-oriented and decentralized societies more sustainable than hierarchical forms.

Costly Signaling in Ritual Context: Weeden Island Mortuary Practices

Karen Smith and Keith Stephenson

Paper presented at the 67th Annual Meeting of the Southeastern Archaeological Conference, Lexington, KY.

Burial mounds associated with Weeden Island culture (ca. A.D. 200-900) are remarkable for their pottery "caches" of several to fifty or more vessels. These mass ceramic deposits have no historical precedent and, as a result, have been the focus of much empirical work but also considerable speculation. Unsatisfied with a normative explanation that invokes elite mortuary ritual alone, we seek an alternative understanding couched in evolutionary theory of signaling behavior. We use this paper as an opportunity to model the social contexts in which signaling would be advantageous, given our understanding of Woodland Period population and settlement dynamics.

The Built Environment at Etowah: Organizing Space for the Maintenance of Power

Christopher Thornock

Paper presented at the 67th Annual Meeting of the Southeastern Archaeological Conference, Lexington, KY.

The spatial organization of the built environment at the Mississippian site of Etowah shows how the structural and ideological layout influenced power maintenance processes. Mississippian society had a hierarchical structure of symbolic capital distribution and leadership, and the construction of Mississippian ceremonial space was used in the production and maintenance of that inequality. The Mississippian built environment was constructed at multiple scales according to the religious beliefs of the Mississippian people. The repetitive structure constructed across the Mississippian landscape reinforced the Mississippian religious idea of inequality of space. Mississippian elites benefited from the inequality of space by maintaining control over the symbolically important spaces. The control of space allowed elites to control access not only to sacred spaces, but also to knowledge. Access to sacred space and knowledge were two means of producing symbolic capital, so elites were in control of a means of production and distribution of symbolic capital. By limiting access to symbolic capital to an elite minority, elites maintained the symbolic power needed to rule the community by consent.

Employing High Resolution Bathymetric Data to Infer Possible Migration Routes of Pleistocene Populations

David G. Anderson, Stephen J. Yerka, and J. Christopher Gillam

Current Research in the Pleistocene 27:55-59.

Using high-resolution mapping data, it is feasible to evaluate possible movement patterns of human groups over the landscape, including over terrain now submerged to appreciable depths by rising sea level. Earlier analyses typically made use of modern physiographic features, that is, land above modern sea level, or used shorelines

extrapolated from sea level curves and bathymetric data similar to the ETOPO1 data presented here. The ETOPO1 database provides elevation and bathymetric data resampled to form a 1-minute grid for much of the planet, with cells nominally 1.85 km on a side, and vertical resolution nominally on the order of a meter (effective horizontal resolution is typically 4-km for bathymetry and 2-km for terrain, vertical accuracy is highly variable for shallow water, depths less than 200-m, due to errors in sea-surface satellite altimetry measurements). In the Arctic, isostatic impacts are also a concern, but this is primarily a problem adjacent to massive glaciers (e.g., the mountainous area of southwestern Alaska and the Canadian coastline, south of our study area) and less impact is expected for the largely un-glaciated Beringia landmass and corresponding shoreline. Despite these caveats, when coupled with data detailing ice sheet and periglacial lake locations that may have served as barriers to movement, such landscape reconstructions can offer insights into possible migration pathways taken by human groups exploring and colonizing new lands.

*The Futurability of Environment, Humanity, and Ideology:
Lessons on Design Science from the Archaeosphere*

J. Christopher Gillam

NEOMAP 2 Project Concept Meeting, 18 May 2011, Research Institute for Humanity and Nature,
Kyoto, Japan.

The “Archaeosphere” represents the natural, ideological, and cultural landscapes, or built environments, of humanity, both past and present, as they relate to our species’ collective experience and knowledge of the environment, ecology, and our sense of community and civilization. As such, this concept is relevant to all three of the futurability initiatives of RIHN: Gaia, Oikos, and Ethos. The proposed project bridges the gap between the cognitive sciences of archaeology and history, or the study of “what was,” and the corresponding design science concept of “what should have been.” The primary goal of the project is to reconstruct the rise of past civilizations to determine their “formulas for success” and, more importantly, deconstruct the fall of these civilizations to evaluate “what went wrong” to establish theoretical sustainability models of “what should have been” to extend their cultural trajectories over a longer term than actually occurred in the past. Likewise, these studies explore the struggle of ancestral groups for identity, independence, and place in the globalized community of the modern world in each project area (e.g. native peoples of the Andes, Rapa Nui, and elsewhere). This research will provide valuable insights on the futurability of the environment, humanity, and ideology from a global perspective. “Mortui vivos docent,” let the dead teach the living.

Hunter-Fisher-Gatherer Settlement Dynamics in Toyama Prefecture, Honshu, Japan

J. Christopher Gillam, Oki Nakamura, and Tomohiko Matsumori

Current Research in the Pleistocene 27:35-38.

The Pleistocene-Holocene transition of Japan was a time of significant cultural and environmental change as it was in other parts of east Asia and worldwide. Toyama Prefecture (hereafter, Toyama) represents a 4,250 sq km region surrounded by mountains

on three sides and Toyama Bay along the Sea of Japan in west-central Honshu. In Toyama, the late Paleolithic Period ranges from 30,000-16,500 RCYBP. The development of pottery some 16,500 RCYBP marked the end of the late Paleolithic Period and beginning of the Jomon Period that continued into the late Holocene (16,500-2,400 RCYBP). Although pottery became a hallmark of the Jomon culture over the millennia, the Jomon people remained primarily hunter-fisher-gatherers, peaking during the middle Jomon sub-period from 5500-4400 RCYBP during the Holocene climatic optimum. Many scholars argue that Japanese hunter-fisher-gatherers were increasingly sedentary over time with food processing (drying, salting, etc.), food storage, semi-domesticated plants and animals, and exchange systems offsetting the need for frequent group movement. If this is the case, one might expect a broader distribution of site clusters as dependence on localized resources diminished; a pattern that is evidenced in the analyses that follow.

RESEARCH NOTES

Geoarchaeological and Paleoenvironmental Research

Christopher R. Moore and Mark J. Brooks

Geoarchaeological and paleoenvironmental research continued in FY11 on the SRS and beyond. Our Carolina bay research involves several colleagues including: Andrew H. Ivester (Department of Geosciences, University of West Georgia), Terry A. Ferguson (Department of Environmental Studies, Wofford College), and James K. Feathers (Department of Anthropology, University of Washington). Volunteer support of our research effort increased slightly over FY10. As with last year, volunteer help at the SRARP included both field and lab work totaling more than 800 hours. This involved washing and sorting of artifacts, lithic analysis, artifact refitting, analysis of archaeological sediments (i.e., sieving), flotation, and data entry. In addition, volunteers assisted in continued archaeological excavations and testing at Flamingo Bay (38AK469) on the SRS. Involvement with graduate student research, consulting with colleagues, and publication of research manuscripts also figured prominently in FY11.

Work also continued on the Tar River Geoarchaeological Survey in North Carolina. In this study, Drs. Christopher R. Moore (SRARP) and I. Randolph Daniel, Jr. (Department of Anthropology, East Carolina University) are conducting research on stratified sandy sites on the Tar River. Other research included geoarchaeological work at the Kolb site (38DA75) with Dr. Terry Ferguson of Wofford College, lithic sourcing of stone quarries and artifacts in South Carolina, and an ongoing study of Early Archaic settlement in the North Carolina Sandhills. The former is a stratified alluvial site on the Pee Dee River in Darlington County, South Carolina, while the latter is collaborative study with Jeffrey D. Irwin, former director of the Fort Bragg Cultural Resources Management Program, currently with the Naval Facilities Engineering Command.

Carolina Bay Research

Fieldwork at Flamingo Bay continued in the spring of FY11 with Test Units added to a contiguous block initially opened in FY09 and FY10 (Figure II-1). Areas selected for excavation included areas of the block with evidence for mass processing of waterfowl (i.e., numerous recovered gastroliths) and Middle Archaic pit features (see Research Notes section of SRARP 2010:66-68). On the west side of the block, a single Test Unit was established immediately adjacent to Prov. 59 where a broken base of an exotic greenish vitric tuff Clovis point was recovered in FY10. While this area of the site has lower artifact density and is along the edge of the rim sloping into the bay basin, a Test Unit was placed here in hopes of recovering additional artifacts associated with the previously recovered Clovis point and to further investigate site formation processes within an area of the block where depth of artifacts indicate more shallow stratification. Results of this excavation produced additional artifacts that are likely part of an isolated, low-density (probably single occupation) Clovis assemblage (Figure II-2). These included several unifacial graver tools with multiple spurs, a possible expedient spokeshave type tool on a flake blank, and several other unifaces.

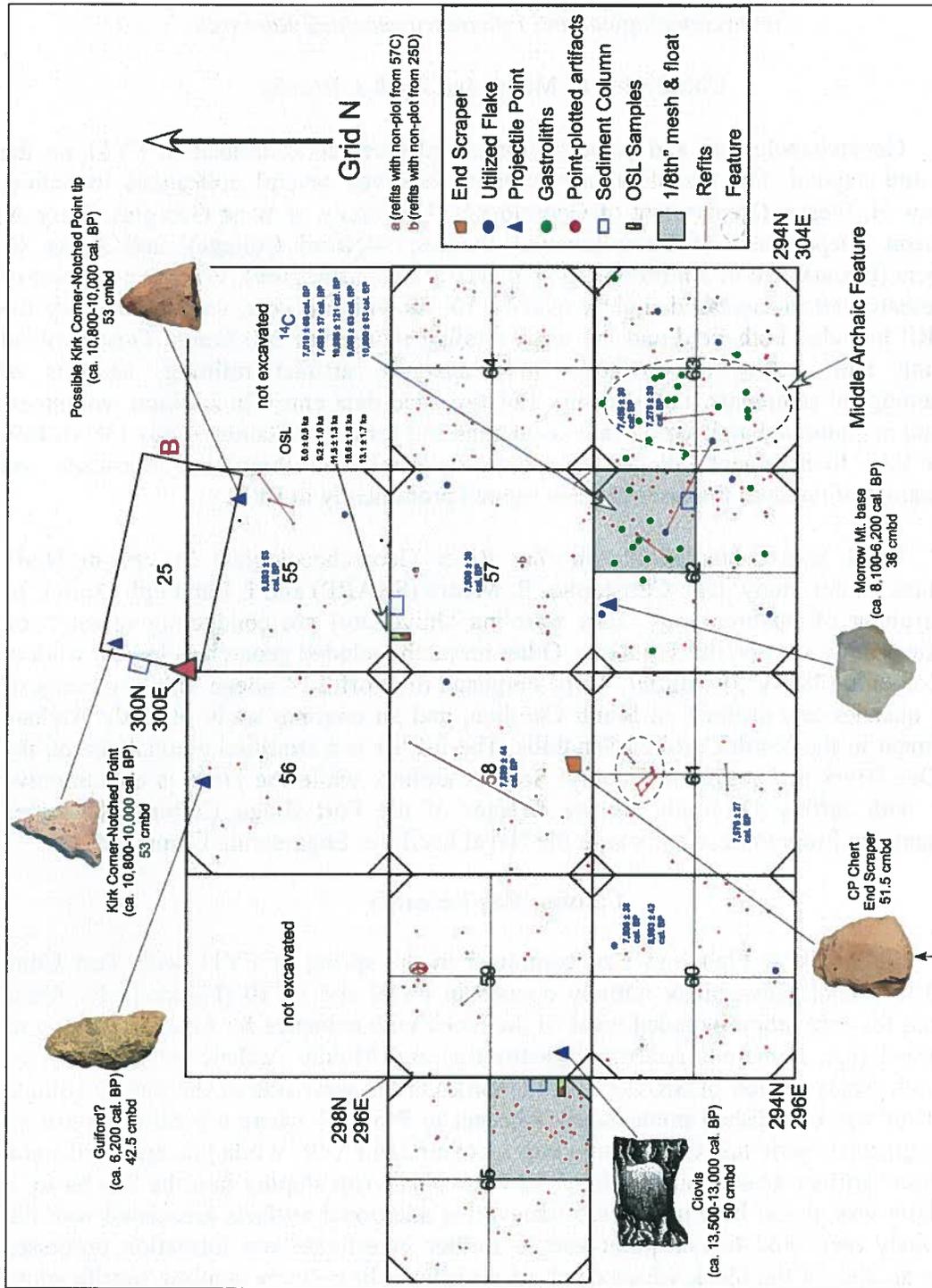


Figure II-1. Planview map for Flamingo Bay (38AK469) for FY 2009 through 2011 fieldwork (Prov. 55-65) along with Prov. 25 from an earlier excavation. Artifacts not to scale. Prov. 64 and 65 are from FY11.

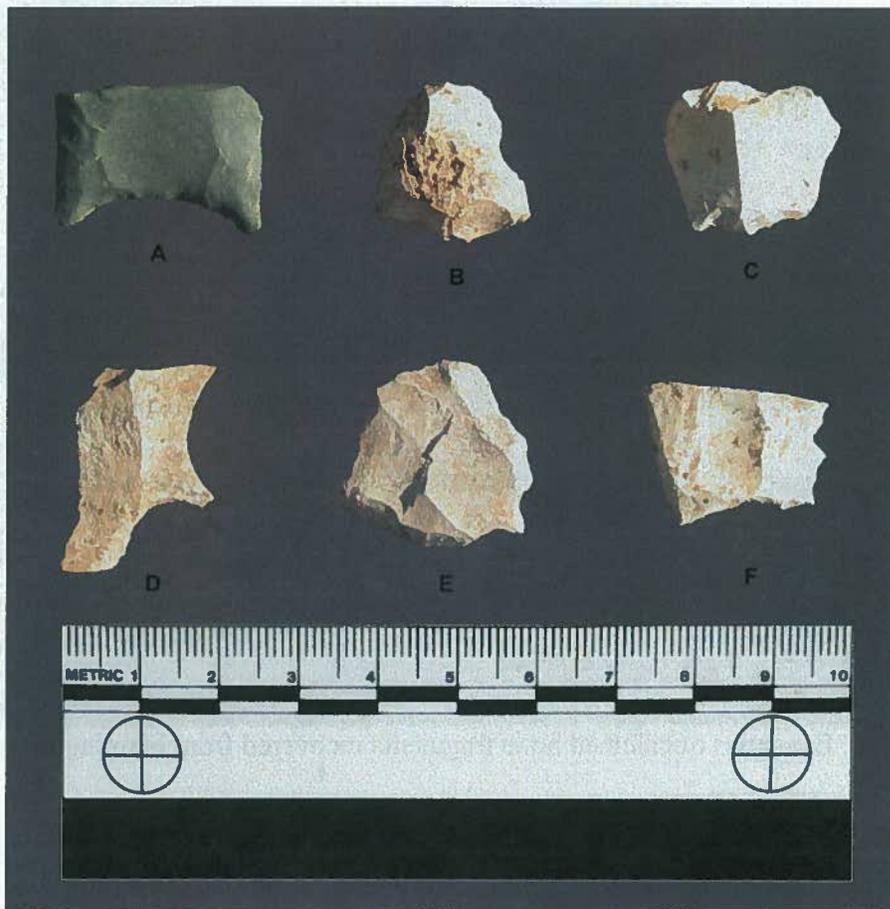


Figure II-2. Clovis Point base (A) recovered from Prov. 59SW and unifacial flake tools, including end scrapers (B and C), a possible spokeshave on a flake (D), and graver tools (E and F) recovered from Prov. 65.

Evidence for later occupations was present but ephemeral, confined primarily to the upper stratum, and lower density than other portions of the block excavation. Additionally, very few other artifacts of any kind (e.g., debitage) were recovered from levels associated with recovered tools. This suggests that this part of the site may represent a nearly pure Clovis occupation. Although shallow (~50-60 cmbs), these tools appear to be part of an *in situ* Clovis assemblage. If confirmed, this would make this discovery one of the first documented Clovis tool-kits recovered in buried context in the Southeast. Work is planned for later this fall to expand the block around these recovered tools in order to encapsulate what is likely a Clovis activity area. Small charred nutshell fragments were also recovered from levels associated with the graver tools and unifactes and may be submitted for radiocarbon (^{14}C) dating in the near future.

In addition to the recovery of possible Clovis tools, a second Test Unit placed on the east side of the contiguous block produced more gastroliths and numerous pieces of calcined bone fragments—particularly for upper levels (Levels C and D) (Figure II-3). Evidence suggests several leached pits were present, including a portion of a slightly



Figure II-3. Examples of calcined bone fragments recovered from Flamingo Bay (38AK469).

deeper Middle Archaic pit previously excavated in an adjacent unit (Prov. 63) in FY10. Radiocarbon dates obtained on charred nutshell from Flamingo Bay earlier this year produced dates consistent with a large Middle Archaic pit feature in Prov. 63, evidenced by a leached matrix of nutshell fragments, calcined bone, and charcoal (see Research Notes section of SRARP 2010:66-67). While gastroliths were concentrated in lower levels of Prov. 64 and likely associated with the previously dated Middle Archaic pit feature, more numerous and larger calcined bone fragments were principally recovered in higher levels and from the quads on the north side of the unit. This suggests multiple or overlapping Middle and possibly Late Archaic leached pits. In addition to clusters of calcined bone, gastroliths were also recovered in direct association with the bone, albeit in lower frequency than the slightly deeper Middle Archaic pit feature. Of particular interest here, is the fact that several calcined bone fragments were recently identified by Tom Whyte (Professor of Anthropology at Appalachian State University) as likely “large bird” (discussed below).

In addition to faunal remains identified at Flamingo Bay, clusters of maypop seeds (*Passiflora incarnata*) (Figure II-4) were identified in multiple levels, including within a small Woodland or Mississippian pit feature excavated separately from the SE quad of Prov. 65. These seed fragments appear to be charred and are present sporadically throughout the block, including the recovery of a curious “pocket” of maypop seeds in deep levels from Prov. 64 (below the archaeology).

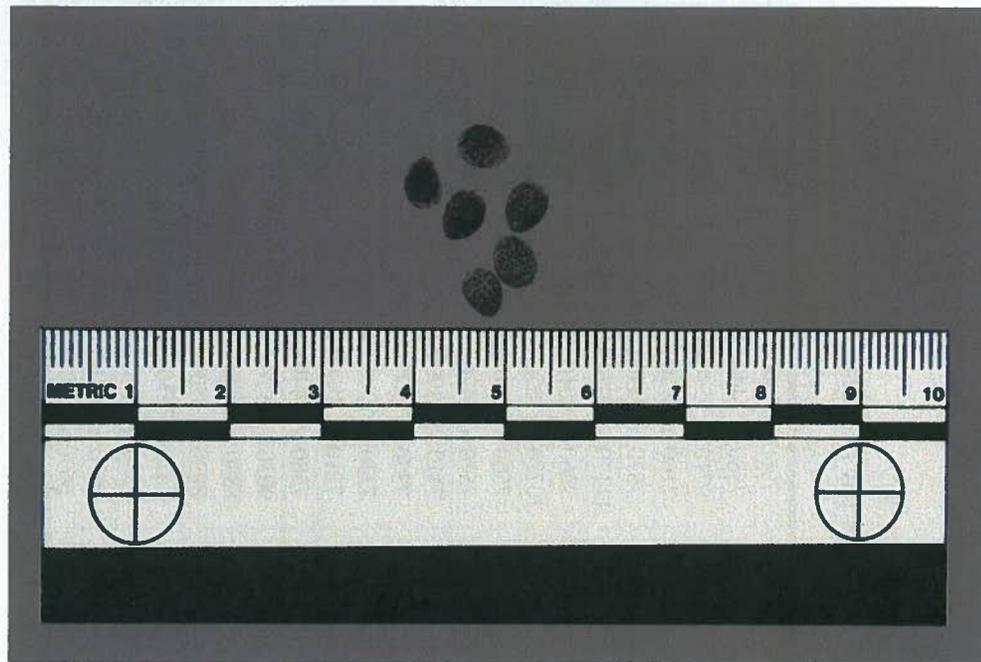


Figure II-4. Examples of charred maypop (*Passiflora incarnata*) seeds recovered from Flamingo Bay (38AK469).

Interestingly, a viable seed bank of maypop seeds also exists in the sediments at Flamingo Bay as evidenced by the growth of numerous maypop plants from within our previous (FY10) backfilled units. This species is not currently evident along any other section of the sand rim and most likely represents a relict seed bank from pre-1950s farmland prior to acquisition by the DOE—a time when most of the sand rim at Flamingo Bay consisted of open and disturbed ground from recent farming. The fact that the land may have lain fallow for some time before establishment of the current pine forest ecosystem probably promoted the growth of maypop which is known as an early successional plant in disturbed environments. Other charred seeds have been recovered at Flamingo Bay and await identification.

In total, 15 radiocarbon dates were obtained in FY11 from samples of charred nutshell from two Carolina bays (Table II-1). These include 13 samples from Flamingo Bay (38AK469) and 2 samples from Feature 1 (TU 4) at Johns Bay (38AL246). Flamingo Bay radiocarbon samples were selected from various units along north-south and east-west transects across our excavation block and included samples from a large feature or buried pit context (discussed earlier), “general level” samples of charred nutshell from 2.5 cm excavation levels (Prov. 62, NE Quad), and general level samples from arbitrary 10 cm excavation levels (Prov. 55, 57, 58, 60, and 61). Two samples were collected from two different levels (Level E and G) from a large pit feature in Prov. 63. These samples were submitted both as a check of single-grain luminescence age estimates and to provide higher resolution temporal data on archaeological occupations and features. Eight of the 13 Flamingo Bay radiocarbon dates obtained in FY11 were funded by a grant through the South Carolina Archaeological Research Trust (ART).

Table II.1. Radiocarbon and Calibrated Dates from Flamingo Bay (38AK469) and Johns Bay (38AL246).

Beta Number	Site	Prov.	Level	Context	Material	Radiocarbon Age	¹ Cal. BP (2 Sigma)	² Cal. BP (1 Sigma)
283752	38AK469	58	D	General Level	hickory nutshell	7050 +/- 40 BP	7960 to 7800 Cal. BP	7889 +/- 44
283751	38AK469	57	E	General Level	hickory nutshell	6620 +/- 40 BP	7580 to 7440 Cal. BP	7506 +/- 38
283750	38AK469	55	G	General Level	hickory nutshell	8660 +/- 50 BP	9710 to 9540 Cal. BP	9593 +/- 55
288775	38AK469	62	35-37.5	General Level	hickory nutshell	6140 +/- 40 BP	7160 to 6920 Cal. BP	7018 +/- 66
283753	38AK469	62	45-47.5	General Level	hickory nutshell	6600 +/- 40 BP	7570 to 7430 Cal. BP	7488 +/- 37
283754	38AK469	62	52.5-55	General Level	hickory nutshell	9610 +/- 40 BP	11170 to 10760 Cal. BP	10986 +/- 121
288776	38AK469	62	67.5-70	General Level	hickory nutshell	8170 +/- 40 BP	9260 to 9010 Cal. BP	9098 +/- 63
288777	38AK469	62	75-77.5	General Level	hickory nutshell	9380 +/- 50 BP	10720 to 10500 Cal. BP	10600 +/- 63
288778	38AK469	63	E	Feature	hickory nutshell	6560 +/- 40 BP	7560 to 7540 Cal. BP, 7510 to 7420 Cal. BP	7456 +/- 30
288779	38AK469	63	G	Feature	hickory nutshell	6350 +/- 40 BP	7410 to 7390 Cal. BP, 7370 to 7360 Cal. BP, 7330 to 7240 Cal. BP, 7210 to 7180 Cal. BP	7275 +/- 39
288772	38AK469	60	D	General Level	hickory nutshell	6620 +/- 40 BP	7580 to 7440 Cal. BP	7506 +/- 38
288773	38AK469	60	E	General Level	hickory nutshell	8060 +/- 40 BP	9030 to 8970 Cal. BP, 8880 to 8870 Cal. BP, 8830 to 8800 Cal. BP	8993 +/- 42
288774	38AK469	61	F	General Level	hickory nutshell	6710 +/- 40 BP	7620 to 7550 Cal. BP,	7576 +/- 27
283747	38AL246	4	H	Feature	hickory nutshell	5780 +/- 40 BP	7550 to 7510 Cal. BP	6487 +/- 50
283746	38AL246	4	H	Feature	hickory nutshell	5710 +/- 40 BP	6630 to 6410 Cal. BP 6670 to 6480 Cal. BP	6581 +/- 59

Note: Level depths are 10 cm intervals (e.g., level E equals 40-50 cmbd) except where given as 2.5 cm intervals (i.e., Flamingo Bay, Prov. 62, NE Quad)

¹ JNTCAL04 (2 Sigma)

² Fairbanks0107 calibration curve (1 Sigma)

The results of radiocarbon dating for Flamingo Bay produced an impressive number ($n = 8$) of middle Holocene, Middle Archaic dates between ca. 7,889 \pm 44 cal. BP and 7,018 \pm 66 cal. BP. These dates were produced from nutshell from across the entire block and, in most cases, were located where expected based on the known archaeostratigraphy of the site. Several deeper Middle Archaic dates appear to represent the injection of younger carbon into older sediments from likely pit features indicated by the distribution of charred hickory nut through multiple levels and association with several examples of vertical cobble refits. A large pit feature in Prov. 63 produced very similar ^{14}C dates (7,456 \pm 30 and 7,275 \pm 39 cal. BP) for nutshell fragments between two samples separated by a 10 cm level.

While most ^{14}C dates are in good chronostratigraphic order, the oldest date (10,986 \pm 121 cal. BP) appears out of place in the sequence of 5 dates from Prov. 62NE. With the exception of this date, a uniform and linear relationship between age and depth is suggested from the general level samples collected from this provenience. Together, these dates generally support archaeostratigraphic data from the site indicating a relatively intact archaeological sequence. For Flamingo Bay, three age clusters are evident with gaps in between suggestive of limited occupation or site abandonment at various times between ca. 7,000 and 11,000 cal. BP (Figure II-5).

Two ^{14}C dates were obtained from Johns Bay (38AL246) for a buried pit feature in Test Unit 4. This feature was not noticed until numerous charred nutshell fragments were found near the base of the pit feature in Level 8 (70-80 cmbd), although the feature likely was present for several levels prior to being identified. Both samples returned calibrated ages consistent with a single age for the feature (ca. 6487 \pm 50 cal. BP and 6581 \pm 59 cal. BP). The presence of several Morrow Mountain hafted bifaces in levels above this feature support the conclusion that the pit is an intrusive Middle Archaic pit feature used for processing hickory nut during the mid-Holocene.

Gastrolith Research

Site 38AK469 is located on the eastern sand rim of Flamingo Bay, a Carolina bay on the SRS in the Upper Coastal Plain of the Savannah River valley. Ongoing geoarchaeological investigations at Flamingo Bay (initiation of the current research program started in the FY09 field season) have revealed numerous polished gastroliths or gizzard stones in direct association with archaeological levels and features associated with Early, Middle, and possibly even Late Archaic occupations (Figure II-6). Many of the recovered gastroliths appear as polished pebbles with rounded and polished high surfaces and unpolished low areas or crevices. Many have the appearance of tooth enamel and are visually distinct from the natural pebbles deposited through geologic processes.

Excavations at 38AK469 have revealed concentrations of utilized flakes and small expedient unifacial tools and may indicate mass processing of birds. Artifacts and gastroliths are found within a sediment matrix composed of charred hickory nut, seeds, and small pieces of calcined bone and may indicate hearth-related activities, including

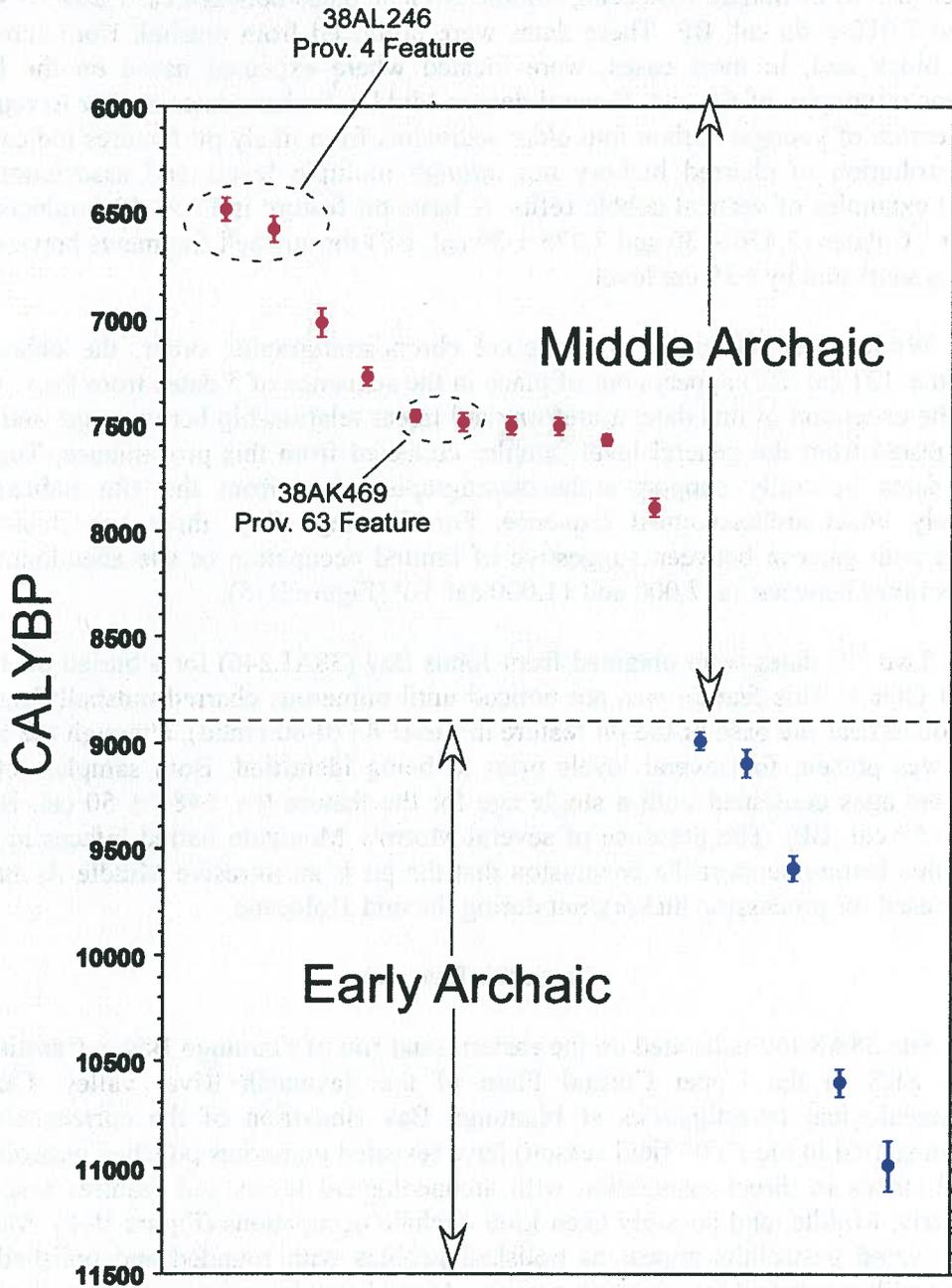


Figure II-5. Calibrated radiocarbon dates for Flamingo Bay (38AK469) and Johns Bay (38AL246). Note: Calibrated dates were calculated using the Fairbanks0107 online calibration tool and are to 1 sigma.

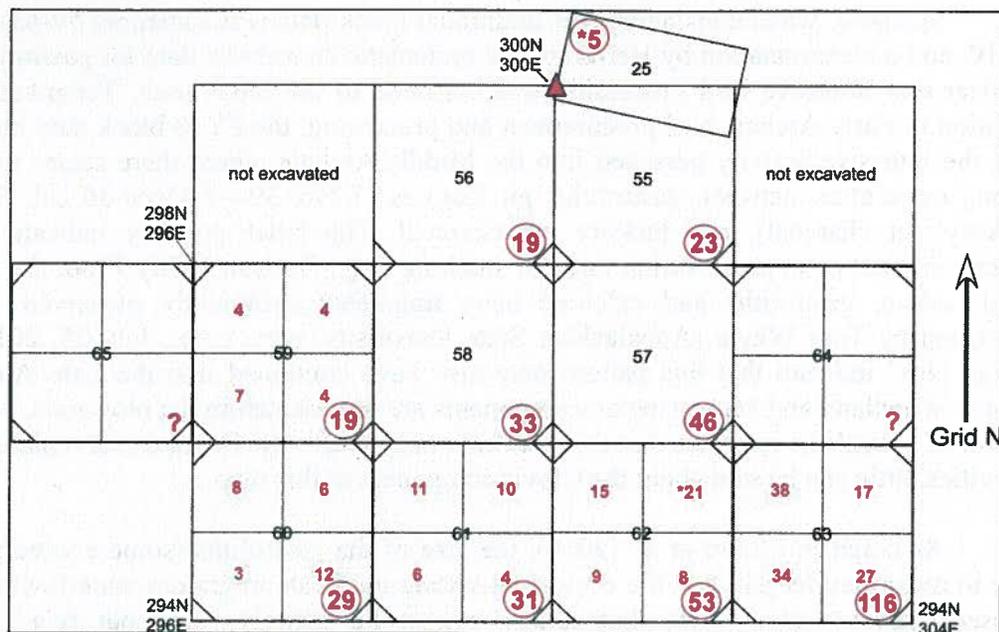


Figure II-6. Planview map of the most recent (FY09-11) block excavation at Flamingo Bay (38AK469) showing frequency of identified gastroliths (in red) recovered from 2 x 2 m test units and later for individual quads within test units. Total number for individual 2 x 2 m units is circled. *Provenience 25 is from an earlier excavation and gastrolith numbers are likely low due to pebbles not being collected. Prov. 62NE was excavated using 3.2 mm mesh. Recent excavations of Prov. 64 and 65 have yet to be analyzed.

smoking and preserving of meat. Some of the gastroliths appear to be of exotic or nonlocal stone, such as Ridge and Valley chert pebbles, implicating migratory waterfowl. Ethnographic data on processing of birds and smoking of meat by hunter-gatherers may be useful for interpreting the assemblage recovered at Flamingo Bay (e.g., Hudson 1976).

Several Early Archaic activity areas, or possibly discrete, small-scale occupations, were identified earlier at 38AK469 through systematic, close-interval testing (Brooks and Taylor 2003). Testing was conducted on a 10-m grid, subsequently reduced to 5 m, and consisted of 0.50 x 0.50 m units excavated in 5-cm arbitrary levels to a depth of 80 cmbs. This, and all subsequent work, has involved excavation in controlled levels, the processing of all soil through 6.4-mm (0.25-in.) or finer mesh, and the retention of all pebbles. The pebbles were derived from the Upland Unit of probable middle Miocene age (Nystrom et al. 1991). Flamingo Bay formed on, and scoured into, the Upland Unit, and the pebbles are saved as documentation of water-lain components in bay rim and site formation. Serendipitously, while collecting pebbles during the initial work on the current block excavation (FY09), small "pebbles" were noticed by Moore that at first looked curiously like tooth enamel. Subsequent lab analysis by Tammy Herron, SRARP Curator, identified these "pebbles" as gastroliths that seemed to be concentrated in the Early Archaic levels. In all cases, gastrolith frequencies peak in higher, predominantly aeolian sediments, while naturally occurring, water-lain pebbles occur in higher frequency in deeper levels (near the base of or below archaeological deposits).

Spatially, when considering the additional block data (Proveniences 59-63) from FY10, and a reexamination by Herron of the systematic shovel test data for gastroliths, it is clear that intensive bird processing was confined to the block area. Temporally, in addition to Early Archaic bird procurement and processing, the FY10 block data indicate that the intensive activity persisted into the Middle Archaic where there seems to be a strong association between gastroliths, pit features ($7,275\pm 39$ — $7,456\pm 30$ cal. BP on hickory nut charcoal), and hickory nut charcoal. The latter possibly indicate mass processing and meat preservation through smoking (e.g., Hudson 1976). From the FY11 field season, gastroliths and calcined bone fragments sufficiently preserved to be identified by Tom Whyte (Appalachian State University, pers. com., July 25, 2011) as “large bird” indicate that this pattern may also have continued into the Late Archaic. Sparse Woodland and Mississippian components are represented in the plowzone, but the dearth of gastroliths indicates that this was not a major activity. Beyond tool replacement activities, little can be said about the Clovis component at this time.

As noted in Moore et al. (2010), the size of the gastroliths (some exceeding 10 mm in maximum length) and the ecological setting implicate migratory waterfowl in the goose/swan/crane size range, but turkey cannot be entirely ruled out (e.g., Dean Harrington, SCDNR, pers. com., Oct. 21, 2010; Hudson 1976). Also, because only the upper size range of gastroliths are retained on the 6.4-mm (0.252-in.) mesh, and smaller gastroliths have been recovered using 3.2-mm (0.125-in.) mesh and flotation sampling, we cannot preclude the possibility that smaller birds were procured and processed as well. Conversely, our comparative data (e.g., modern turkeys; see below) indicate that large birds also ingest sediments in the sand and grit size ranges.

A number of initiatives were implemented in FY11 to obtain more conclusive evidence from the gastroliths as to the target specie(s). Although there is a large body of information on bird gastroliths, there is surprisingly little quantified data relating gastrolith size to bird specie, beyond the general recognition that within the constraints of availability, larger birds tend to ingest larger stones. Thus, seeing the necessity of collecting comparative data, we obtained nine gizzards from modern wild turkeys killed in Edgefield County, South Carolina, courtesy of Robert Abernathy of the Wild Turkey Federation. Also from Edgefield County, Edward Redman contributed five gizzards of various duck species. Thomas Harkins of the SCDNR contributed 24 duck gizzards of various species harvested on the Bonneau Ferry Wildlife Management Area (BFWMA) near Moncks Corner, South Carolina. Thus far, four of the BFWMA duck gizzards and all of the Edgefield County turkey and duck gizzards have been processed. Unfortunately, large waterfowl are not yet represented in our comparative collection. As expected, however, preliminary examination of the gastroliths we extracted from the obtained gizzards shows that only the turkey gastroliths approach the size of our largest archaeological specimens. All of the ducks, being much smaller birds, have gastroliths in the sand to grit size range.

Another aspect of our FY11 gastrolith comparative analysis initiative started with Brooks going through all of the pebbles from the FY09 and FY10 field seasons (Block Excavation Proveniences 55-63) and pulling any additional pebbles that are plausibly

gastroliths, paying particular attention to non-quartz, “exotic” pebbles that might be nonlocal and, therefore, potentially indicative of migratory waterfowl. This accomplished, the gastroliths and “probable” gastroliths are currently being analyzed, with provenience, level, quad, raw material (mineralogy), maximum length (mm), maximum width (mm), and weight (g) being recorded. Concurrently, samples were sent to Andrew Ivester (Department of Geosciences, University of West Georgia) for Scanning Electron Microscope (SEM) analyses, with the comparative samples consisting of five prehistoric gastroliths, five modern turkey gastroliths, five “exotic” gastroliths, and five, presumably local, quartz pebbles from below the archaeological levels. Although preliminary, it does look like there may be some “exotic” or nonlocal gastroliths represented, but given the Piedmont-Mountain source area for the predominantly fluvial-derived Upland Unit, what is “local” for that vast source area has yet to be definitively determined. More detailed mineralogical analyses of these and other samples are planned. Again, serendipitously, while Ivester was conducting the preliminary SEM analysis, he observed:

On the surface of the modern turkey gastroliths, there is a good bit of organic matter in the low points and in crevices and pits, verified with a high carbon spectral peak. And on several prehistoric gastroliths there is also organic matter in the low areas/pits/crevices—we verified this also by the high carbon peak in spectra from these pits. The carbon shows up as dark spots on the BSE images. I’m thinking at this point that the organic matter has survived there since prehistoric times—I don’t see how organic matter would accumulate there post-depositionally. So it’s possible that the presence of organic matter in pits may be a good identifier for gastroliths (Andrew Ivester communication, May 23, 2011).

The discovery and future analyses of the organic residues apparently associated with the gastroliths fits nicely with other analyses of organic chemistry being contemplated. The oily or greasy nature of waterfowl makes them particularly amenable to processing (preserving) through smoking, because the flesh does not dry out so readily as lean meat. If the birds were smoked on racks as is traditionally done, then the grease would drip down into the fire, being potentially sequestered in the hickory nut charcoal being used for smoking and in the fine, particularly clay, fraction of the sediments. In a conversation with Gary Mills (pers. com., July 12, 2010), an organic chemist with the University of Georgia’s SREL, there is the potential for deriving charcoal signatures for slow combustion (smoking) vs. fast combustion (fuel), and, from the fat residues, the potential for extracting glycerides indicative of diet. Thus, organic chemistry and isotopic analyses may be the key for determining whether or not smoking was a component of the bird processing at 38AK469, and whether the target resource was turkey or large migratory waterfowl. In any case, the recognition of gastroliths (an often ignored or overlooked “artifact”) in archaeological assemblages provides a rare and unexpected insight into the diverse food procurement strategies of Early Holocene hunter-gatherers along Carolina bay sand rims and suggests that our traditional sampling strategies for archaeological sites may be missing an important class of archaeological data (e.g., Jones

2009). Clearly, we must move beyond “arrowheads and potsherds” to address such issues.

Tar River Geoarchaeological Survey, Greenville, NC

Geoarchaeological investigations along the Tar River in North Carolina continued during FY11 with collaborative research between Drs. Christopher R. Moore and I. Randolph Daniel, Jr. (Department of Anthropology at East Carolina University). This research involves ongoing archaeological and geoarchaeological investigations of sandy, stratified sites along the Tar River.

The focus of this year’s research continued with work at the Squires Ridge site (31ED365) identified during Moore’s dissertation research (Moore 2009). This year, 15 high school students from the 2011 North Carolina Summer Ventures Program in Science and Mathematics participated in fieldwork at Squires Ridge (Figure II-7). This program exposes select students from across the state to college level courses in science and math. The archaeological component of this program trains students in proper field excavation techniques and requires a written paper and oral presentation of results in a seminar organized at the end of the Summer Ventures program.

Of particular note, excavations during the Summer of 2011 revealed dense in situ occupation surfaces or floors for Yadkin and Eared Yadkin point types consisting of quartzite cobble debris, debitage, points, and pottery, along with several likely pits and/or post features (Figure II-8). The Yadkin surface is just below the modern A-horizon/plowzone and resides in a sediment matrix resembling a leached midden consisting of charred nutshell, seeds, and numerous identifiable calcined bone fragments. The data stemming from this excavation at Squires Ridge should offer new insights into the lifeways of Early Woodland settlement in the upper Coastal Plain of North Carolina with significant perseveration of faunal and floral remains and cultural features, including those possibly associated with Early Woodland structures.

Stratigraphically deeper Archaic occupations and occupation surfaces are also present at Squires Ridge with multiple buried surfaces evident from previous work in FY09 and FY10 (SRARP 2010:79-80). Evidence for the intact nature of these buried Archaic occupations was recovered this year from a 4 x 4-m block located within an area indicated by shovel tests to have more deeply buried Archaic components. In one area of the block, three separate sets of broken cobbles were recovered within a 1 x 1-m quad, at essentially identical depths below surface, and with adjoining pieces (i.e., refits) lying immediately adjacent to each other. Due to the density of material recovered, 2011 fieldwork concluded before completing the 4 x 4-m block along with another 2 x 6-m trench. These units were lined and backfilled to await completion during the 2012 field season with the East Carolina University Summer Field School. Future work will investigate more deeply buried Archaic components at Squires Ridge through continued detailed point-plotting of artifacts, mapping of features, refitting analysis, and ongoing geoarchaeological investigations, including analysis of sediments and chronometric dating.



Figure II-7. 2011 Summer Ventures Program participants and instructors. (Photograph by I. Randolph Daniel, Jr.).



Figure II-8. Examples of stone tools and pottery from the Eared Yadkin component at Squires Ridge (31ED365).

Stone Quarries and Sourcing in the South Carolina Slate Belt

In FY11, work continued at the SRARP on a research project entitled *Stone Quarries and Sourcing in the South Carolina Slate Belt* (Figure II-9). The purpose of this study is to determine the geological provenance and chemical signature of stone quarries for sourcing prehistoric artifacts to stone sources throughout the Slate Belt. Isotopic analysis of quarry and point samples is being undertaken by Dr. Drew Coleman, Department of Geosciences, University of North Carolina, Chapel Hill (SRARP Annual Report 2010:80-84).

Preliminary results of Neodymium isotope geochemistry, and comparison with earlier data from North Carolina (Steponaitis et al. 2006), are promising and suggest possible source locations for exotic Paleoindian and Early Archaic points from the Central Savannah River Area (CSRA). Early results also suggest that several of the samples from Sumter National Forest in Edgefield and Saluda counties, South Carolina, appear geochemically distinct from other Slate Belt sources in the Carolinas. Additional testing of quarry samples and artifacts are planned using neutron activation analysis (NAA). This analysis will provide trace element and rare-earth elemental data useful for characterizing source areas and for sourcing of artifacts with similar Neodymium isotope ratios. Analysis of the isotopic data is currently in progress and will result in the publication of findings in the near future.

Geoarchaeological Investigations at the Johannes Kolb Site (38DA75)

Geoarchaeological investigations of site formation processes at the Johannes Kolb site (38DA75) are ongoing. Work in FY2011 continued with the analysis of a close-interval (2.5 cm) sediment column collected in 2009 for granulometry and environmental magnetism (i.e., magnetic susceptibility). Dr. Terry A. Ferguson (Department of Environmental Studies, Wofford College) is currently analyzing magnetic susceptibility data from this sediment column. Additionally, a second sediment column was obtained this year from the large block excavation that was completed at the Kolb site in March (Figure II-10). This sediment column should be completed within the coming year and allow comparison with the archaeostratigraphy at the site.

Optically stimulated luminescence (OSL) samples were also collected along with each sediment column. These samples will be dated in the near future in order to establish a geochronology of landform development and will be compared with recovered temporally diagnostic artifacts in order to establish the chronological sequence and timing of burial events at the Kolb site. The implications of this work go well beyond the archaeology of the Kolb site and may ultimately provide data on fluvial burial processes and linkages with climate events for sites throughout the South Carolina Coastal Plain.

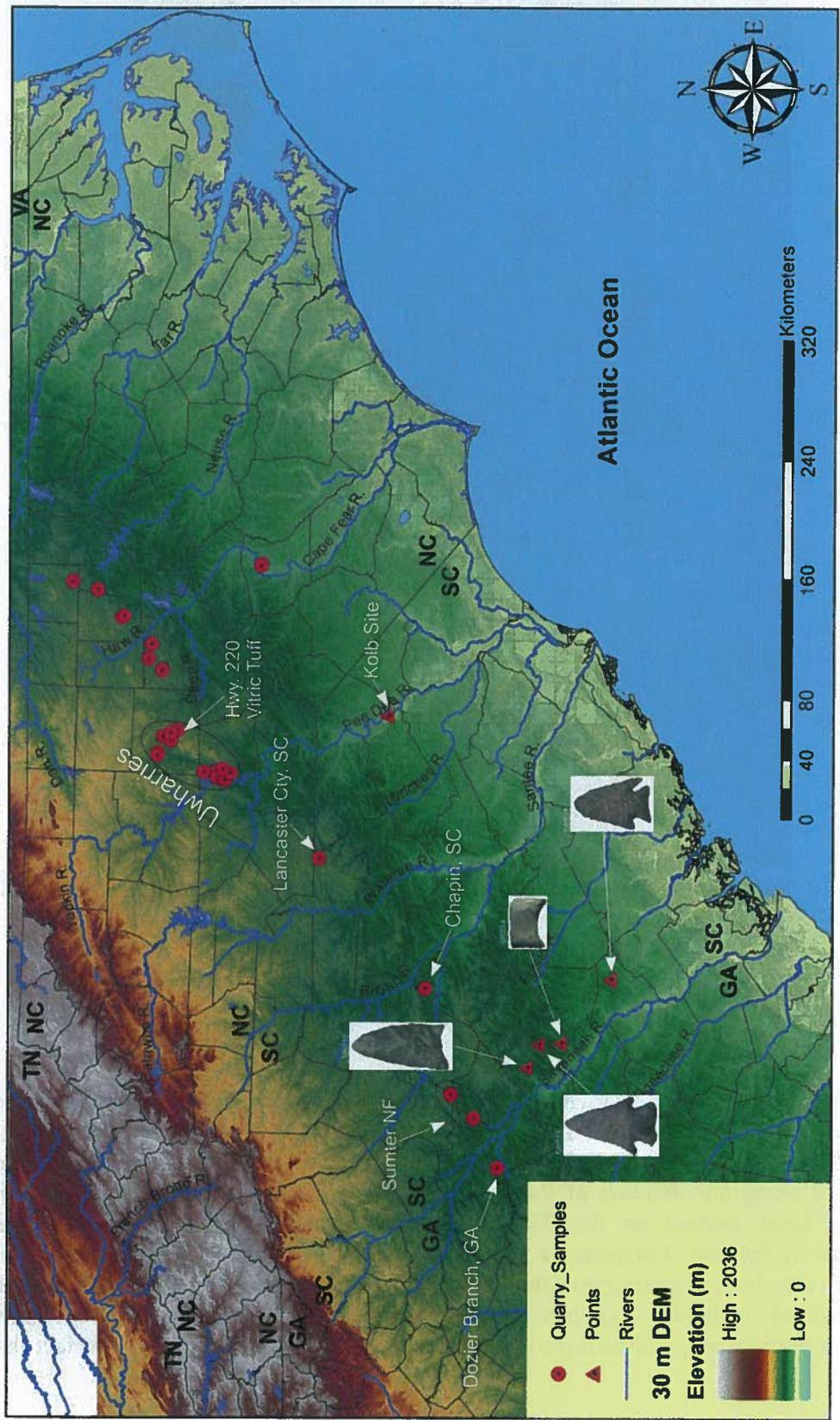


Figure II-9. Digital elevation map showing the location of quarry sites, outcrop samples, and artifacts currently being studied by the SRARP, as well as quarry samples from a similar study in North Carolina (Steponaitis et al. 2006). All SRARP samples are in South Carolina, with the exception of a single sample of vitric tuff from Asheboro, NC.

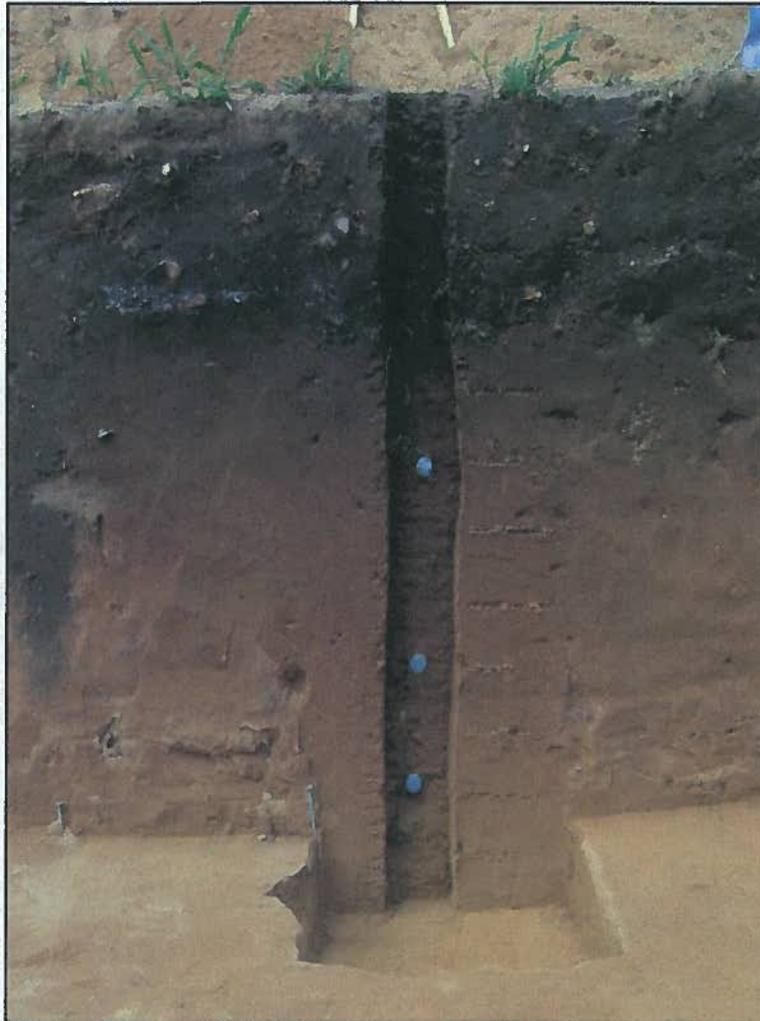


Figure II-10. Sediment column and luminescence (OSL) samples collected from the Kolb site (38DA75) in March of FY11.

38AK892 – Continuing the Research

Tammy F. Herron

Site 38AK892 was discovered as a result of SU Log No. 1798 – SCDNR Dove Field Development during FY05. This survey encompassed 96 acres in Timber Stands 12 and 62 of Compartment 2. Intact cultural features dating to the antebellum period were encountered along the shoulder of Road A-1.1. Due to the fact that so few antebellum sites have been studied on the SRS, researchers decided to conduct further test excavations at the site. Excavations conducted in FY07 revealed the remnants of an antebellum structure, including post molds, pit features, and a hearth. Numerous artifacts were recovered, including diagnostic earthenware and stonewares, machine-cut nails, olive-green bottle glass, and well-preserved faunal remains (Figure II-11). The fact that

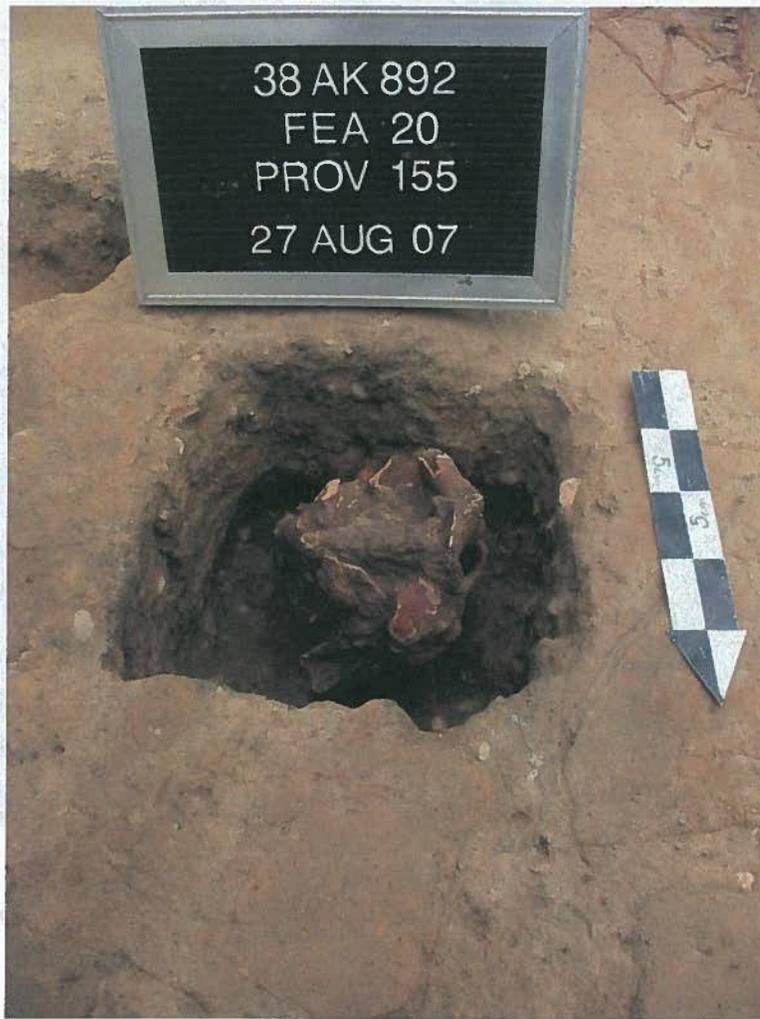


Figure II-11. Feature containing faunal remains at 38AK892.

the faunal remains survived in as good a condition as they have is gratifying to the researchers involved because the high acid content in the soils of this region tends to lead to poor preservation of organic materials. Because the preservation of the faunal remains excavated at the site was so good, the decision was made to have the specimens analyzed using standard zooarchaeological methods under the direction of Dr. Elizabeth Reitz, Zooarchaeological Laboratory, Department of Anthropology, University of Georgia. During FY11, all of the faunal remains were pulled from the 38AK892 collection, and a detailed inventory including provenience information, counts, weights, and comments was created. These remains have been shipped to the Dr. Reitz, and the program awaits a report of the analysis. Potential results may include identification of taxa, Minimum Number of Individuals (MNI) represented, evidence of bone modification, and age at time of death (Figure II-12). These factors aid in revealing information regarding foodways and subsistence practices of the inhabitants of the site. Historical research will also continue to focus on plat maps and other associated historical documents aimed at reconstructing the chain of title for the property in an effort to identify the occupants of the site, as well as the function of the structure revealed archaeologically.



Figure II-12. Faunal remains in situ at 38AK892.

Designing Exhibits for the Beech Island Agricultural Museum

Tammy F. Herron

In May 1993, SRARP staff members began a multi-year research project in Beech Island, South Carolina. Since that time, several colonial-period sites have been explored in an effort to recreate the cultural and natural environment of the area that was once known as New Windsor Township. The boundaries of the colonial township encompassed modern-day Beech Island. Through the years, staff members have developed close ties with the Beech Island Historical Society (BIHS) by working with a number of its members to locate archaeological sites, confirm the location of old road beds and property lines, conduct historical documents research, present lectures, and create exhibits to promote the history of one of the oldest settlements in the state of South Carolina.

The New Windsor Township Survey (NWTS) shed new light on the survey methods used to locate colonial-period sites on the SRS. Researchers quickly realized that our survey methods needed to be refined, leading to a much closer interval shovel-testing strategy rather than the 30-m survey method of old. In many cases, colonial sites are so small that they may escape discovery without dropping back to a 10-m or perhaps even 5-m survey grid. As such, the NWTS has had a positive impact regarding the

cultural resources management on the SRS, not to mention the connections that have been made between previous landowners of property that became the SRS as well as property in the Beech Island area through the research of historical documents.

In 2005, the BIHS was awarded a \$200,000 Rural Business Enterprise Grant from the United States Department of Agriculture (USDA) through the USDA's Rural Development Program. These funds were used to renovate a historic brick barn dating to the 1800s that is situated directly behind the BIHS. As renovations were being made to the barn, members were set to the task of finding funding to create exhibits for the new Beech Island Agricultural Museum that will be housed in this historic structure.

The BIHS applied for and was awarded an \$18,000.00 matching Product Development Grant from the South Carolina National Heritage Corridor. As a partial match, the BIHS received a \$13,500.00 Accommodations Tax Grant from Aiken County to be used for planning, designing, and fabricating exhibits for the new Beech Island Agricultural Museum. Tammy Herron, Curator of the SRARP, has been writing text, compiling images, and taking photographs for the new museum exhibits which will chronicle the importance of agriculture in the Beech Island area through the ages. There will be four major sections in the museum devoted to the following: 1) Native Americans – Beech Island's Earliest Farming Families; 2) Colonial and Settlement Period; 3) Plantation Period/Rise of the Plantation System; and 4) Modern Farming. These exhibits will include material excavated archaeologically from sites in the Beech Island area such as the Meyer site (38AK615), a colonial-period Swiss farmstead located just south of the BIHS. The projected completion date for installing the exhibits is spring 2012.

Piasa at the Hollywood Mound

Adam King

Henry Reynold's excavations at the Hollywood site have been incorporated into the lore and knowledge of Southeastern archaeology since Cyrus Thomas' publication regarding the identity of the "mound builders" (Thomas 1894). Visually, the most recognizable artifacts from those excavations are the pottery vessels found by Reynolds with human graves in Mound B. In addition to those pots, several other items bearing meaningful imagery were discovered in Mound B, and they communicate important information about the burial deposits found there.

One of the most interesting of those objects is a small, embossed copper plate cut into the shape of a face with wide eyes and an open, tooth-filled mouth (Figure II-13). Closer inspection of the image shows that the eyes have a three-pointed surround and a series of parallel lines extending from the nose to the edges of the plate. Enough details of this image are present to connect it thematically to a fairly widespread set of images dating to the Mississippian period found from the caves of Missouri and pottery of the Central Mississippi Valley eastward to northern Georgia and the Hollywood site. The same theme seems to have its roots in the Middle Woodland period, has persisted into the historic period, and is still present in current Native American art and belief.



Figure II-13. Embossed copper plate of frontal facing Piasa, Hollywood site Mound B.

Engraved images from two pottery vessels found in the Mississippi Valley are shown in Figure II.14. Note the eyes with trefoil eye surround, bulbous nose, toothy mouth, and parallel markings. The same figure appears on a shell gorget found at the Moundville site in Alabama (Figure II-15), as well as in the round as limestone pipes found at Moundville and the Lower Mississippi Valley (Figure II-16). Two other small copper plates, very similar to the Hollywood example, were found at Etowah and eastern Tennessee (likely the Hiwassee Island site), completing a set of three that likely were made in the same workshop.

George Lankford (2006) identifies this figure as the Piasa, a supernatural inhabiting Native American beliefs from the Prairie Plains to the Great Lakes and Atlantic Ocean. From contemporary beliefs and ethnographic accounts, we learn that the Piasa inhabits one of the three realms of the Native American cosmos—the Underwater or Beneath World that lies under the ground and under water. It is a realm of chaos and death, but is also the place from which the powers of growth, regeneration, and life come in the form of water, souls, and the power to influence both. The Piasa, or Underwater Panther, is one vision of the lord of this realm. At night, this realm switches places with the Above World and becomes the night sky. Conceived of as the Path of Souls by many people throughout the Americas, the Milky Way is visible in that night sky. The Lord of Death occupies a place along that path and has wings when there.

There are many descriptions of the Piasa and even more images of it in European written history, Native American oral history, and Native American art. Probably the most famous image and description came from Father Jacques Marquette (ca. 1895).

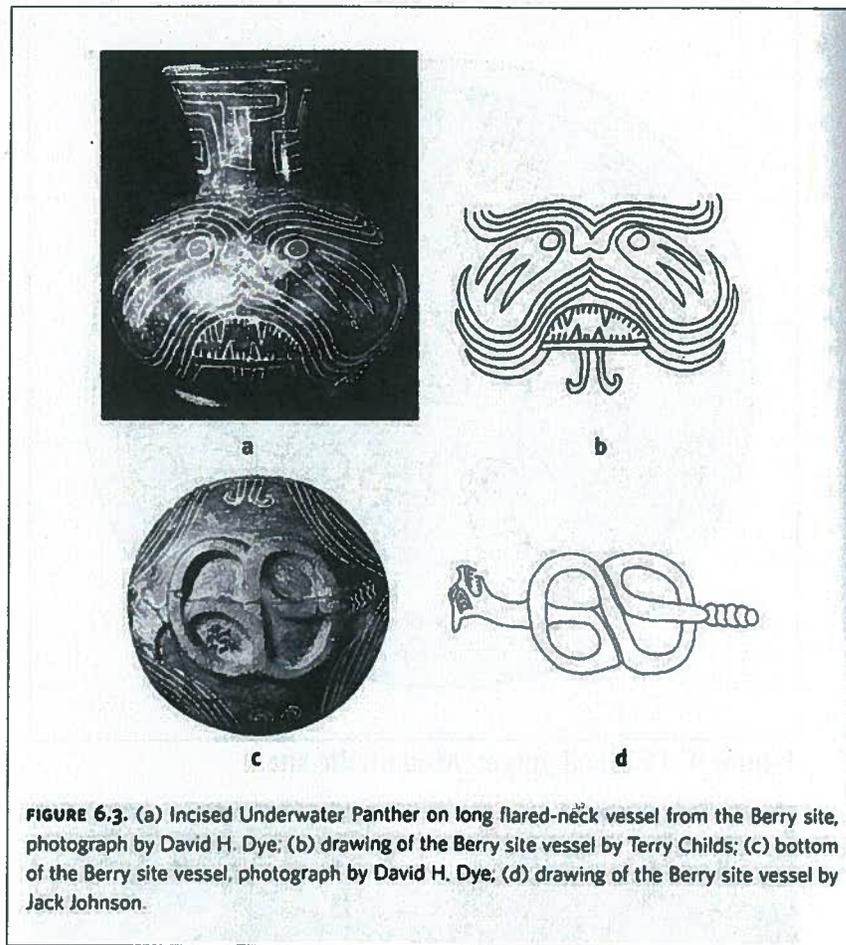


Figure II-14. Pottery vessels exhibiting the Piasa theme.

While traveling among Native Americans of the Mississippi River in 1673 as a Jesuit missionary, Marquette encountered and described two images of the Piasa painted on a limestone bluff overlooking the Mississippi River near present-day Alton, Illinois. Figure II-17 includes a reproduction of the image Marquette described and one sketched by his cartographer. Below is Marquette's description of the painting:

While Skirting some rocks, which by Their height and length inspired awe, We saw upon one of them two painted monsters which at first made Us afraid, and upon Which the boldest savages dare not Long rest their eyes. They are as large As a calf; they have Horns on their heads Like those of a deer, a horrible look, red eyes, a beard Like a tiger's, a face somewhat like a man's, a body Covered with scales, and so Long A tail that it winds all around the Body, passing above the head and going back between the legs, ending in a Fish's tail. Green, red, and black are the three Colors composing the Picture. Moreover, these 2 monsters are so well painted that we cannot believe that any savage is their author; for good painters in France would find it difficult to reach that place Conveniently to paint them.



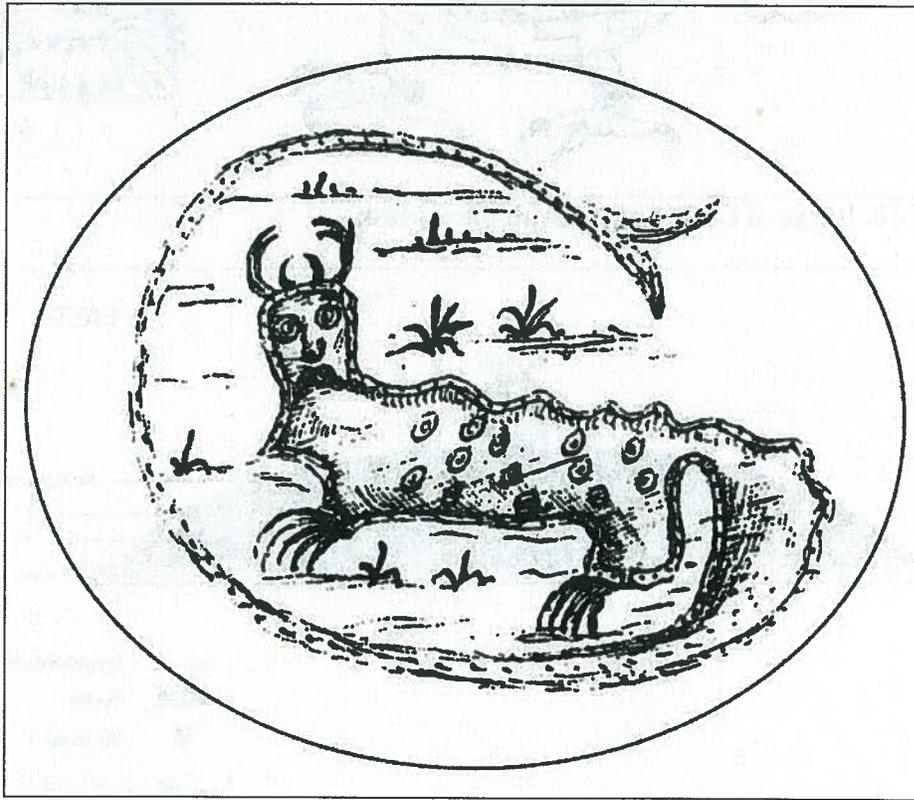
Figure II-15. Shell gorget, Moundville site.



Figure II-16. Limestone pipe, Moundville site.



a.



b.

Figure II-17. Piasa (a) after Marquette's description, (b) by Marquette's cartographer.

As Lankford (2006) demonstrates, among many native people in the East, the Piasa has an alter-ego or avatar—a giant snake with horns. This Horned Serpent or Great Serpent also appears in Mississippian imagery, and Figure II-18 communicates the connected nature of the Piasa and the Great Serpent.

The Hollywood Piasa image was not found in the grave of a person. Instead, it was found resting on a prepared surface in the lower of two burial deposits excavated by Reynolds in Mound B (Figure II-19). That lower deposit was focused on a large fire pit, around which was carefully arranged a set of graves, piles of materials, and isolated objects. I expect that this arrangement of people and objects at Hollywood must be understood as an integrated set and can be read as a tableau.



Figure II-18. Image of Great Serpent with Piasa Mask.

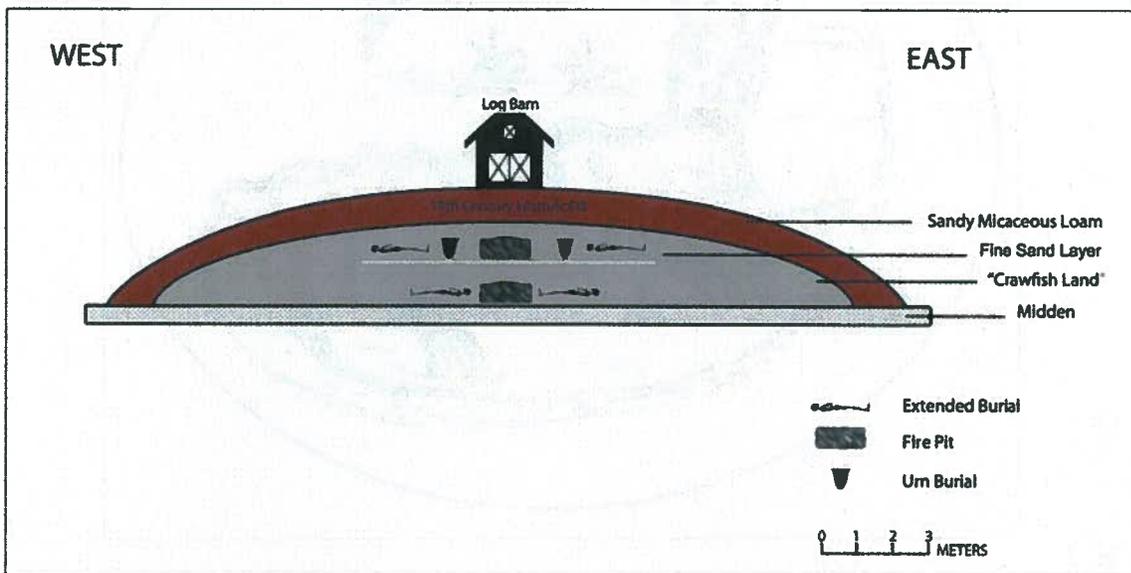


Figure II-19. Schematic of the upper and lower burial layers, Hollywood site Mound B.

The Piasa was not found alone, but was recorded at the base of one of many small stacks of objects distributed across the floor of the first burial deposit in Mound B. Clearly not in a grave, the plate was wrapped in layers of leather, matting, and bark preserved by direct contact with the copper salts. Directly on top of the wrapped Piasa, excavators found one of the two famous Hollywood ceramic beakers (Figure II-20). Fragments of shell and mica were also in direct association with the bundled Piasa plate.

The beaker found with the Piasa has a companion at Hollywood. It is decorated in the same style and exhibits a related theme. It is surely no accident that this second beaker was found in a similar discrete pile of objects, not in a grave, and just next to its companion with the Piasa plate (The Piasa Stack). This second stack of objects had at its base two copper celts wrapped in layers of fabric and bark. Like the wrapped copper plate, this small bundle rested on the prepared surface of the lower burial deposit. On top of the wrapped celts was a single, large stone discoidal, above which was located the second beaker. Associated with this stack of objects were fragments of mica, as well as what Reynolds identified as some small fragments of bone and human teeth. I will refer to this as the Celt Stack.

It can be no accident that these two piles of objects have some structural and artifactual similarities. Each pile is anchored by wrapped copper objects, with other objects stacked on top, and finished with one of the ceramic beakers. The wrapped copper included in each stack is similar in terms of key material (copper) but distinct in form. One stack contains an embossed copper plate decorated with the face of the Piasa, the second contains two copper celts. Thematically, these objects may seem different, but I will argue they likely reference a similar set of powers and themes in the Mississippian cosmos.

The similarity in contents and structure between these two piles of objects suggests that they were not randomly created nor were they randomly placed within the collected set of objects in the first burial deposit. Each of these clusters of objects contain things and imagery imbued with meaning, which taken together may tell us something about their purpose in being buried in Hollywood's Mound B. Here, we can use a growing understanding of the meaning of Mississippian religion and imagery to explore some of those meanings.

Before exploring meaning, a comment on the nature of these piles of objects is in order. While the copper objects were clearly wrapped, Reynolds found no evidence that the contents of these two stacks of objects were themselves enclosed in larger containers. The gathering of collections of sacred objects into bundles is an old and widespread Native American tradition. Bundles were dedicated to, and fundamental to, the conduct of specific rituals and were generally the property of specific individuals or corporate groups possessing the rights, and knowledge, to perform the associated ritual. Control of sacred bundles gave individuals and corporate groups social power. Through control of the bundle, they gained control over the conduct key ritual.

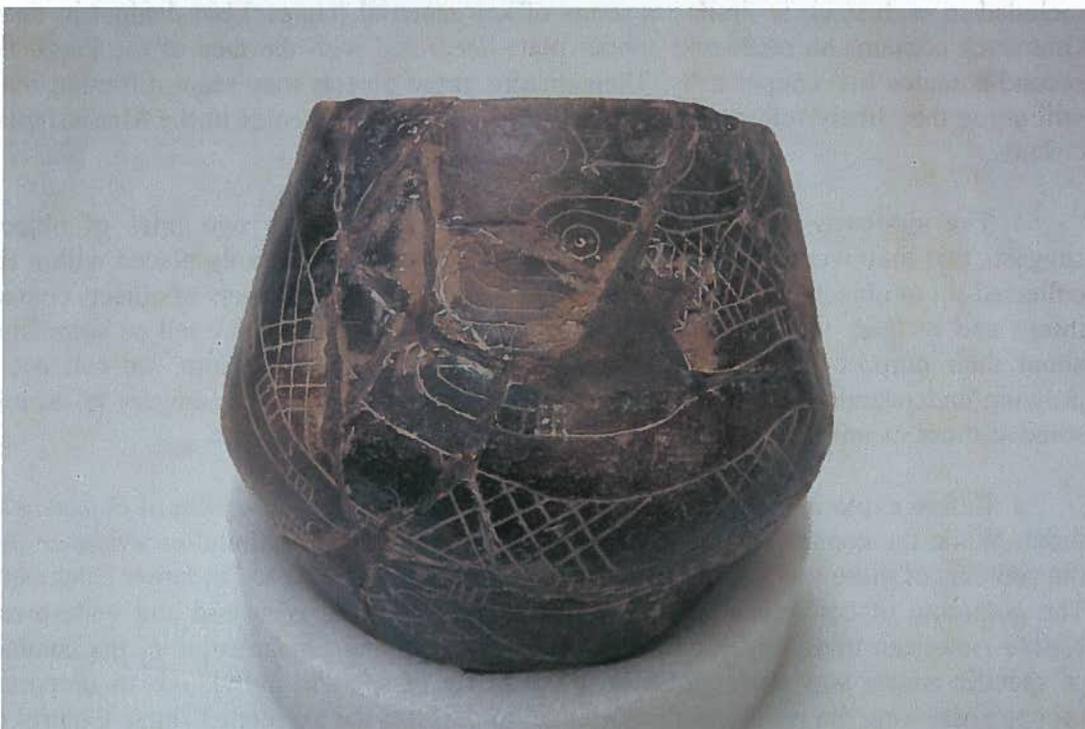
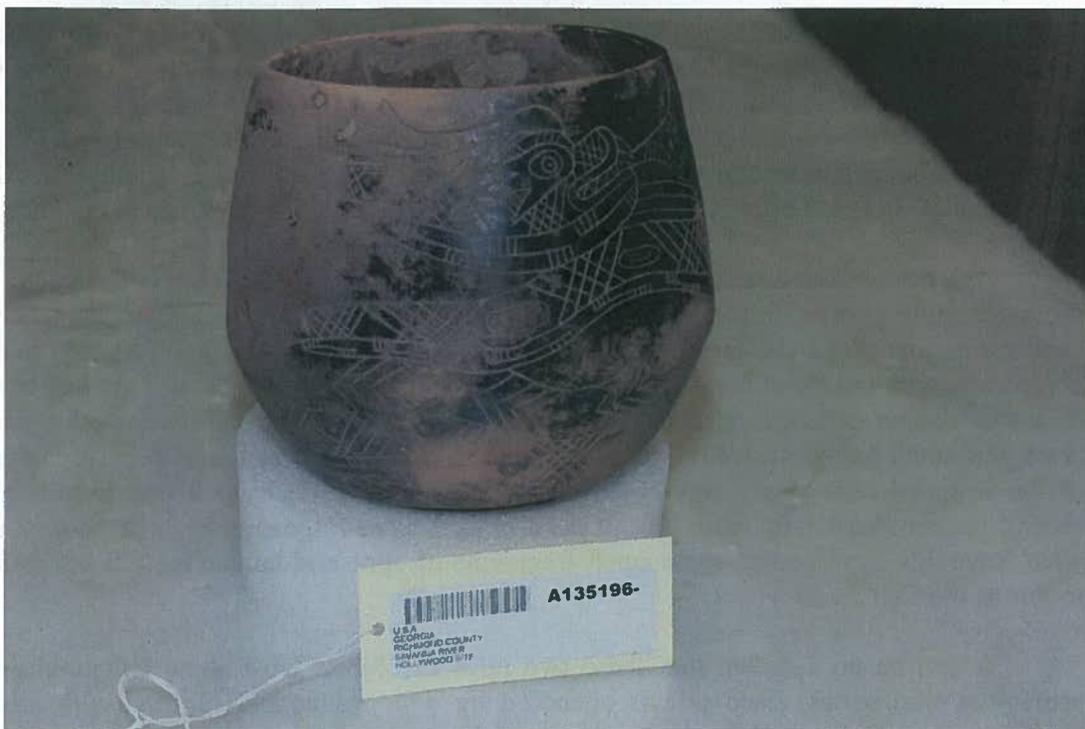


Figure II-20. Two engraved cups from Mound B that exhibit Late Braden style and originate from the eastern Tennessee area (top vessel Accession No. 135196; bottom vessel Accession No.135204).

These piles of objects in Hollywood's Mound B may be bundles once enclosed within larger containers, such as wooden boxes or baskets. Unfortunately, unlike the wrappings on the copper preserved by contact with copper salts, those larger containers met the same fate as other organic material in Mound B. Whether they were in larger containers or not is relatively unimportant because we know from Mesoamerica that contents of bundles were often unbundled, arranged, and then buried. The key here is that the objects found together in these two piles have individual and collected meanings that can tell us something about the behaviors that created Mound B.

As noted above, the Piasa Stack also included a ceramic beaker and fragments of mica and shell. As I have already discussed at length, the Piasa was an inhabitant of the Beneath or Underwater World of the Native American cosmos and was known as the Lord of Death. Its inclusion in this set suggests that the powers of the Beneath World relating to the path of the dead, the return of souls from the land of the dead, and regenerative rains may have been referenced. Both shell and mica are also associated with the Beneath World, reinforcing that connection.

Unfortunately, it is not currently possible to know which of the two ceramic beakers found at Hollywood was associated with the Piasa Stack. While this is a limiting problem, it does not keep us from making some inferences about their meaning and place in the two stacks of ritual objects. The two beakers are decorated in the same artistic style that derives from the Mississippi Valley, but each beaker has a distinctive, although thematically related, image on it. One of the beakers has a single, horned rattlesnake coiled around its body. This image is meant to reference a broadly distributed theme often known as the Great Serpent or Horned Serpent (Lankford 2006). As noted above, many Native Americans throughout the East view the Piasa and Horned Serpent as different identities of the same being—Lord of Death ruling the Beneath World.

The second beaker has four snakes entwined around its body. Two of the snakes have the Horned Serpent head, and they are opposed with two snakes possessing human heads. The snakes likely are meant to also reference Beneath World powers, but the way they entwine around the vessel is reminiscent of the placement of the snakes on a bottle from the Chuckalissa site located in Memphis, Tennessee. Kent Reilly has argued that these snakes overlap each other as they cover the vessel walls in a way that makes a three-dimensional ogee. The ogee is a symbol found among Mississippian period imagery of the Southeast that represents a portal or doorway connecting different realms of the three-tiered cosmos. Frequently, ogees are presented in two-dimensional form (Figure II-21 and Figure II-22), and often they are framed by overlapping snakes. It seems reasonable to argue that the Hollywood beaker, with its multiple entwined snakes, is actually a three-dimensional ogee. I suspect that the beaker with the single snake wrapping its body is meant to reference the same kind of portal.

Reilly has further argued that the imagery placed on the key zones (base, body, neck, rim) of pottery vessels communicate information to ritual participants and spectators about the origins and destination of the contents of those vessels. The presence



Figure II-21. Stone disk exhibiting the ogee theme.



Figure II-22. Stone disk with ogee formed by entwined snakes.

of the Lord of Death on a pottery vessel should be taken to indicate that what is put into or taken from that vessel has been touched by the powers of the Beneath World. Similarly, the presence of an ogee (like the one formed by entwined snakes) should remind everyone that what goes into and comes out of the pot is passing from one realm to another.

The two Hollywood beakers then are portable doorways through which things (most often power in liquid form) are transported from the Beneath World to the realm where they are being used. Following this, the Piasa Stack is made up of objects that reference the powers of the Beneath World and a means for bringing things from that realm to another. One could argue it contains the key paraphernalia for conducting a ritual to access Beneath World powers.

The second stack of objects also contained another ceramic cup, or portable doorway to the Beneath World. At its base, instead of a copper plate were two copper celts. Like the Piasa plate, they were wrapped and seem to form the copper base of this set. Copper celts are traditionally considered hypertrophic weaponry—weapons in form but made in a way that they could not be used in actual combat (Brown 1976a; 1976b). In this case, the copper from which the celts are made would have been both soft and brittle, making them ineffective as real weapons. Most often, copper celts are viewed as regalia associated with individuals who used them in activities such as ritual and political theater. Additionally, copper celts served as symbols of elevated status, social power, and connections to supernatural beings.

At Hollywood, the copper celts were not buried with an individual as if they were part of a person's regalia. Instead, they were placed within a small cluster of artifacts suggestive of a bundle or at least an arrangement of ritual items. It is inherent in the nature of ritual objects that they can serve as regalia in one setting and be used to conduct ritual in another setting. Here, the celts should be considered ritual objects possessing (potentially multiple) ritual thematic associations. The celts are made of copper, which was a powerful symbolic substance to Native Americans of the Mississippian period as well as today. Copper is associated with the Beneath World since it comes from beneath the ground or under the water (as float in streams). Finally, sacred narratives indicate that the Piasa's scales were made of copper. So clearly at one level, the copper celts reference the Beneath World in some way.

Celts that could plausibly be argued to be analogs of the copper celts found in archaeological context occur in Mississippian imagery most frequently with one particular individual—the Birdman. The same individual argued to be the Birdman by Brown (2006) can be seen wielding a hafted celt on engraved shell, embossed copper, and even cave art. Brown (2006) has argued that the Birdman is an 11th- through 13th-century supernatural figure similar in thematic associations and cultural meanings to the 19th century to modern era Morningstar, Red Horn, and He-Who-Wears-Human-Heads-On-His-Ears of Native American groups of the upper Midwest and Prairie Plains (see also Diaz-Granados and Duncan 2000 and Hall 1997). This supernatural is a son of First Man, a being of the Above World with raptor qualities and associations, and a great

warrior and protector of humanity from Beneath World beings. He represents the triumph of life over death, as he has the ability to bring souls back from the realm of the dead, and day over night, as apparent in his role as the morning star where he rescues day from night. His association with the flight of an arrow gives him one of his most intimate identifiers—the bi-lobed arrow (Figure II-23). This is argued to be an arrow knocked into a bow, and its form is associated with Morningstar's power to bring the souls of the deceased back to living bodies (Hall 1997; Brown 2006).



FIG. 180.—Figured copper plate from mound c
Etowah group.

Figure II-23. Birdman with Bi-Lobed Arrow.

In part of a much longer epic narrative, Morningstar loses his life while doing battle with Beneath World beings and is decapitated. His sons avenge the death of their father by defeating those Beneath World beings. They bring Morningstar's head from the Beneath World back to the Sky where he is reborn as the morning star. Morningstar's sons (or sons and nephews in some versions) have the same powers and thematic associations as Morningstar and, like Jesus and God in Christian theology, are often considered to be one in the same.

Jim Brown (2006) has identified Mississippian imagery that appears to reference many parts of the Morningstar epic. In those images where Morningstar or his sons do battle in the Beneath World, they are depicted wielding maces or hafted celts. A small set of images in both copper and shell show a man wearing the bi-lobed arrow holding a severed head in one hand and a celt or mace in the other. These images are generally argued to capture that moment when Morningstar's death is avenged by one of his sons.

The close connection between the Birdman, the hafted celt, and battles in the Beneath World suggest that the hafted celt may have been the specific weapon used in battles among supernatural beings. The copper celts in the Celt Stack at Hollywood may reference the battles of culture heroes, like Morningstar, with Beneath World powers on behalf of people.

It also is possible that the copper hafted celt may itself reference the power of the Birdman to bring souls back from the realm of the dead, substituting for the bi-lobed arrow in some instances. In Etowah's burial mound, Mound C, King (2005) has shown that headdresses containing bi-lobed arrows decrease through time, while copper celts increase through time. By the 14th century in both Mississippian imagery and in burial practices, the hafted celt is intimately connected to the Birdman. If this is the case, then the copper celts in the Celt Stack may reference a particular supernatural being's ability to rescue life from death.

The final object found in the Celt Stack at Hollywood is a stone discoidal (Figure II-24). The discoidal was resting on top of the wrapped celts and directly beneath the second ceramic beaker. As with the celts, discoidals have long been presumed to be markers of special statuses. This is especially the case with those that represent a high labor input—ones that are nicely made using rare or nonlocal raw materials. The discoidal in question appears to have been made of marble (relatively rare, but can be found in the lower Appalachians of Georgia and North Carolina), and it is highly polished and perfectly symmetrical. This discoidal was not found with a person; therefore, like the other objects discussed, should be considered a ritual object rather than a status marker.

The meaning of stone discoidals has been explored and most often returns to their role in a game of chance called chunkee. During the historic period, men were described as spending hours gambling away possessions playing the game (Hudson 1976). Sacred narratives describe supernatural culture heroes being challenged to chunkee where the ultimate price was loss of the head. Similarly, in Mississippian imagery a supernatural (most often the Birdman) is depicted rolling a chunkee stone. Jim Brown (2006) has argued that these images are meant to capture the parts of the Birdman epic where he competes with beings of the Beneath World on behalf of people, and where he ultimately loses his own head. So the discoidal in the Celt Stack may refer to the battles of culture heroes on behalf of humanity in a way similar to the celts themselves.



Figure II-24. Discoidal from the Celt Stack, Hollywood Site Mound B.

Another potentially different aspect of these discoidals comes from Muskogean narratives telling of an object called a seeker, roller, or wheel. This object is the same discoidal used in chunkee, but has its own will. It is used in various narratives by the Piasa (Swanton 2000) and one of the Hero Twins (Mooney 1900) to help these supernatural beings find things they desire. In the case of the Piasa, it is victims, and in the case of the Wild Boy, it is the direction he must go.

Taken together, these narratives indicate two aspects of the discoidal. One is that of an element of a game of chance that figured prominently in competition between Above World and Beneath World beings. Especially in a particular narrative where the forces of life defeat the forces of death. The second aspect of the discoidal is that of the seeker—a tool used by supernatural beings of various realms to find things they seek.

The Celt Stack has more elements to it that appear to have multiple meanings. Like the Piasa Stack, objects in the celt stack seem to make reference to Beneath World powers, albeit in this case to competition between the forces of life and death. Usually, the triumph of life over death is realized through the return of souls from the realm of the dead to inhabit new bodies, perpetuating lineages, clans, and communities. Like the objects in the Piasa Stack, the Celt Stack appears to contain a set of objects designed to access the Beneath World, and maybe even to bring souls back from the realm of the dead.

Clearly, there is plenty of room to add more meanings and interpretations to these two stacks of objects, and mine may not turn out to be the most compelling. Regardless,

an examination of these stacks of objects and their context within Mound B at Hollywood makes it clear that their placement was imbued with meaning and intended to achieve something other than a statement of individual status. As noted before, the two burial deposits in Mound B seem to complement one another in horizontal and vertical space. In the lower burial deposit, the people and objects are located to the west and south of the fire pit, while the people and objects in the upper deposit are placed to the east and north of the fire pit. Holding the fire pit as a center point that extends through the two deposits, this arrangement of people and objects in three-dimensional space begins to mirror the Native American model of the cosmos. In this lower burial deposit, where things are to the west and beneath, we find piles of ritual objects dedicated to contacting Beneath World powers and bringing back power and souls from the Beneath World.

Since I have only examined a small set of the materials in Hollywood's Mound B, it will remain to be seen whether the entire distribution of people and objects can in fact be interpreted as a reflection in some way of the structure of the cosmos. What seems to be clear, however, is that the placement of objects and people in Hollywood's Mound B does not merely reflect the social standing of individuals. There was a different purpose and a different meaning to those objects. Given the context, I presume that meaning is related to incorporating both foreign and local belief and practice in the creation of what became a variant of Mississippian culture in the middle Savannah River valley.

Continued Research at Site 38AK953: An Early 20th-Century Tenant Farm

George Wingard and Keith Stephenson

In the spring of 2006 while conducting archaeological survey for Site Use Log No. 1848, SRARP personnel discovered a stoneware vessel manufactured in the Edgefield District, South Carolina and inscribed by the literate, enslaved potter known as David Drake or Dave (Baldwin 1993:76-79). This Site Use Permit 1848, initiated by Environmental Restoration (ER) on May 2, 2006, proposed the installation of four wells for A/M Area groundwater monitoring. Three of the four proposed monitoring well locations already had existing cement well pads, so no land disturbance was required to add new wells. The fourth well location required archaeological survey as an historic period house site was identified by the presence of an early 20th-century can and bottle dump, as well as an existing rock and timber structure foundation. Fieldwork at the newly recorded site (38AK953) consisted of 25 STPs (10 positive) excavated in a cruciform pattern to determine site boundaries (Figure II-25).

The property on which the Site Use tract is located was purchased in 1951 as part of the Atomic Energy Commission's (AEC) acquisition of land to construct the Savannah River Plant (now SRS). The property was owned by Lorna and Frank M. Greene, Jr. of Milledgeville, Georgia whose address indicates that they may have been absentee landlords with tenants who lived on the property. The tract, comprising 146 acres, was designated J-936 and was deemed to have "good" land. The main structure on the property was a 1,024 ft², one-story, hall-and-parlor style dwelling expanded by front porch and rearward extensions (Figure II-26). Hall-and-parlor houses are considered

vernacular architecture—structures made by empirical builders without the intervention of professional architects (Arboleda 2006)—that traditionally were two rooms wide and one room deep (McAlester 1984:94-95). Outbuildings included a 15x20 ft. barn and two poultry houses. The Greene's were paid \$10, 245.00 for their property.

During the surface survey of a “bottle and can” refuse dump, a portion of the broken, alkaline-glazed stoneware vessel was recovered in situ (Figure II-27). Upon complete excavation and eventual reconstruction of the vessel, a calendar date was legibly evident as April 16, 1862 (Figure II-28). The vessel displayed no poetical verse as common on vessels produced prior to 1861. Given the presence of a preserved structural feature, intact cultural deposits, and the in situ Dave vessel at 38AK953, the site is considered potentially eligible for inclusion in the NRHP. Consultation with ER project personnel resulted in the relocation of the proposed monitoring well away from 38AK953, so that the site will be completely avoided. Thus, there will be no effect to this site from the proposed Site Use project activities.

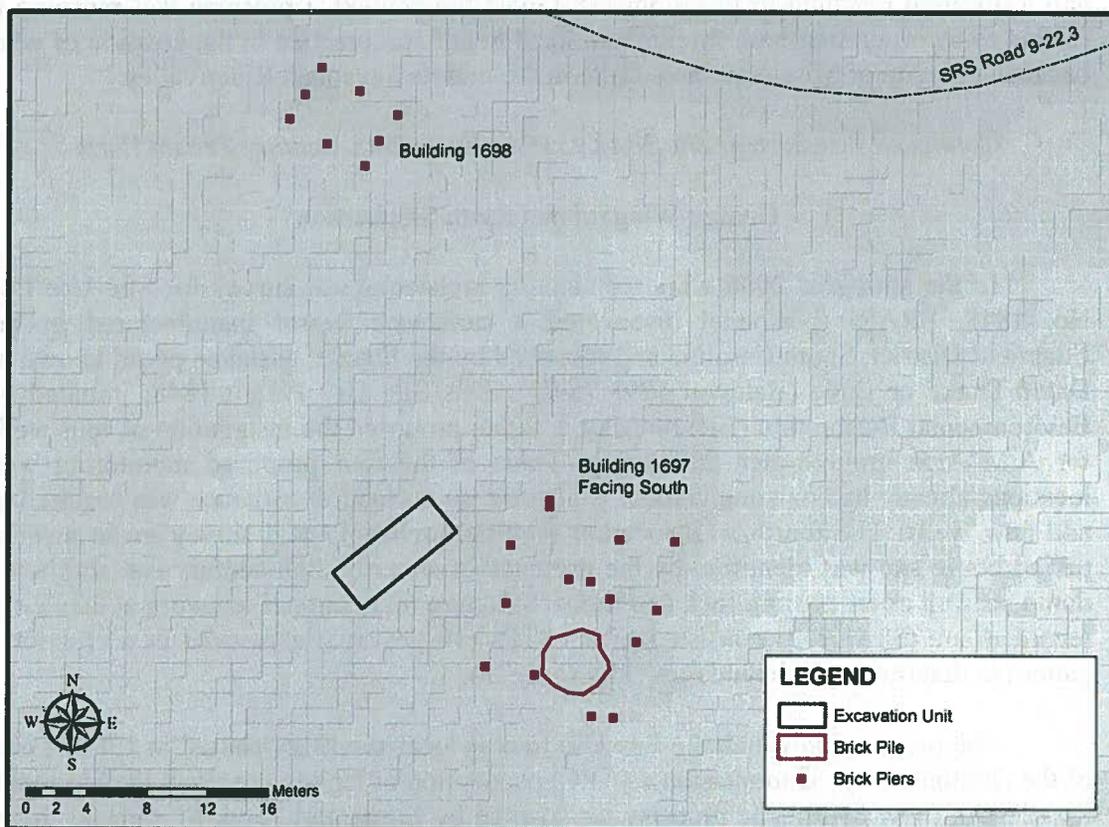


Figure II-25. Map of site 38AK953 showing brick piers representing house (No. 1697) and shed (No. 1698) locations, as well as the block excavation into house refuse midden.

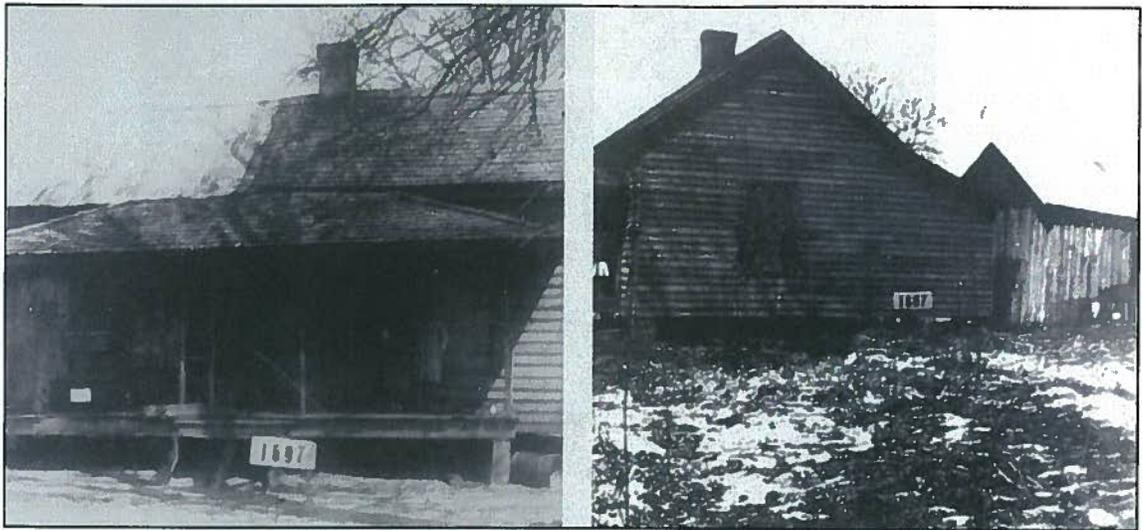


Figure II-26. Simple, side-gabled, hall-and-parlor style tenant farmhouse on Greene property.



Figure II-27. Basal portion of Dave vessel in situ.

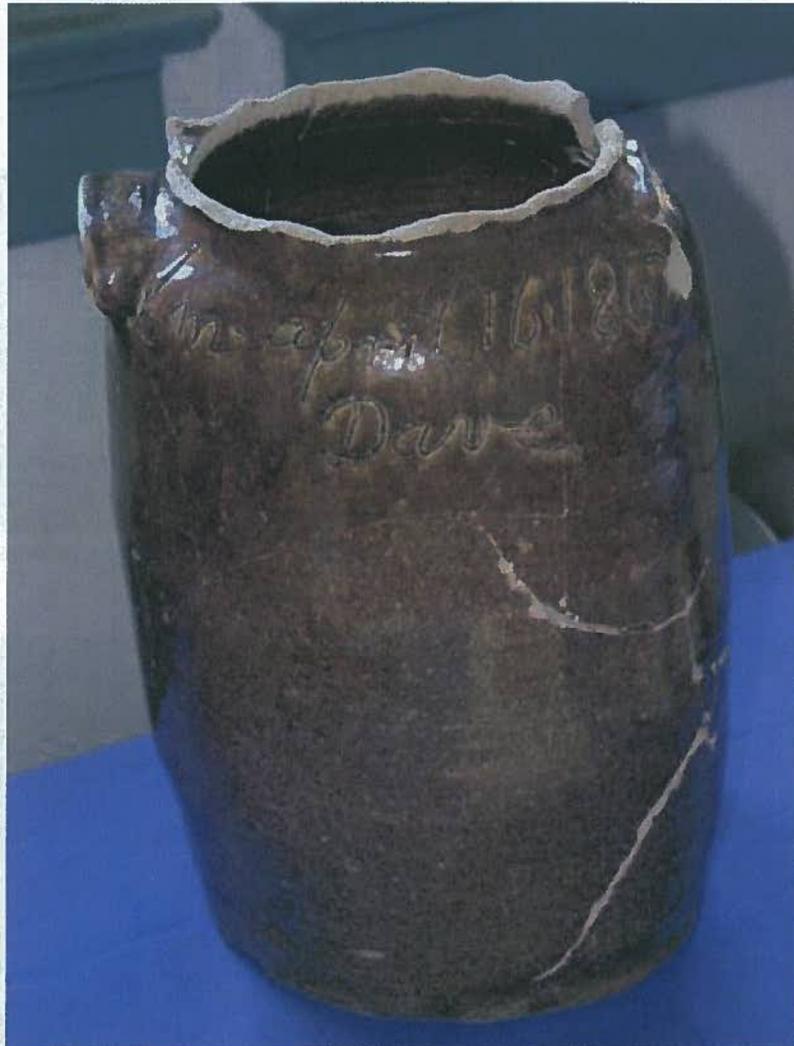


Figure II-28. The Dave vessel reconstructed.

The SRARP has presented the Dave vessel at many different venues (Figure II-29). This artifact has become one of the SRARP's main ambassadors for discussing the importance of archaeology, history, American History, and African-American History. The public has expressed much interest in the story of the vessel's discovery, as well as the man who created it. Simply being able to share this artifact with the public helps to inform them of the SRARP's mission the SRS.

This spring, filming began on a proposed documentary about Dave. So far, interviews have been conducted with Leonard Todd, author of *The Slave Potter Dave*; author Laban Hill and illustrator Bryan Collier, collaborators on *Dave the Potter: Artist, Poet, Slave*; and Illinois State University archaeologist George Calfas during his excavation at the Pottersville site in Edgefield, South Carolina. The project will discuss what is known about Dave, describe the area in which he lived and worked, and put Dave's life into a historical context. It is hoped the film will be completed by mid-2012 in order to submit it to film festivals later that year.



Figure II-29. George Wingard discussing the Dave vessel at a meeting of the Granby Chapter of the Daughters of the American Revolution, Columbia, SC.

The 2011 Field School at Palachacolas Town, Savannah River Valley, South Carolina

Charles Cobb, Chester DePratter, Chris Gillam, and Chris Judge

For the third year in a row, a Maymester field school was held at the colonial era Indian town of Palachacolas. These field schools have been supported in part via funding from the National Science Foundation (NSF), and they have been supervised by a group that includes archaeologists from USC Columbia, including SRARP, and USC Lancaster. This research is part of a larger project to document the migration of Native peoples to the Savannah River region after the establishment of Charleston by the English in 1670, and to explore the consequences of the resulting trade systems on both colonials and Indians.

Last year, our research focused on what historical records suggest was the core of Palachacolas Town, a community of Apalachicola Indians from eastern Alabama who moved to the banks of the Savannah River in South Carolina sometime around 1708. Those excavations revealed an activity area likely associated with one or more households (i.e., lots of glass beads and ceramic fragments), as well as what we believe may be a trench associated with a fortification wall. In 2009, we worked on what we hypothesize was a small habitation contemporary to, and possibly associated with, Palachacolas Town that was several miles inland from the river. Perhaps this was a family group that splintered off from the main community.

We started our investigations this year with some additional shovel test units at the site of our dig last year at Palachacolas Town. This work revealed additional pit features likely associated with living areas. We may have also discovered part of another fortification line, one that appears to be distinct from the one found last year (Figure II-30). We were joined for one day by our colleague, Dan Elliott, from the Lamar Institute in Georgia, who brought his ground penetrating radar unit (Figure II-31). Much of Palachacolas Town today is overlain by an asphalt parking lot. However, his radar picked up a linear anomaly underneath the asphalt that may be part of the fortification trench that we identified in 2010. One of the exciting implications of his work is that we are now optimistic that some archaeological features may still have survived the construction of the parking lot.

Our core excavations this year were placed about one-half mile south of Palachacolas Town and also near the riverbank. In our shovel test probing and metal detector survey in the larger area around Palachacolas last year, we located a ridge top (Figure II-32) with a number of indigenous ceramics and several pieces of lead shot. The co-occurrence of the two suggested yet another distinct colonial-period Native American habitation in the region.

Compared to the last two years, our field school this year was distinguished by an earlier onset of summer temperatures and a lack of natural shade (Figure II-33). Despite the challenging conditions, our field school students and volunteers (Beckee Garris, Charlie Darden, Amy Worthington, Noah Atchley, Rick Fogle, and Calla DePratter) did a remarkable job, excavating over 130 1 x 1-m units in a three-week period (Figure II-34). Despite the large area uncovered on the ridge top, there was a surprising lack of cultural features, such as storage pits or house wall post stains, that we associate with Native American occupations.

On the other hand, we did get a great sample of artifacts. Over 1,000 Native American ceramic fragments were recovered, although we only found a handful of contemporary European pieces of pottery. Although Indians rapidly adopted many elements of European technology in this era, the strong persistence of indigenous pottery may speak to a similar persistence in a reliance on Native foods and food preparation vessels. Glass beads were scattered throughout the site, and we believe these were important as clothing ornaments. The discovery of additional lead shot this year may be a reflection of the growing importance of European firearms over bows and arrows.

We also found some handwrought nails, which may have been adapted to indigenous building styles. Many European objects, however, were altered to other purposes, and it is possible that our lab analyses will disclose that nails could also have been used for perforating and working softer materials, such as deer hides. We know, for example, that glass fragments from bottles were often re-used as hide scrapers on many Native American settlements. So, the issue of recycling is an important one in our research. Finally, we continued to find European kaolin clay smoking pipe fragments this year, common on our previous field schools. These are particularly interesting



Figure II-30. Possible fortification trench at Palachacolas Town.



Figure II-31. Amy Worthington runs ground penetrating radar while Dan Elliott looks on.



Figure II-32. View of our field school site.



Figure II-33. Our multi-tasking students manage to screen soil and show their support for the Gamecocks' repeat NCAA baseball championship.



Figure II-34. Calla DePratter and Noah Atchley wishing they were digging in sand somewhere else, like Hilton Head.

because they demonstrate the fusion of traditions as multiple cultures come together—in this case, tobacco, an American domesticated plant, with European smoking technology. European and Native Americans alike rapidly adopted the practice of smoking tobacco in these kinds of pipes.

In light of the work in our previous two years, our field school this year emphasizes that Native American towns by the early 1700s had significantly altered their general pattern of spatial organization. Before the arrival of Europeans, sizable settlements were typically nucleated or clustered. For reasons not altogether clear, by the mid to late 1600s, Native Americans increasingly lived in highly dispersed towns that could often stretch out over a mile alongside a river. These were not continuous settlements; rather, they were scattered pockets of communities held together more by a common background or identity.

It is interesting that these new kinds of towns often contained several tribal groups. Due to population losses from warfare, slaving, and Old World diseases, many Indian groups forged new alliances that led to thriving, multi-ethnic communities. The well-known Creek confederacy in the Southeast, for instance, was a broad regional association that contained numerous language groups and peoples. One of the questions we will be addressing in our laboratory analyses is whether there are several ceramic traditions evident from our three seasons of fieldwork, thus indicating that Palachacolas represented this new type of dispersed, culturally plural community.

This issue, and other questions of dynamic culture change during the colonial period in Carolina, will continue to drive our work for many more years to come. This was our last season on NSF support, but we hope to continue to attract research funds to maintain a long-term study in the region. In addition to our intrepid students, we would like to thank our comrades-in-arms for several successful field seasons, Kim Wescott and Maggie Needham. The SCDNR has also been an invaluable partner in our efforts, and a special thanks goes to SCDNR archaeologist Sean Taylor for his support, and to the staff at the SCDNR Webb Wildlife Center for being such gracious and welcoming hosts.

PART III. PUBLIC EDUCATION

EDUCATIONAL OUTREACH

Christopher R. Moore

As set forth in the PMOA, and implemented through the DOE/SCIAA cooperative agreement, the SRARP continued to offer a variety of educational and outreach programs, lectures, tours, archaeological displays, and special assistance for the public in FY11. Outreach activities were slightly higher in FY11 and continued with an emphasis on archaeological displays at area events and the "You Be the Archaeologist" program held at the Silver Bluff Audubon Center & Sanctuary, Jackson, SC. Flintknapping demonstrations and displays of lithic artifacts and raw material types continued to be popular at educational events. In FY11, over 260 students participated in the program at Silver Bluff, while more than 3,300 people attended public outreach displays at USC-Aiken's Science Education and Enrichment Day and the South Carolina Archaeological Society Fall Field Day at Charlestown Landing in Charleston, South Carolina.² Numerous other outreach activities included lecture seminars for the Sertoma Club in Columbia, South Carolina and for volunteers at the Topper Paleoamerican Survey excavation. Additionally, artifact displays were prepared for Georgia on My Mind Day and the SRS Take Your Child to Work Day.

SRARP VOLUNTEER PROGRAM

Christopher R. Moore and 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 the FY11, our volunteers have logged in nearly 1,000 hours of work. Volunteers assist in a variety of tasks such as archaeological fieldwork, artifact processing and analysis, soil sediment analysis, data entry, document research, assisting with exhibits, Xeroxing, and filing.

Volunteers have been an integral part of the SRARP since the program's inception in 1973. Jill Trefz Nazarete has volunteered for the program since the 1970s. This fiscal year, Mrs. Nazarete spent much of her time in the lab continuing to enter two decades—1990 to the present—of radiocarbon dates into a database. She also spent time washing artifacts, processing faunal remains from 38AK892, participating in fieldwork, checking spreadsheets, and Xeroxing. Mrs. Nazarete donated a total of 195.5 hours of volunteer time over the course of the fiscal year.

In FY11, the SRARP continued to expand its volunteer-based research program. The Carolina Bay Volunteer Research Program was started in FY09 and involves the

² FY11 total attendance for the major heritage education events reflects the total number of attendees at each event as opposed to the estimated number of attendees who actually visited the SRARP display as cited in previous annual reports.

Carolina bays located throughout the CSRA. Now in its third year, the volunteer program logged nearly 800 volunteer hours (an increase of nearly 100 hours over FY10). This year, volunteer hours were focused on completing lab work and analysis of data collected from previous volunteer excavations. This involved washing and sorting of artifacts, lithic analysis, artifact refitting, analysis of archaeological sediments (i.e., sieving), flotation, and data entry. In addition, volunteers assisted in continued archaeological excavations and testing at Flamingo Bay (38AK469). Our volunteers for FY11 were: Bob Van Buren, John Whatley, Jill Nazarete, Rooney Floyd, Duvall Lawrence, and John Hutto.

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.

CINEMATIC OUTREACH

George L. Wingard

George Wingard continued his association with filmmaker Mark Albertin of Scrapbook Video Productions this year with two completed projects uploaded onto websites for public viewing. Another project is in the works, and two more in the planning stages.

The first to be uploaded is a four-minute film describing the cultural resource management, research, and outreach mission of the SRARP. Originally created as an extra on the DVD of Albertin's film *Displaced: The Unexpected Fallout from the Cold War*, the film has now been uploaded to the internet for easier access. The film can be accessed by visiting http://www.youtube.com/watch?v=9IT974_1-r0 or <http://www.youtube.com> by searching "Savannah River Archaeological Research Program – Cultural Resource Management."

The second is an eleven-minute film about the archaeology of Carolina bays (Figure III-1). Filmed at a bay in Blackville, South Carolina, the video discusses the formation of bays, excavation methods, and recovered artifacts. The film can be accessed by visiting http://www.youtube.com/watch?NR=1&v=Cj_B_YwRKqI or <http://www.youtube.com> by searching "Savannah River Archaeological Research Program – Carolina Bay Research," or by going to the <http://www.srarp.org> and clicking the link.

This spring, filming began on a proposed documentary about the enslaved potter Dave Drake and an example of one of his alkaline-glazed stoneware vessels recovered by the SRARP on the SRS. (Figure III-2). The project will discuss what is known about Dave, describe the area in which he lived and worked, and put Dave's life into a



Figure III-1. Mark Albertin, far right, filming the excavation at Frierson Bay in Blackville, South Carolina. In the test unit are Drs. Andrew Ivester and Christopher Moore.

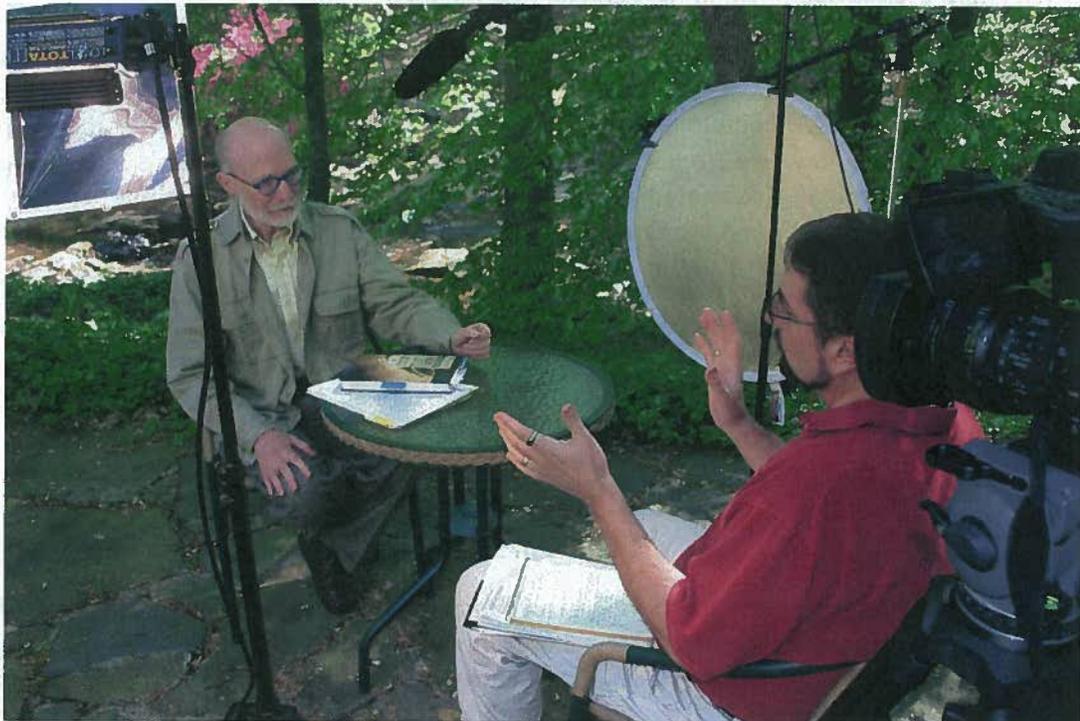


Figure III-2. George Wingard interviewing author Leonard Todd for an upcoming film project about the slave potter Dave.

historical context. The excavation of one of Dave's creations by the SRARP will also be highlighted, including how it was discovered, why it was found where it was, and finally the use of the vessel as an outreach tool. It is hoped the film will be completed by mid-2012 in order to submit it to film festivals by the year's end.

Collaboration with Mr. Albertin and Scrapbook Video Productions will continue with two new productions that will spotlight more SRARP research. A short film about the research and excavation at George Galphin's Trading Post near Jackson, South Carolina is in the planning stages and, potentially, a short on Native American research on the SRS. The use of short films and the internet makes it simple to share research with those interested in a more concise manner.

CEMETERY TOURS: FORMER RESIDENTS AND GENEALOGICAL RESEARCH

George L. Wingard

On Monday, October 25, 2010, SRARP staff member George Wingard took members of the Morris family to Pleasant Hill Cemetery—a remnant cemetery located in the northeastern portion of the SRS (Figure III-3). The family had visited the cemetery earlier in the year to look for the final resting places of Clarence W. Morris (8/19/1918 – 12/20/1941) and C. C. Morris (5/1/1880 – 8/8/1942), whose graves were marked with only a metal mortician's marker. Using a map generated by a 1951 survey of the cemetery, the markers were located and the graves identified. The family then asked if it would be possible to purchase new markers and place them on the graves; and, if so, when could a subsequent trip to the cemetery be planned.

This later trip included Mr. Wallace Morris whose father was C. C. Morris and brother was Clarence Morris. Two new granite markers purchased by the family were loaded into the SRARP vehicle and delivered to the cemetery. The area over the graves was raked, and the new headstones were placed where the metal mortician's markers had been. Family members discovered the grave of another ancestor discernible by only a metal mortician's marker and are making plans to mark that grave also.

This particular tour was rare in that not only did the family get to visit the cemetery, but they also had the passion to revisit the site and denote the graves with new markers for future reference. This was a unique opportunity to not only meet former residents but also to allow them to have some closure in regards to family members buried on the SRS.

CO-SPONSORING GEORGIA ARCHAEOLOGY MONTH 2011

Tammy F. Herron

SRARP staff member Tammy Herron currently serves as the Vice President of the Society for Georgia Archaeology (SGA) and is the Chairman of the Georgia Archaeology Month Committee. Staff member Rob Moon currently serves as a Board Member for the SGA. In service to the SGA, Tammy and Rob provided lesson plan development and



Figure III-3. (Left to right) Annette Cole, Michael Bradley, Jennifer Kassing-Bradley, Faye Kassing, John Kassing, and Wallace Morris standing with the new grave markers.

design, poster development and design, and arranged for poster printing as a co-sponsor of Georgia Archaeology Month 2011. The eighteenth annual Georgia archaeology awareness promotion, Archaeology Month 2011, had as its theme *Gone But Not Forgotten: Rediscovering the Civil War through Archaeology*. This year, the theme was chosen to coincide with the beginning of the Sesquicentennial Commemoration of the Civil War—one of the most defining events in our nation's history.

Tammy Herron prepared the 2011 lesson plan—"Learning Through Archaeology: Rediscovering the Civil War in Georgia" based on the theme selected for Georgia Archaeology Month—*Gone But Not Forgotten: Rediscovering the Civil War Through Archaeology*. This lesson plan explores the meaning of archaeology and reveals facts relating to the Civil War in Georgia. The archaeological site featured in this educational resource is Nash Farm Battlefield located in Henry County between Lovejoy and McDonough, Georgia. The plan offers information, instruction, pictures, questions, activities, and suggestions for additional reading and online resources, including the archaeological site report written by Daniel T. Elliott and Tracy M. Dean that documents the history associated with Nash Farm and discusses the results of the archaeological investigations conducted at the site. This report, titled *The Nash Farm Battlefield: History and Archaeology*, is available online through the LAMAR Institute at http://www.thelamarinstitute.org/images/PDFs/publication_123.pdf. SGA Board Member Leslie Perry assisted in compiling resources to include in the lesson plan. Dr. Sue

Moore's students from Georgia Southern University assisted in compiling questions and activities to include in the lesson plan. Rob Moon formatted the document for the website. SGA Board Member Sammy Smith posted the lesson plan on the Society's website at <http://www.thesga.org>.

Contributors for the 2011 Georgia Archaeology Month poster included Daniel T. Elliott of the LAMAR Institute, Christopher T. Espenshade of New South Associates, Tammy F. Herron of the SRARP, and Garrett Silliman of Edwards-Pitman Environmental. Tammy designed the poster and compiled the information printed on the poster's reverse, with graphic assistance from Rob Moon. Two thousand copies of the poster were printed and distributed primarily to 8th-grade Georgia History teachers throughout the public school system via the Regional Educational Service Areas (RESA), as well as to 8th-grade Georgia History teachers in private schools. Posters were also mailed to each of the local chapters of the SGA throughout the state, archaeology month co-sponsors, archaeology month event sponsors, and the 2011 archaeology award winners from the Georgia Social Studies Fair. Tammy prepared a flier to include with the posters advertising the link to the 2011 lesson plan posted on the web. A digital version of the poster is also available online at <http://www.thesga.org>. SGA Secretary and Georgia Archaeology Month Event Coordinator Pam Baughman created an e-brochure announcing archaeology-related events planned in celebration of Georgia Archaeology Month across the state. Pam is a former staff member of the SRARP.

The SGA is a non-profit organization whose vision is that all Georgians understand the significance of their archaeological sites so that they will support archaeological preservation, education, and research. These educational resources were developed in support of the Society's mission to unite all persons interested in the archaeology of Georgia and to work actively to preserve, study, and interpret Georgia's historic and prehistoric remains.

REFERENCES CITED

Arboleda, G.

2006 What is Vernacular Architecture? In *EthnoArchitecture: Indigenous and Vernacular Building*. Electronic document, www.vernaculararchitecture.com, accessed October 1, 2011.

Baldwin, C. K.

1993 *Great & Noble Jar: Traditional Stoneware of South Carolina*. University of Georgia Press, Athens.

Brooks, R. D., and T. R. Forehand

2002 Current State of the USDOE Savannah River Archaeological Curation Facility in Relation to 36 CFR Part 79. *Technical Report Series Number 25*. Savannah River Archaeological Research Program, South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Brooks, M. J., and B. E. Taylor

2003 Long-Term Geoarchaeological and Paleoenvironmental Research at Flamingo Bay. In *Annual Review of Cultural Resource Investigations by the Savannah River Archaeological Research Program: Fiscal Year 2003*, pp. 56-57. Savannah River Archaeological Research Program, South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Brown, J. A.

1976a The Southern Cult Reconsidered. *Midwestern Journal of Archaeology* 1:11-135.

1976b *Spiro Studies, Volume 4: The Artifacts*. University of Oklahoma Research Institute, Norman.

2006 On the Identity of the Birdman within Mississippian Period Art and Iconography. In *Ancient Objects and Sacred Realms: Interpretations of Mississippian Iconography*, edited by F. K. Reilly and J. Garber, pp. 56-106. University of Texas Press, Austin.

Cabak, M. A., and M. M. Inkrot

1997 Old Farm, New Farm: An Archaeology of Rural Modernization in the Aiken Plateau, 1875-1950. *Savannah River Archaeological Research Papers* 9. Savannah River Archaeological Research Program, South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Cabak, M. A., K. E. Sassaman, and J. C. Gillam

1996 Distributional Archaeology in the Aiken Plateau: Intensive Survey of E Area, Savannah River Site, Aiken County, South Carolina. *Savannah River Archaeological Research Papers* 8. Savannah River Archaeological Research Program, South

- Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.
- Diaz-Granados, C., and J. R. Duncan
2000 *The Petroglyphs and Pictographs of Missouri*. University of Alabama Press, Tuscaloosa.
- DOE (Department of Energy)
1994 Savannah River Archaeological Research Program Appraisal. Report Number 94-E&LPD-EPB-001.
- Hall, R. L.
1997 *An Archaeology of the Soul: North American Indian Belief and Ritual*. University of Illinois Press, Urbana.
- Hudson, C.
1976 *The Southeastern Indians*. University of Tennessee Press, Knoxville.
- Jones, S.
2009 *Gastroliths: The Neglected Artifact*. Manuscript on file at the University of Georgia Archaeology Lab, Athens, Georgia.
- King, A.
2005 Deciphering Etowah's Mound C: The Construction History and Mortuary Record of a Mississippian Burial Mound. *Southeastern Archaeology* 23:153-165.
- Lankford, G. E.
2006 The Great Serpent in Eastern North American. In *Ancient Objects and Sacred Realms: Interpretations of Mississippian Iconography*, edited by F. K. Reilly and J. Garber, pp. 107-135. University of Texas Press, Austin.
- Marquette, J.
ca. 1895 Jacques Marquette's Journal of 1673. In *The Jesuit Relations*, Volume 59. The Burrows Brothers Co., Cleveland.
- McAlester, V. and L.
1984 *A Field Guide to American Houses*. Alfred A. Knoph, New York.
- Mooney, J.
1900 Myths of the Cherokee. *Nineteenth Annual Report of the Bureau of American Ethnology* 1897-98, Part I. Smithsonian Institute, Washington, DC.
- Moore, C. R.
2009 *Late Quaternary Geoarchaeology and Geochronology of Stratified Aeolian Deposits, Tar River, North Carolina*. Unpublished Ph.D. dissertation, Coastal Resources Management Ph.D. Program, East Carolina University.

Moore, C. R., M. J. Brooks, A. H. Ivester, and T. A. Ferguson

2010 Geoarchaeological and Paleoenvironmental Research. In *Annual Review of Cultural Resource Investigations by the Savannah River Archaeological Research Program: Fiscal Year 2010*, pp. 57-85. Savannah River Archaeological Research Program, South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Nystrom, P. G., Jr., R. H. Willoughby, and L. K. Price

1991 Cretaceous and Tertiary Stratigraphy of the Upper Coastal Plain, South Carolina. In *The Geology of the Carolinas*, edited by J. W. Horton and V. A. Zullo, pp. 221-240. University of Tennessee Press, Knoxville.

Steponaitis, V. P., J. D. Irwin, T. E. McReynolds, and C. R. Moore

2006 *Stone Quarries and Sourcing in the Carolina Slate Belt*. Research Report No. 25, University of North Carolina, Chapel Hill.

SRARP (Savannah River Archaeological Research Program)

1989 *Archaeological Resource Management Plan of the Savannah River Archaeological Research Program*. Submitted to the Savannah River Operations Office, US Department of Energy. Savannah River Archaeological Research Program, South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

1990 *Annual Review of Cultural Resource Investigations by the Savannah River Archaeological Research Program: Fiscal Year 1990*. Submitted to the Savannah River Operations Office, US Department of Energy. Savannah River Archaeological Research Program, South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

2000 *Annual Review of Cultural Resource Investigations by the Savannah River Archaeological Research Program: Fiscal Year 2000*. Submitted to the Savannah River Operations Office, US Department of Energy. Savannah River Archaeological Research Program, South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

2008 *Annual Review of Cultural Resource Investigations by the Savannah River Archaeological Research Program: Fiscal Year 2008*. Submitted to the Savannah River Operations Office, US Department of Energy. Savannah River Archaeological Research Program, South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

2009 *Annual Review of Cultural Resource Investigations by the Savannah River Archaeological Research Program: Fiscal Year 2009*. Submitted to the Savannah River Operations Office, US Department of Energy. Savannah River Archaeological

Research Program, South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

2010 *Annual Review of Cultural Resource Investigations by the Savannah River Archaeological Research Program: Fiscal Year 2010*. Submitted to the Savannah River Operations Office, US Department of Energy. Savannah River Archaeological Research Program, South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Swanton, J. R.

2000 *Creek Religion and Medicine*. University of Nebraska Press, Lincoln.

Thomas, C.

1894 Report on the Mound Explorations of the Bureau of Ethnology. Accompanying paper in *Twelfth Annual Report of the Bureau of Ethnology to the Secretary of the Smithsonian Institution 1890-'91*. Government Printing Office, Washington. Electronic document, <http://www.archive.org/details/annualreportofbu1218901891smit>, accessed September 1, 2011.

APPENDIX. PUBLICATIONS AND PROFESSIONAL ACTIVITIES

PUBLISHED PAPERS

- Anderson, David G., Stephen J. Yerka, and J. Christopher Gillam
2010 Employing High-Resolution Bathymetric Data to Infer Possible Migration Routes of Pleistocene Populations. *Current Research in the Pleistocene* 27:55-59.
- Bigman, Daniel P., Adam King, and Chester P. Walker
2011 Recent Geophysical Investigations and New Interpretations of Etowah's Palisade. *Southeastern Archaeology* 30:38-50.
- Daniel, I. Randolph, Jr., and Christopher R. Moore
2011 Current Research into the Paleoindian and Archaic Periods in the North Carolina Coastal Plain. In *Current Research in the North Carolina Coastal Plain*. North Carolina Archaeological Council Publication (in press).
- Gillam, J. Christopher, Oki Nakamura, and Tomohiko Matsumori
2010 Hunter-Fisher-Gatherer Settlement Dynamics in Toyama Prefecture, Honshu, Japan. *Current Research in the Pleistocene* 27:35-38.
- Herron, Tammy F., with contributions by Mark J. Brooks, Melanie A. Cabak, Albert C. Goodyear, Christopher R. Moore, Robert Moon, J. Christopher Gillam, Kenneth E. Sassaman, Keith Stephenson, and George Wingard
2010 In Memorium: Remembering the Contributions of Kevin H. Eberhard to the Field of Archaeology. *South Carolina Antiquities* 42:58-63.
- Ito, Shinji, Shinji Seguchi, and J. Christopher Gillam
2010 Shell Rings at Fig Island, South Carolina, United States of America. *Quarterly of Archaeological Studies (Kokogaku Kenkyu)* 56(4):105-108.
- King, Adam
2011 Iconography of the Hightower Region of Eastern Tennessee and Northern Georgia. In *Regional Expressions of Mississippian Iconography*, edited by G. E. Lankford and F. K. Reilly, III. University of Texas Press, Austin.
- King, Adam, and F. Kent Reilly
2011 Raptor Imagery at Etowah: The Raptor is the Path to Power. In *Regional Expressions of Mississippian Iconography*, edited by G. E. Lankford and F. K. Reilly, III. University of Texas Press, Austin.
- King, Adam, Chester P. Walker, Robert V. Sharp, F. Kent Reilly, and Duncan P. McKinnon
2011 Remote Sensing Data from Etowah's Mound A: Architecture and the Re-Creation of Mississippian Tradition. *American Antiquity* 76:355-371.

Moore, Christopher R., and I. Randolph Daniel, Jr.

2011 Geoarchaeological Investigations of Stratified Sand Ridges along the Tar River, North Carolina. In *Current Research in the North Carolina Coastal Plain*. North Carolina Archaeological Council Publication.

Taylor, Barbara E., Fredrick J. Rich, Mark J. Brooks, Andrew H. Ivester, and Christopher O. Clement

2011 Late Pleistocene and Holocene Vegetation Changes in the Sandhills, Ft. Jackson, South Carolina. *Southeastern Geology* 48(3):147-163.

TECHNICAL REPORTS

Ivester, Andrew H., Mark J. Brooks, and Christopher R. Moore

2011 *Geomorphological Investigations: Archaeological Sites 38RD841/842/844, Fort Jackson, South Carolina*. Report submitted to Audrey R. Dawson, Applied Research Division, South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

PROFESSIONAL PAPERS AND POSTERS

Gillam, J. Christopher

2011 *Devastated Landscapes of the 2011 Great East Japan Earthquake and Tsunami: A Perspective from the 1989 Hurricane Hugo Landscape Impacts in South Carolina, USA*. Presented at the NEOMAP 2nd Landscape Workshop, Research Institute for Humanity and Nature, Kyoto, Japan.

2011 *The Futurability of Environment, Humanity, and Ideology: Lessons on Design Science from the Archaeosphere*. NEOMAP 2 Project Concept Meeting, Research Institute for Humanity and Nature, Kyoto, Japan.

Gougeon, Ramie A., Adam King, and Maureen Meyers

2010 Archaeologist, Mentor, Friend: David J. Hally, An Introduction to the Symposium. Introduction presented at the 67th Annual Meeting of the Southeastern Archaeological Conference, Lexington, KY.

King, Adam

2010 Cultural Syncretism at Etowah as seen through Form, Theme, and Style. Paper presented at the 67th Annual Meeting of the Southeastern Archaeological Conference, Lexington, KY.

King, Adam, and Kent Reilly

2011 Ancient Deities and Sacred Symbols: The Imagery of Sects and Ritual in Mississippian Art. Paper presented at the Society for Historic Archaeology 2011 Conference on Historical and Underwater Archaeology, Austin, TX.

King, Adam, and Keith Stephenson

2011 Archival Research of the Hollywood Mound Site Collection. Paper presented at the Spring Meeting of the Society for Georgia Archaeology, McDonough, GA, and the Annual SOGART Coastal Plain Conference, Douglas, GA.

Moore, Christopher R., and Mark J. Brooks

2010 Geoarchaeological Investigations of Carolina Bays in South Carolina. Contribution to the 2010 South Carolina Archaeology Month Poster on Technology in Archaeology, edited by Christopher R. Moore and Jonathan Leader.

Moore, Christopher R., and Mark J. Brooks

2011 Evidence for Widespread Eolian Activity in the Coastal Plain Uplands of North and South Carolina Revealed by High-Resolution LiDAR Data. Poster presented at the 60th Annual Meeting of the Southeastern Section, Geological Society of America, Wilmington, NC.

Moore, Christopher R., and Jeffrey D. Irwin

2011 Pine Barrens and Possum's Rations: Early Archaic Settlement in the North Carolina Sandhills. Paper presented at the symposium "Across the Border—An Archaeological and Environmental Discussion of the Sandhills Physiographic Province: A View from North and South Carolina," Pinehurst, NC.

Smith, Karen Y., and Keith Stephenson

2010 Costly Signaling in Ritual Context: Weeden Island Mortuary Practices. Paper presented at the 67th Annual Meeting of the Southeastern Archaeological Conference, Lexington, KY.

Stephenson, Keith, and Adam King

2011 Coastal Plain Chiefdoms of the Middle Savannah River Valley: Labor, History, and Hierarchy. Paper presented at the 76th Annual Meeting of the Society for American Archaeology, Sacramento, CA.

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

2011 Changes in Holocene Vegetation of the Sandhills: Influenced by Climate, Driven by Fire? Paper presented at the symposium "Across the Border—An Archaeological and Environmental Discussion of the Sandhills Physiographic Province: A View from North and South Carolina," Pinehurst, NC.

Christopher Thornock

2010 The Built Environment at Etowah: Organizing Space for the Maintenance of Power. Paper presented at the 67th Annual Meeting of the Southeastern Archaeological Conference in Lexington, KY.

CONTRIBUTIONS TO CURRENT RESEARCH

Gillam, J. Christopher

2011 Preserving Cultural Landscapes and NEOMAP Project Update for 2011. *Legacy* 15(1):22-23.

Moore, Christopher R., and Mark J. Brooks

2010 Carolina Bay Volunteer-Based Research Program and the Piedmont Quarry and Lithic Raw Material Study. Archaeological Society of South Carolina, *Features and Profiles*, July-September, p.2.

REVIEWS OF ARTICLES, MANUSCRIPTS, AND PROPOSALS

Gillam, J. Christopher

Article review for *Journal of World Prehistory*.

Article review for *Early Georgia*.

Article review for *Current Research in the Pleistocene*.

King, Adam

Article review for *American Antiquity*.

Moore, Christopher R.

Proposal review for National Science Foundation.

Stephenson, Keith

Article review for *Southeastern Archaeology*.

Article review for *The Florida Anthropologist*.

OFFICES AND APPOINTMENTS HELD

Brooks, Mark J.

Director, SRARP.

Division Head, SCIAA.

Member, Senior Advisory Council, SCIAA.

Member, Ethics Committee, SCIAA.

Member, Grants and Contracts Committee, SCIAA.

Member, SRS Senior Environmental Managers Council.

Gillam, J. Christopher

Research Member of the joint-international Mongolia Archaeological Project (MAP) on Paleolithic archaeology along the Tolbor River of northern Mongolia, with Biambaa Gunchinsuren, Mongolia Academy of Sciences/Institute of Archaeology, Ulaanbaatar; Sergei Gladyshev and Andrei Tabarev, Russian Academy of Sciences/Institute of Archaeology and Ethnography, Novosibirsk; and Nicolas Zwyns and Tamara Dogandzic, Max Planck Institute for Evolutionary Anthropology, Leipzig, Germany.

Research Member of the international research project, Neolithisation and Modernisation (NEOMAP) of the East Asian Inland Seas, with Junzo Uchiyama, NEOMAP Director, and others at the Research Institute for Humanity and Nature (RIHN), Kyoto, Japan.

Co-Principle Investigator for research on the sacred landscapes and funerary rites of ancestral southern Gê of the Southern Brazilian Highlands with José Iriarte, Primary Investigator, University of Exeter, United Kingdom, and Silvia Moehlecke Copé, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brasil.

Co-Principle Investigator for research on the socio-political and environmental context of Taquara/Itarare Culture in Misiones Province, Argentina, with José Iriarte, Primary Investigator, University of Exeter, United Kingdom, and Oscar Marozzi, SAR, Servicios Arqueológicos, Montevideo, Uruguay.

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

GIS and SC Paleo-Point Database Manager for the Southeastern Paleoamerican Survey, with Albert C. Goodyear, Director, and others at SCIAA, USC.

Archivist, Council of South Carolina Professional Archaeologists.

Research Associate of the Walker Institute of International and Area Studies, USC.

Research Affiliate of the Center for Asian Studies, USC.

Research Affiliate of the Latin American Studies Program, USC.

Research Affiliate of the Russian and Eurasian Studies Program, USC.

Voting Member, E&GIS Data Trustee Committee, SRS, Aiken, SC.

Chair, DIC, SRARP.

Herron, Tammy F.

Board Member and Secretary, Beech Island Historical Society.

Chairman, Exhibits Committee, Beech Island Agricultural Museum owned by the Beech Island Historical Society, Beech Island, SC.

Member, Beech Island Heritage Corridor Committee.

Vice President, The Society for Georgia Archaeology.

Chairman, Georgia Archaeology Month Committee, The Society for Georgia Archaeology.

Chairman, Chapters – Support and Relations, The Society for Georgia Archaeology.

King, Adam

President, Council of South Carolina Professional Archaeologists.

Editorial Board for the SCIAA *Legacy*.

Moore, Christopher R.

Co-Principle Investigator for the Tar River Geoarchaeological Survey, Coastal Plain portion of the Tar River in eastern North Carolina, with I. Randolph Daniel, Jr., Principle Investigator, Department of Anthropology, East Carolina University, Greenville, NC.

Stephenson, Keith

Treasurer, Council of South Carolina Professional Archaeologists.

PROFESSIONAL ORGANIZATION SERVICE

Herron, Tammy F.

Submitted the Georgia Archaeology Month 2010 poster for judging in the Archaeology Week/Month Poster Competition sponsored by the Society for American Archaeology.

Designed the poster for Georgia Archaeology Month 2011 sponsored by The Society for Georgia Archaeology (SGA) with graphic assistance from Rob Moon and compiled the text for the reverse of the poster. "Gone But Not Forgotten: Rediscovering the Civil War in Georgia" was the theme for Georgia Archaeology Month 2011.

Created the lesson plan for Georgia Archaeology Month 2011 sponsored by The SGA with contributions from Dan Elliott and graphic assistance from Rob Moon. The plan is titled *Learning Through Archaeology: Rediscovering the Civil War in Georgia* and is Number 14 in The SGA's Lesson Plan Series.

CONSULTING

Brooks, Mark J., and Christopher R. Moore

Geoarchaeological consultants to Carl Steen (Diachronic Research Foundation), Christopher Judge (USC-Lancaster), and Sean Taylor (SCDNR-Heritage Trust) for ongoing work at the Kolb site (38DA75) on the SCDNR's Great PeeDee Heritage Preserve near Mechanicsville, SC.

Geoarchaeological consultants to Audrey R. Dawson (SCIAA) and Andrew H. Ivester (Profile Sciences, LLC) for ongoing work at archaeological site 38RD841/842/844, a predominantly Middle Archaic, Sandhills site on Ft. Jackson, SC.

Gillam, J. Christopher

Numerous consultations during the fiscal year on prehistoric archaeology, GIS, GPS, and computer-related equipment and software for the Divisions of SCIAA.

Moore, Christopher R.

Geoarchaeological consultant to Al Goodyear (SCIAA and the Southeastern Paleoamerican Survey). Assisted in the collection of a suite of optically stimulated luminescence (OSL) samples for single-grain OSL dating from the Topper Site, Allendale County, SC.

Herron, Tammy F.

Archaeological Consultant, Aiken County Historical Museum, Aiken, SC. Rob Moon, Chris Thornock, and I met with Elliott Levy, Director of the Aiken County Historical Museum, and local historian Owen Clary regarding the archaeological research potential of an outbuilding (presently identified as a buttery) that once belonged to William Gregg in Aiken, SC. Upon securing ownership of the structure and the necessary funding, the Aiken County Historical Museum plans to disassemble the structure and have it reconstructed on property owned by the museum.

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

Archaeological Consultant, Beech Island Historical Society, Beech Island, SC. Compiling text and photographs for exhibits in the Beech Island Agricultural Museum that will be operated by the Beech Island Historical Society.

Archaeological Consultant, Oakley Park Museum, Edgefield, SC.

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

Wingard, George L.

Consultant to Mark Albertin of Scrapbook Productions on two video productions about history/archaeology on the SRS. One focuses on the archaeology of Carolina bays, and the other will focus on the archaeological recovery of a "Dave pot"—an alkaline-glazed stoneware vessel attributed to the enslaved potter Dave Drake from Edgefield, SC.

GRANT PROPOSALS SUBMITTED

King, Adam

Exploring Mississippian Period Community Development and the Built Environment at the Etowah Site. Submitted to the National Science Foundation.

Exploring the Mississippian Emergence at Macon Plateau and Mound Bottom. Submitted to the National Endowment for the Humanities.

CONTRACTS AND GRANTS

Brooks, Mark J.

FY11 Cultural Resource Management on the US DOE's SRS, Aiken and Barnwell counties, SC. US DOE-SR Operations Office.

Moore, Christopher R.

ART grant for *AMS Radiocarbon Dating of Archaeological Occupations at Flamingo Bay (38AK469)*. (\$4,760).

ACADEMICS

Brooks, Mark J.

Ph.D. dissertation committee: Audrey R. Dawson, Department of Anthropology, University of South Carolina, Columbia, SC.

Gillam, J. Christopher

Archaeology Fieldschool at Palachacolas Town, Hampton County, SC, Maymester 2011, University of South Carolina, Columbia, with Charles Cobb (SCIAA-USC), Chester DePratter (SCIAA-USC), and Christopher Judge (USC-Lancaster).

King, Adam

Ph.D. dissertation committee chair: Christopher Thornock, Department of Anthropology, University of South Carolina, Columbia, SC.

Ph.D. dissertation committee chair: Johann Sawyer, Department of Anthropology, University of South Carolina, Columbia, SC.

M.A. thesis committee chair: Dwight Jones, Department of Anthropology, University of South Carolina, Columbia, SC.

M.A. thesis committee member: Jeremy Vanier, Department of Anthropology, University of South Carolina, Columbia, SC.

M.A. thesis committee member: Kimberly Wescott, Department of Anthropology, Texas State University at San Marcos, TX.

Fall Semester 2010 – Instructor, Department of Anthropology, University of South Carolina, ANTH 101 (Primates, People, and Prehistory) and ANTH 333 (North American Prehistory).

Fall Semester 2011 – Instructor, Department of Anthropology, University of South Carolina, ANTH 101 (Primates, People, and Prehistory) and ANTH 317 (North American Indian Cultures).

Moore, Christopher R.

M.A. thesis committee: Brian Choate, Department of Anthropology, East Carolina University, Greenville, NC.

Co-director with I. Randolph Daniel, Jr. of the 2011 East Carolina University Archaeological Field School.

PUBLIC SERVICE ACTIVITIES

August 2010

Herron, Tammy F.

Attended the news conference detailing the discovery of the exact location of Camp Lawton and staffed the archaeological exhibit during an open house for the public following the announcement, Magnolia Springs State Park, Millen, GA. The event was jointly organized by the Georgia Department of Natural Resources, the U.S. Fish and Wildlife Service, and Georgia Southern University.

Lecture entitled "Daughters of the Cause: Women in the Civil War" for Ogeechee Rifles Camp #941, Sons of Confederate Veterans, Statesboro, GA.

Moore, Christopher R.

Visited and documented the artifact collection of Mr. Gene Porter, Williston, SC.

September 2010

Moore, Christopher R.

"You Be the Archaeologist" program for students at the Silver Bluff Audubon Center and Sanctuary, Jackson, SC.

October 2010

Herron, Tammy F.

Staffed an archaeological exhibit displayed at CoastFest, an event sponsored by the Georgia Department of Natural Resources Coastal Resources Division, Brunswick, GA.

Staffed an archaeological exhibit displayed at the Georgia National Fair, an event sponsored by the state of Georgia to promote the state's heritage, people, and agriculture, Perry, GA.

Moore, Christopher R.

"You Be the Archaeologist" program for students at the Silver Bluff Audubon Center and Sanctuary, Jackson, SC.

Archaeological display at the Science Education and Enrichment Day at USC-Aiken, SC.

Wingard, George L.

Tour of Pleasant Hill Cemetery for the Kassing family.

November 2010

Herron, Tammy F.

Lecture entitled "Daughters of the Cause: Women in the Civil War" for the National Active and Retired Federal Employees Association, Chapter #1528, Statesboro, GA.

Lecture entitled "Daughters of the Cause: Women in the Civil War" for Buckhead - Fort Lawton Brigade Camp #2102, Sons of Confederate Veterans, Millen, GA.

Moore, Christopher R.

"You Be the Archaeologist" program for students at the Silver Bluff Audubon Center and Sanctuary, Jackson, SC.

Archaeological display at the South Carolina Archaeological Society Fall Field Day, Charleston, SC.

Wingard, George L.

Presentation on the SRARP's "Dave Vessel" to patrons of the Georgia Morris Museum of Art in Augusta who were visiting Edgefield, SC.

January 2011

Moore, Christopher R.

Led fieldtrip to examine and sample stone outcrops and quarry sites in Asheboro, NC as part of ongoing research on stone quarries and lithic sourcing.

Lecture titled "Geoarchaeological Investigations of Carolina Bays in South Carolina" presented to members of the Sertoma Club, Columbia, SC.

Wingard, George L.

Tour of Ellenton for the Savannah River Site College Hire Advisory Council.

February 2011

Herron, Tammy F.

Lecture regarding archaeological work at Camp Lawton presented to the Augusta-Richmond County Historical Society, Church of the Good Shepherd, Augusta, GA.

King, Adam

Lecture titled "The Meaning of Mississippian Imagery at Etowah" presented to patrons of the SCIAA ART Board at their 2nd Annual Gala, Palmetto Club, Columbia, SC.

Wingard, George L., and Keith Stephenson

Presentation on the SRARP's "Dave Vessel" to patrons of the SCIAA ART Board at their 2nd Annual Gala, Palmetto Club, Columbia, SC.

March 2011

Moore, Christopher R.

"You Be the Archaeologist" program for students at the Silver Bluff Audubon Center and Sanctuary, Jackson, SC.

Visited and documented the artifact collection of Mr. George Keys, Aiken County, SC.

Wingard, George L.

Represented the SRARP at a showing of the movie *Displaced: The Unexpected Fallout from the Cold War* at Foreman Baptist Church in New Ellenton, SC.

April 2011

Herron, Tammy F.

Organized and staffed an archaeological exhibit at Georgia On My Mind Day, an event sponsored by the Georgia Department of Transportation, Georgia Visitor Information Center, Sylvania, GA.

Designed and installed an exhibit titled "Commemorating Confederate History and Heritage Month" for the Screven County Library, Sylvania, GA as a precursor to Georgia Archaeology Month.

May 2011

Herron, Tammy F.

Designed and installed an exhibit titled "Gone But Not Forgotten: Rediscovering the Civil War Through Archaeology" for the Screven County Library, Sylvania, GA in conjunction with Georgia Archaeology Month.

Organized and staffed an exhibit at Artifact Identification Day, an event co-sponsored by the Augusta Archaeological Society and the Augusta Museum of History, Ezekial Harris House, Augusta, GA.

Co-organized The Society for Georgia Archaeology's eighteenth annual Georgia archaeology awareness promotion for Archaeology Month 2011 themed "Gone But Not Forgotten: Rediscovering the Civil War Through Archaeology," Henry County Chamber of Commerce, McDonough, GA.

Moore, Christopher R.

"You Be the Archaeologist" program for students at the Silver Bluff Audubon Center and Sanctuary, Jackson, SC.

Volunteer excavations at Flamingo Bay (38AK469), SRS.

Wingard, George L.

Represented the SRARP at the annual reunion of the former residents of Dunbarton at Barnwell State Park, SC.

Tour of Williams Cemetery for members of the Greene family.

Tour of Dunbarton, Grubbs Cemetery, and the Grubbs former homeplace for members of the Cook family.

June 2011

King, Adam

Lecture titled "The Meaning of Mississippian Imagery at Etowah" presented at the Discover Etowah Day 2011, Etowah Indian Mounds State Historic Site, Cartersville, GA.

Moore, Christopher R.

Archaeological excavations for the East Carolina University Summer Ventures Program in Science and Mathematics (State program for gifted high school students).

Lecture titled "Archaeological and Geoarchaeological Research by the Savannah River Archaeological Research Program" presented to the volunteers at the Topper Site, Allendale County, SC.

Display for Take Your Child to Work Day, SRS.

Wingard, George and Keith Stephenson

Represented the SRARP at the annual reunion of the former residents of Ellenton at the historic Jackson Elementary School now the Town Hall of Jackson, SC.

July 2011

Moore, Christopher R.

"You Be the Archaeologist" program for students at the Silver Bluff Audubon Center and Sanctuary, Jackson, SC.

North Carolina Summer Ventures Program in Science and Mathematics, East Carolina University, Greenville, NC.

Wingard, George L.

Tour of the Ford and Williams cemeteries and the former town of Ellenton for members of the Scott family.

