

AN ARCHAEOLOGICAL SURVEY OF THE PHASE 1 SPRING ISLAND DEVELOPMENT, BEAUFORT COUNTY, SOUTH CAROLINA



AN ARCHAEOLOGICAL SURVEY OF THE PHASE 1 SPRING ISLAND DEVELOPMENT
BEAUFORT COUNTY, SOUTH CAROLINA

RESEARCH SERIES 18

Michael Trinkley

Chicora Foundation, Inc.
P.O. Box 8664
Columbia, South Carolina 29202

December 1989

ISSN 0882-2042

Library of Congress Cataloging-in-Publication Data

Trinkley, Michael.

An archaeological survey of the Phase 1 Spring Island Development,
Beaufort County, South Carolina / Michael Trinkley.

p. cm. -- (Research series, ISSN 0882-2042 ; 18)

Includes bibliographical references.

\$10.00

1. Spring Island (S.C.)--Antiquities. 2. Indians of North
America--South Carolina--Spring Island--Antiquities. 3. Excavations
(Archaeology)--South Carolina--Spring Island. I. Title.

II. Series: Research series (Chicora Foundation) ; 18.

F277.B3T753 1989

975.7'99--dc20

89-71170

CIP

The paper used in this publication meets the
minimum requirements of American National
Standard for Information Sciences - Permanence
of Paper for Printed Library Materials, ANSI
Z39.48-1984.

Whether large or small, these islands of all sizes and shapes make up a coherent human environment in so far as similar pressures are exerted upon them, making them both far ahead and far behind the general history ...; pressures that may divide them, often brutally, between the two opposite poles of archaism and innovation.

--Fernand Braudel

ABSTRACT

This study represents a preliminary historical and intensive archaeological survey of the 200 acres Phase 1 portion of the Spring Island development, situated in Beaufort County, South Carolina. The primary purpose of this investigation was to identify and assess the archaeological remains present in the proposed development, although secondary goals were to examine the relationship between aboriginal settlement patterns and soil types, to offer some preliminary reconstruction of the aboriginal settlement pattern on the island and to briefly trace the development of the island through the historic period.

As a result of this work, 14 archaeological sites were defined. Eleven of these sites had been identified by a previous investigator, although this current study resulted in major revisions of site boundaries and reassessments of site integrity and significance. A total of six sites are recommended as eligible for inclusion on the National Register of Historic Places. These six sites include 38BU747 (a Middle Woodland shell midden), 38BU763 (a series of Early through Middle Woodland shell middens), 38BU793 (a multicomponent site consisting of a Middle Woodland shell midden and a standing example early twentieth century vernacular architecture), 38BU1210 (a large series of Middle Woodland shell middens), 38BU1211 (a small probable Middle Woodland shell midden isolated to the shore area), and 38BU1214 (a large series of Middle Woodland shell middens).

The preferred alternative in all cases is avoidance of the archaeological remains through green spacing and use of protective covenants. In some cases, however, this approach is unfeasible and data recovery may be the only alternative. At site 38BU793 complete architectural rendering of the standing structure are essential given the condition of the structure.

TABLE OF CONTENTS

List of Figures v
Acknowledgements.vi
Introduction. 1
 Background
 Goals
 Curation
Natural Setting 7
 Climate
 Geology and Soils
 Florestics
Prehistoric and Historic Overview12
 Prehistoric Archaeology
 Historical Synopsis
Research Strategy and Methods35
 Introduction
 Archival Research
 Field Survey
 Laboratory Methods and Analysis
Identified Sites and Recommendations.41
 38BU747
 38BU748
 38BU759
 38BU760
 38BU762
 38BU763
 38BU764
 38BU793
 38BU1207
 38BU1208
 38BU1209
 38BU1210
 38BU1211
 38BU1214
Conclusions52
 Aboriginal Sites
 Historic Sites
 Green Spacing Sprcifications
Sources Cited59

LIST OF FIGURES

Figure

1. Spring Island vicinity	2
2. Chronology of the Woodland and Protohistoric14
3. 1782 plan showing Spring Island.27
4. 1812 plan of Spring Island29
5. Spring Island in 1872.32
6. Spring Island in 1943.34
7. Topographic map of Phase 139

ACKNOWLEDGEMENTS

This work was funded by the Callawassie Development Corporation of Ridgeland, South Carolina in the amount of \$15,852.00. While the work was conducted under the requirements of the South Carolina Coastal Council and the South Carolina Department of Archives and History, I wish to thank Mr. Glen McCaskey, Project Coordinator, for his support and genuine interest in the heritage of Spring Island.

A number of additional people involved with Spring Island have worked to assist us in this project, including Jim and Betsy Chafin, who are principals in the development; Mr. Gordon Mobley, the caretaker of the island for many years; Mr. Dick Williams, the project engineer with Callawassie Island; Mr. Vince Graham, also associated with Callawassie Island; and a number of individuals from Edward Pinckney Associates and Davis & Floyd Engineers.

Dr. Patricia Cridlebaugh, Staff Archaeologist with the State Historic Preservation Office, reviewed the original research plan and provided considerable assistance during the field work and review phases of this project. Mr. Michael Taylor, Director of The Environmental and Historical Museum of Hilton Head Island, arranged for curation of the materials from this project at that institution. Mr. Keith Derting, South Carolina Institute of Archaeology and Anthropology, assisted in search that institution's site files, correcting some minor problems with previous site numbering, and ensured that all of the sites recorded by this project were properly integrated into the state-wide system.

The staffs of the Thomas Cooper Map Repository, the South Carolina Historical Society, the Beaufort and Charleston Registers of Mesne Conveyance, and the Search Room at the South Carolina Department of Archives and History were particularly helpful in providing copies of documents on very short notice. Without their assistance the preliminary historical research would have been much less detailed.

I also wish to acknowledge the skill and dedication of the field crew on this project, Ms. Mona Grunden and Ms. Liz Pinckney, as well as the laboratory supervisor, Ms. Debi Hacker. Obviously, much of this work should be credited to these individuals. In addition, Mr. Colin Brooker, contributed both time and background materials to the success of this project. As always, these individuals made the project a pleasure, rather than simply work.

I gratefully acknowledge the review comments provided by Ms. Debi Hacker, and Dr. Patricia Cridlebaugh.

INTRODUCTION

Background

In accordance with the Coastal Zone Management Act of 1977, the South Carolina Coastal Council, in consultation with the South Carolina State Historic Preservation Officer, stipulated in its permitting process that an archaeological survey of the Spring Island development should be conducted by the Callawassie Island Development Corporation. The purpose of the survey was to identify Geographic Areas of Particular Concern (GAPC) listed on, eligible for, or potentially eligible for listing on the National Register of Historic Places.

The investigation was conducted by Dr. Michael Trinkley of Chicora Foundation, Inc. for Callawassie Development Corporation (Mr. Glen McCaskey, Project Coordinator), developer of the 3500 acre Spring Island tract. This property is situated about 13 miles southwest of Beaufort and 5 miles northwest of Hilton Head Island. Spring Island is bordered to the north by the Chechessee River and the Chechessee Creek, to the east by the Chechessee and Colleton rivers, to the south by the Colleton River, and to the west by the Callawassie and Chechessee creeks. The island is separated from neighboring Callawassie Island by Callawassie Creek, which runs north-south, and a broad expanse of marsh. The Broad River lies to the east of Spring Island (Figure 1).

The proposed development plan for the island involves a number of amenities, such as natural habitat areas and a golf course, interspersed with relatively large (5 acre) lots. This preliminary plan, of course, will involve the clearing, grubbing, filling, and paving of the road network; the construction of the golf course and associated support structures; the construction of below ground utilities; as well as the development of individual lots. This development activity will result in considerable land alteration and potential damage to archaeological and historical resources which may exist in the project area.

Within the development boundaries there is a 200 acre tract slated for immediate development. This Phase 1 development is situated on the western shore of the island and will involve a series of 36 lots, each a minimum of 5 acres in size. The initial phase of development will incorporate approximately 8400 linear feet along the marsh and an additional 7200 linear feet along major interior drainages. Also included in this tract will be a series of access roads and associated utilities, although information on these were not provided to Chicora until the completion of the field survey. The road network will include approximately 4.2 miles

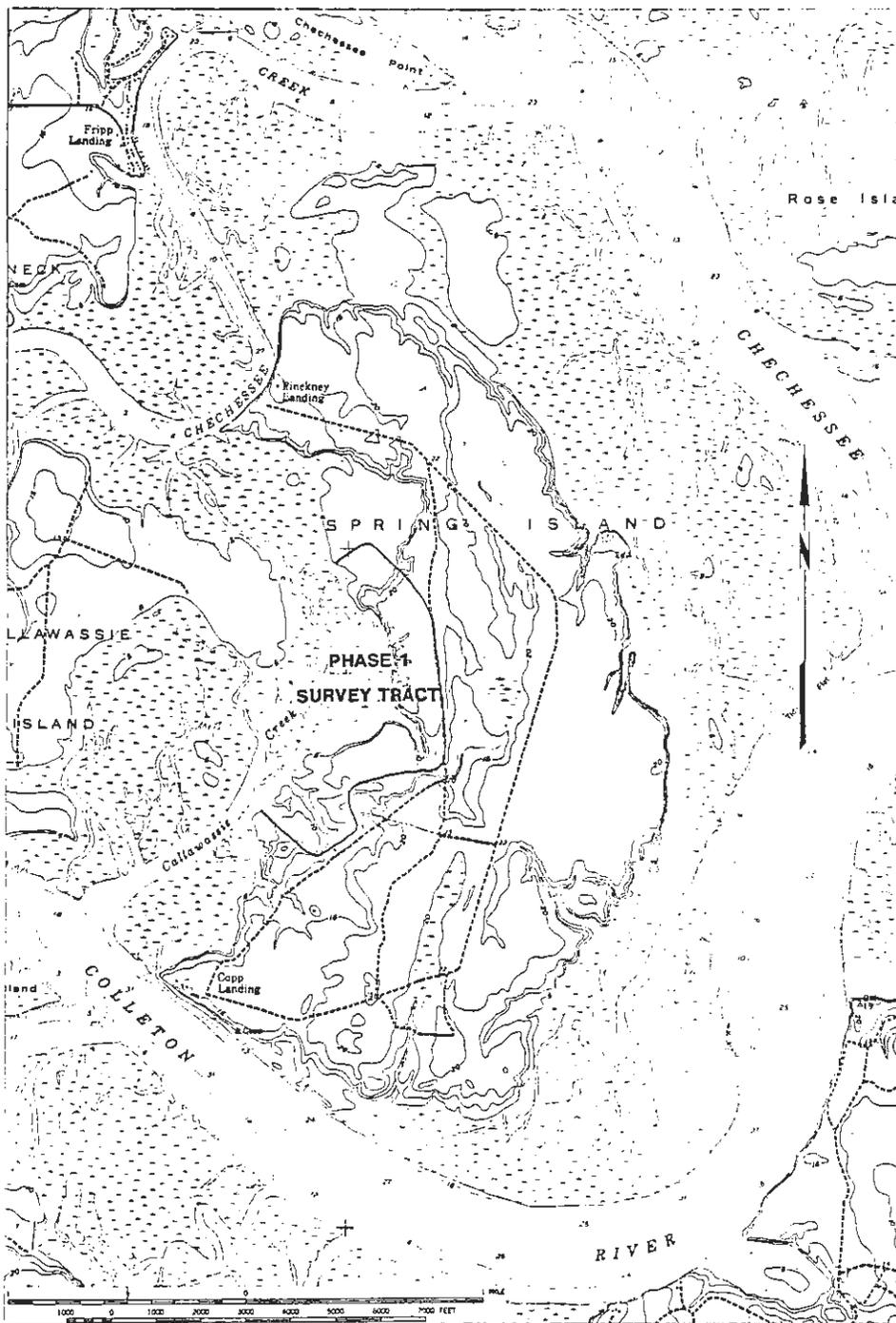


Figure 1. A portion of the Spring Island USGS map showing the project location.

of roadway with an average right-of-way of 100 feet. This initial development, anticipated to begin early in 1990, will involve about 5.7% of the island's total high ground acreage.

This current study involves historical and archaeological investigations only of this initial Phase 1 tract, and not the entire Spring Island development. The decision to examine only the first phase was based on an immediate need to proceed with development activities and was approved by the South Carolina Coastal Council and the State Historic Preservation Office.

The background and archival research for this project was conducted on October 16, 17, and 31, with additional work conducted intermittently in early November. The field work was conducted on October 19 through November 3, and the report preparation (including the necessary laboratory studies) was conducted on November 4 through 6, 1989. A management summary was provided on November 6. A total of 48 person hours were devoted to the preliminary historic research, while 256 person hours were devoted to the field survey. Conservation of the archaeological specimens is currently in process at the Chicora Foundation laboratory in Columbia.

The archaeological survey and evaluation of the Spring Island tract was begun in 1985 by Dr. Larry Lepionka. At that time four weeks were spent on the island and a total of 84 sites were identified at a reconnaissance stage of investigations. A manuscript report was prepared in 1986 by Lepionka. This report, however, has not been accepted by the South Carolina State Historic Preservation Office to satisfy the compliance requirements of the development (letter from Dr. Charles Lee, State Historic Preservation Officer to Mr. R.L. Powell, Davis and Floyd Engineers, dated June 25, 1986). As a result, the Project Coordinator, Mr. Glen McCaskey, requested that Chicora Foundation prepare a proposal to conduct a level of survey of the Phase 1 development tract which would be acceptable to the State Historic Preservation Office. A proposal dated August 28, 1989 was submitted to Mr. McCaskey and the State Historic Preservation Office and was approved. An agreement between Chicora and Callawassie Development Corporation was signed on October 6, 1989.

Chicora Foundation initially requested on August 28, 1989 and again on October 6, 1989 through the Project Coordinator, Mr. Glen McCaskey, that Dr. Lepionka release the artifacts and field notes from the portion of the 1985 reconnaissance survey which corresponds to our Phase 1 tract. Our intention was to review this documentation, integrate it into the current research, and insure its professional curation. This request was repeated prior to our field work, and several times during the field work. Dr. Lepionka provided Callawassie Development Corporation with a copy of the manuscript site descriptions on October 30, indicating that there were no field notes from the survey. A partial collection of the

artifacts from Dr. Lepionka's survey were released to Callawassie Development Corporation on November 4 and were transferred to Chicora Foundation on November 7, 1989. The remaining artifacts, at the time of this report production, have not been released by Dr. Lepionka.

Goals

The primary goals of this study were, first, to identify the archaeological resources of the Phase 1 development tract and, second, to assess the ability of these sites to contribute significant archaeological, historical, or anthropological data. The second aspect essentially involves the site's eligibility for inclusion on the National Register of Historic Places, although Chicora Foundation only provides an opinion of National Register eligibility and the final determination is made by the State Historic Preservation Officer at the South Carolina Department of Archives and History.

Secondary goals were, first, to examine the relationship between site location, soil types, and topography, expanding the previous work by Brooks and Scurry (1978) and Scurry and Brooks (1980) in the Charleston area, and Trinkley (1987, 1989) on Hilton Head and Daufuskie islands in Beaufort County; and second, to explore aboriginal site settlement options and systems on Spring Island, based on the limited data available from the Phase 1 tract. Review of the previous reconnaissance study results (Lepionka 1986) suggested that few, if any, colonial or antebellum sites would be identified in the Phase 1 tract. Hence, investigation of the island's plantation economy was not anticipated to be a major thrust of this initial phase.

To identify sites within the development tract, a strategy of intensive, systematic shovel testing was undertaken throughout the 200 acres, including both the marsh edge and the interior of the island. This approach, which was the most feasible because of the ground cover and dense vegetation, is further discussed in the Research Strategy and Methods section of this study. Combined with the field survey was a preliminary examination of archival and secondary records pertaining to the tract. This archival study confirmed Lepionka's earlier assessment that there would be few historic sites in the Phase 1 tract. Also combined with the field investigations was an intensive effort to re-locate sites previously identified by Lepionka (1986) and establish clear boundaries.

Once identified, all sites were evaluated for their potential eligibility for inclusion on the National Register of Historic Places. It is generally accepted that "the significance of an archaeological site is based on the potential of the site to contribute to the scientific or humanistic understanding of the past" (Bense et al. 1986:60). Site significance in this study was

evaluated on the basis of five archaeological properties: site integrity (which received the heaviest weighting); site clarity; artifactual variety; artifactual quantity (which received the lowest weighting); and site environmental context (Glassow 1977). These qualities stress properties of the archaeological record, rather than a site's ability or potential to assist in providing data to a limited, and possibly transient, research design.

Site integrity is given the greatest importance since without it, interpretation of the archaeological remains will be tenuous. Artifact quantity is considered the least significant of the properties since the quantity of remains will be entirely dependent on the site type. Sites which were occupied for longer periods, or which reflect a higher status occupation, or which are domestic, will naturally produce artifacts in greater numbers than sites of brief occupation, or sites of a low status, or sites which reflect industrial or specialized activities. All of these sites, however, comprise the totality of the human record and must be examined if a synthesis of past lifeways is to be achieved. The remaining characteristics of artifactual variety, site clarity, and environmental context, are of intermediate value.

Such an approach is particularly reasonable for evaluating a number of sites from a limited geographic area at one time. Clearly, the larger the geographic area the greater the more complete one's interpretative framework. Consequently, the conclusions on aboriginal settlement offered in this report should be reassessed once all of Spring Island has been intensively examined. Likewise, while the questions regarding soil-site correlations were addressed during the Phase 1 Spring Island survey, as additional portions of the development are included in the cultural resource study, the information generated will become more reliable.

The investigations which have begun on Spring Island are of considerable significance in our understanding of both prehistoric and historic settlement systems. The limited geographic area of sea islands makes them a useful microcosm for the examination of settlement alternatives. As Braudel (1976:I:148-158) argues for the islands of the Mediterranean during the age of Phillip II, the South Carolina sea islands also appear to be isolated worlds. Yet, both prehistorically and historically, these islands were frequently closely tied to major economic changes. The sea islands, such as Spring, are paradoxes, being at the same time both isolated, restricted enclaves and also major participants in historical change.

Curation

Archaeological site forms have been filed with the South Carolina Institute of Archaeology and Anthropology and the South Carolina State Historic Preservation Office. In addition, archival

copies of the site forms have been provided to The Environmental and Historical Museum of Hilton Head Island.

The field notes, photographic materials, and artifacts resulting from Chicora Foundation's investigations have been curated at The Environmental and Historical Museum of Hilton Head Island as Accession Number 1989.6. The artifacts have been cataloged as ARCH 1474 through ARCH 1547 (using a lot provenience system). The artifacts have been cleaned and/or conserved as necessary or are in the process of conservation. Further information on conservation practices may be found in the Research Strategy and Methods section of this report. All original records and duplicate copies were provided to the curatorial facility on pH neutral, alkaline buffered paper and the photographic materials were processed to archival permanence.

As previously discussed, Chicora Foundation has been informed through the Project Coordinator, Mr. Glen McCaskey, that there are no extant field notes from Dr. Lepionka's 1985 reconnaissance survey of Spring Island. The manuscript site descriptions is on file at the South Carolina State Historic Preservation Office and has not been curated by Chicora at The Environmental and Historical Museum of Hilton Head Island. The partial collection of artifacts released by Dr. Lepionka to Callawassie Development Corporation has been cataloged by Chicora as Accession Number 1989.6, ARCH 1548 through ARCH 1551. At the present time we have no information on the status of the remaining materials from Dr. Lepionka's sites within the Phase 1 tract.

NATURAL SETTING

Beaufort County is located in the lower Atlantic Coastal Plain of South Carolina and is bounded to the south and southeast by the Atlantic Ocean, to the east by St. Helena Sound, to the north and northeast by the Combahee River, to the west by Jasper and Colleton counties and portions of the New and Broad Rivers. The mainland primarily consists of nearly level lowlands and low ridges. Elevations range from about sea level to slightly over 100 feet above mean sea level (MSL) (Mathews et al. 1980:134-135). Spring Island is a sea island bounded by the Chechessee River and the Chechessee Creek to the north, the Chechessee and Colleton rivers to the east, the Colleton River to the south, and the Callawassie and Chechessee creeks to the west. The island measures about 4 miles north-south by 1.2 miles east-west. Elevations range up to about 25 feet MSL.

The Phase 1 tract is situated on the west edge of Spring Island and is dominated by the Callawassie Creek to the west and several large impounded drainages. These drainages represent remnant spring fed sloughs and one freshwater pond is still found at the southern edge of the Phase 1 tract. Previously artesian wells were common on Spring Island. Topography on the tract tends to level to slightly rolling in the vicinity of the drainages, with the western edge characterized by gradual to steep slopes to the saltwater marshes of Callawassie Creek. The northern edge of the tract tends to have lower elevations.

Climate

In the early nineteenth century the Beaufort climate was described as "one of the healthiest" (Mills 1826:377), although Thomas Chaplin's antebellum journal describing life at nearby Tombee Plantation on St. Helena Island presents an entirely different picture (Rosengarten 1987). In 1864 Charlotte Forten wrote that "yellow fever prevailed to an alarming extent, and that, indeed the manufacture of coffins was the only business that was at all flourishing" (Forten 1864:588). By 1880, however, Henry Hammond wrote that "the sea islands enjoy in a high degree the equable climate peculiar to the islands generally" and that the seasonal variation in temperature "destroys the germs of disease, as of yellow fever and of numerous skin diseases that flourish in similar regions elsewhere" (Hammond 1884:472).

The major climatic controls of the area are the latitude, elevation, distance from the ocean, and location with respect to the average tracks of migratory cyclones. Spring Island's latitude of about 32°20'N places it on the edge of the balmy subtropical

climate typical of Florida. As a result, there are relatively short, mild winters and long, warm, humid summers. The large amount of nearby warm ocean water surface produces a marine climate, which tends to moderate both the cold and hot weather. The Appalachian Mountains, about 220 miles to the northwest, block shallow cold air masses from the northwest, moderating them before they reach the sea islands (Landers 1970:2-3; Mathews et al. 1980:46).

Maximum daily temperatures in the summer tend to be near or above 90°F and the minimum daily temperatures tend to be about 68°F. The summer water temperatures average 83°F. The abundant supply of warm, moist and relatively unstable air produces frequent scattered showers and thunderstorms in the summer. Winter has average daily maximum and minimum temperatures of 63°F and 38°F respectively. Precipitation is in the forms of rain associated with fronts and cyclones; snow is uncommon (Janiskee and Bell 1980:1-2).

The average yearly precipitation is 49.4 inches, with 34 inches occurring from April through October, the growing season for most seaisland crops. Nearby Hilton Head Island has approximately 285 frost free days annually (Janiskee and Bell 1980:1; Landers 1970).

Along the Sea Islands severe weather usually means tropical storms and hurricanes; tornados are infrequent and waterspouts tend to remain over the ocean. The tropical storm season is in late summer and early fall, although storms may occur as early as May or as late as October. The coastal area is a moderately high risk zone for tropical storms, with 169 hurricanes being documented from 1686 to 1972 (0.59 per year) (Mathews et al.1980:56). The last Category 5 hurricane which hit this area was the August 27, 1893 storm which had winds of 120 miles and hour and a storm tide of 17 to 19.5 feet. Over 1000 people in South Carolina were reported killed by this storm (Mathews et al. 1980:55).

Geology and Soils

The Sea Island coastal region is covered with sands and clays originally derived from the Appalachian Mountains and which are organized into coastal, fluvial, and aeolian deposits. These deposits were transported to the coast during the Quaternary period and were deposited on bedrock of the Mesozoic Era and Tertiary period. These sedimentary bedrock formations are only occasionally exposed on the coast, although they frequently outcrop along the fall line (Mathews et al. 1980:2). The bedrock in the Beaufort area is below a level of at least 1640 feet (Smith 1933:21).

The Pleistocene sediments are organized into topographically distinct, but lithologically similar terraces parallel to the coast. The terraces have elevations ranging from 215 feet down to sea level. These terraces, representing previous sea floors, were apparently formed at high stands of the fluctuating, although

falling, Atlantic Ocean and consist chiefly of sand and clay (Cooke 1936; Smith 1933:29). More recently, research by Colquhoun (1969) has refined the theory of formation processes, suggesting a more complex origin involving both erosional and depositional processes operating during marine transgressions and regression.

Cooke (1936) reports that virtually all of Spring Island is part of the Pamlico terrace and formation, with a sea level about 25 feet above the present sea level. Colquhoun (1969), however, suggests that Spring Island is more complex, representing both the Silver Bluff Pleistocene terrace with corresponding sea levels of from 8 to 3 feet above the present level and the Talbot Pleistocene terrace with a sea level about 40 feet above the present level.

Another aspect of Sea Island geology to be considered in these discussions is the fluctuation of sea level during the late Pleistocene and Holocene epochs. Prior to 15,000 B.C. there is evidence that a warming trend resulted in the gradual increase in Pleistocene sea levels (DePratter and Howard 1980). Recent work by Colquhoun et al. (1980) clearly indicates that there were a number of fluctuations during the Holocene. Their data suggest that as the first Stallings phase sites along the South Carolina coast were occupied about 2100 B.C. the sea level was about 3.9 feet lower than present. However, by 1600 B.C., when a number of Thom's Creek shell rings were occupied, the sea level had fallen to a level of about 7.2 feet lower than present levels. By the end of the Thom's Creek phase, about 900 B.C., the sea level had risen to a level 2.6 feet lower than present, but over 4.5 feet higher than when the shell rings were first occupied. Quitmyer (1985b) does not believe that the lower sea levels at 2100 B.C. would have greatly altered the estuarine environment, although drops of 10 feet would have reduced available tidal resources.

Data from the nineteenth and twentieth centuries suggest that the level is continuing to rise. Kurtz and Wagner (1957:8) report a 0.8 foot rise in Charleston, South Carolina sea levels from 1833 to 1903. Between 1940 and 1950 a sea level rise of 0.34 feet was again recorded at Charleston. These data, however, do not distinguish between sea level rise and land surface submergence.

Within the Sea Islands section of South Carolina the soils are Holocene and Pleistocene in age and were formed from materials that were deposited during the various stages of coastal submergence. The formation of soils in the study area is affected by this parent material (primarily sands and clays), the temperate climate (to be discussed later), the various soil organisms, topography, and time.

The mainland soils are Pleistocene in age and tend to have more distinct horizon development and diversity than the younger soils of the Sea Islands. Sandy to loamy soils predominate in the level to gently sloping mainland areas. The island soils are less diverse and less well developed, frequently lacking a well-defined

B horizon. Organic matter is low and the soils tend to be acidic. The Holocene deposits typical of barrier islands and found as a fringe on some sea islands, consist almost entirely of quartz sand which exhibits little organic matter. Tidal marsh soils are Holocene in age and consist of fine sands, clay, and organic matter deposited over older Pleistocene sands. The soils are frequently covered by up to 2 feet of salt water during high tide. These organic soils usually have two distinct layers. The top few inches are subject to aeration as well as leaching and therefore are a dark brown color. The lower levels, however, consist of reduced compounds resulting from decomposition of organic compounds and are black. The pH of these marsh soils is neutral to slightly alkaline (Mathews et al. 1980:39-44).

In the project area on Spring Island the eight dominant soil series include Argent, Coosaw, Eddings, Eulonia, Murad, Seabrook, Wando, and Yonges (Stuck 1980:Map 75). Of these, only the Eddings, Eulonia, Seabrook, and Wando soils are classified as moderately well drained to well drained; the remainder are all somewhat poorly drained to poorly drained. The well drained soils account for 76.1% of the total acreage, with the Eddings soils representing 37.8% of the total acreage, the Eulonia 15.3%, the Seabrook 15.8% and the Wando 7.2%. Only four soil series are found immediately adjacent to the marsh shoreline: Eddings, which accounts for 55.5% of the shoreline; Murad, which accounts for 33.3%; Eulonia, which comprises 5.6%; and Coosaw, which includes the remaining 5.6% of the shoreline.

Florestics

Spring Island today exhibits three major ecosystems: the maritime ecosystem which consists of the upland forest area of the island, the estuarine ecosystem of deep water tidal habitats, and the palustrine ecosystem which consists of essentially fresh water, non-tidal wetlands (Sandifer et al. 1980:7-9).

Mathews et al. (1980) suggest that the most significant ecosystem on Spring Island is the maritime forest community. This maritime ecosystem is defined most simply as all upland areas located on barrier islands, limited on the ocean side by tidal marshes. On sea islands the distinction between the maritime forest community and an upland ecosystem (essentially found on the mainland) becomes blurred. Sandifer et al. (1980:108-109) define four subsystems, including the sand spits and bars, dunes, transition shrub, and maritime forest. Of these, only the maritime forest subsystem is likely to have been significant to either the prehistoric or historic occupants and only it will be further discussed. While this subsystem is frequently characterized by the dominance of live oak and the presence of salt spray, these are less noticeable on the sea islands than they are on the narrower barrier islands (Sandifer et al. 1980:120).

The barrier islands may contain communities of oak-pine, oak-palmetto-pine, oak-magnolia, palmetto, or low oak woods. The sea islands, being more mesic or xeric, tend to evidence old field communities, pine-mixed hardwoods communities, pine forest communities, or mixed hardwood communities (Sandifer et al. 1980:120-121, 437).

Robert Mills, discussing Beaufort District in the early nineteenth century, states,

[b]esides a fine growth of pine, we have the cypress, red cedar, and live oak . . . white oak, red oak, and several other oaks, hickory, plum, palmetto, magnolia, poplar, beech, birch, ash, dogwood, black mulberry, etc. Of fruit trees we have the orange, sweet and sour, peach, nectarine, fig, cherry (Mills 1826:377).

He also cautions, however, that "[s]ome parts of the district are beginning already to experience a want of timber, even for common purposes" (Mills 1826:383) and suggests that at least 25% of a plantation's acreage should be reserved for woods.

The estuarine ecosystem in the Spring Island vicinity includes those areas of deep-water tidal habitats and adjacent tidal wetlands. Salinity may range from 0.5 ppt at the head of an estuary to 30 ppt where it comes in contact with the ocean. Estuarine systems are influenced by ocean tides, precipitation, fresh water runoff from the upland areas, evaporation, and wind. The mean tidal range for Spring Island is 7.5 feet, indicative of an area swept by moderately strong tidal currents. The system may be subdivided into two major components: subtidal and intertidal (Sandifer et al. 1980:158-159). These estuarine systems are extremely important to our understanding of both prehistoric and historic occupation because they naturally contain such high biomass (Thompson 1972:9). The estuarine area contributes vascular flora used for basket making, as well as mammals, birds, fish (over 107 species), and shellfish.

The last environment to be briefly discussed is the freshwater palustrine ecosystem, which includes all wetland systems, such as swamps, bays, savannas, pocosins and creeks, where the salinities measure less than 0.5 ppt. The palustrine ecosystem is diverse, although not well studied (Sandifer et al. 1980:295). A number of forest types are found in the palustrine areas which attract a variety of terrestrial mammals. On Spring Island the typical vegetation consists of red maple, swamp tupelo, sweet gum, red bay, cypress, and various hollies. Also found are wading birds and reptiles.

PREHISTORIC AND HISTORIC OVERVIEW

Prehistoric Archaeology

There is sufficient coastal research to develop a sequence of occupation and at least some information on how the prehistoric occupants in the Spring Island area lived. This section is intended to provide only a brief review of the temporal periods. Several previously published archaeological studies are available for the Beaufort area that provide additional background, including Brooks et al. (1982), DePratter (1979), and Trinkley (1981, 1986). A considerable amount of archaeology has been conducted in the Beaufort area and these works should be consulted for broad overviews.

The Paleo-Indian period, lasting from 12,000 to 8,000 B.C., is evidenced by basally thinned, side-notched projectile points; fluted, lanceolate projectile points; side scrapers; end scrapers; and drills (Coe 1964; Michie 1977; Williams 1968). The Paleo-Indian occupation, while widespread, does not appear to have been intensive. Artifacts are most frequently found along major river drainages, which Michie interprets to support the concept of an economy "oriented towards the exploitation of now extinct mega-fauna" (Michie 1977:124).

Waring (1961) reported the discovery of three Paleo-Indian points in the vicinity of Bluffton in 1961 and Michie (1977:105) reports that two additional points have been found on Daws Island, also in Beaufort County. It is possible that early Paleo-Indian remains may be found on the Pleistocene portions of the island. Sea level during much of this period is expected to have been as much as 65 feet (20 meters) lower than present, so many sites may be inundated (Flint 1971).

Unfortunately, little is known about Paleo-Indian subsistence strategies, settlement systems, or social organization. Generally, archaeologists agree that the Paleo-Indian groups were at a band level of society (see Service 1966), were nomadic, and were both hunters and foragers. While population density, based on the isolated finds, is thought to have been low, Walthall suggests that toward the end of the period, "there was an increase in population density and in territoriality and that a number of new resource areas were beginning to be exploited" (Walthall 1980:30).

The Archaic period, which dates from 8000 to 2000 B.C., does not form a sharp break with the Paleo-Indian period, but is a slow transition characterized by a modern climate and an increase in the diversity of material culture. The chronology established by Coe

(1964) for the North Carolina Piedmont may be applied with little modification to the South Carolina coast. Archaic period assemblages, characterized by corner-notched and broad stemmed projectile points, seem rare in the Sea Island region, although the sea level is anticipated to have been within 13 feet of its present stand by the beginning of the succeeding Woodland period (Lepionka et al. 1983:10). Brooks and Scurry note that,

Archaic period sites, when contrasted with the subsequent Woodland period, are typically small, relatively few in number and contain low densities of archaeological material. This data may indicate that the inter-riverine zone was utilized by Archaic populations characterized by small group size, high mobility, and wide ranging exploitative patterns (Brooks and Scurry 1978:44).

Alternatively, the general sparsity of Archaic sites in the coastal zone may be the result of a more attractive environment inland adjacent to the floodplain swamps and major drainages. Of course, this is not necessarily an alternative explanation since coastal Archaic sites may represent only a small segment in the total settlement system.

The Woodland period begins, by definition, with the introduction of fired clay pottery about 2000 B.C. along the South Carolina coast (the introduction of pottery, and hence the beginning of the Woodland period, occurs much later in the Piedmont of South Carolina). It should be noted that many researchers call the period from about 2500 to 1000 B.C. the Late Archaic because of a perceived continuation of the Archaic lifestyle in spite of the manufacture of pottery. Regardless of terminology, the period from 2500 to 1000 B.C. is well documented on the South Carolina coast and is characterized by Stallings (fiber-tempered) and Thom's Creek series pottery (see Figure 2 for a synopsis of Woodland phases and pottery designations).

The subsistence economy during this early period was based primarily on deer hunting and fishing, with supplemental inclusions of small mammals, birds, reptiles, and shellfish. Various calculations of the probable yield of deer, fish, and other food sources identified from shell ring sites indicate that sedentary life was not only possible, but probable. Recent work at sites characterized by fiber-tempered pottery on the southern Georgia coast has led Quitmyer to note that there was,

a specialized economy heavily dependent on marine resources. Marine invertebrates, primarily oyster, were the most significant of the zoological resources. Marine vertebrates, primarily drum, accounted for other important aspects of the diet. To a lesser extent sea catfishes (Ariidae) and mullet were part of the diet. Terrestrial animals, like deer, represented only an

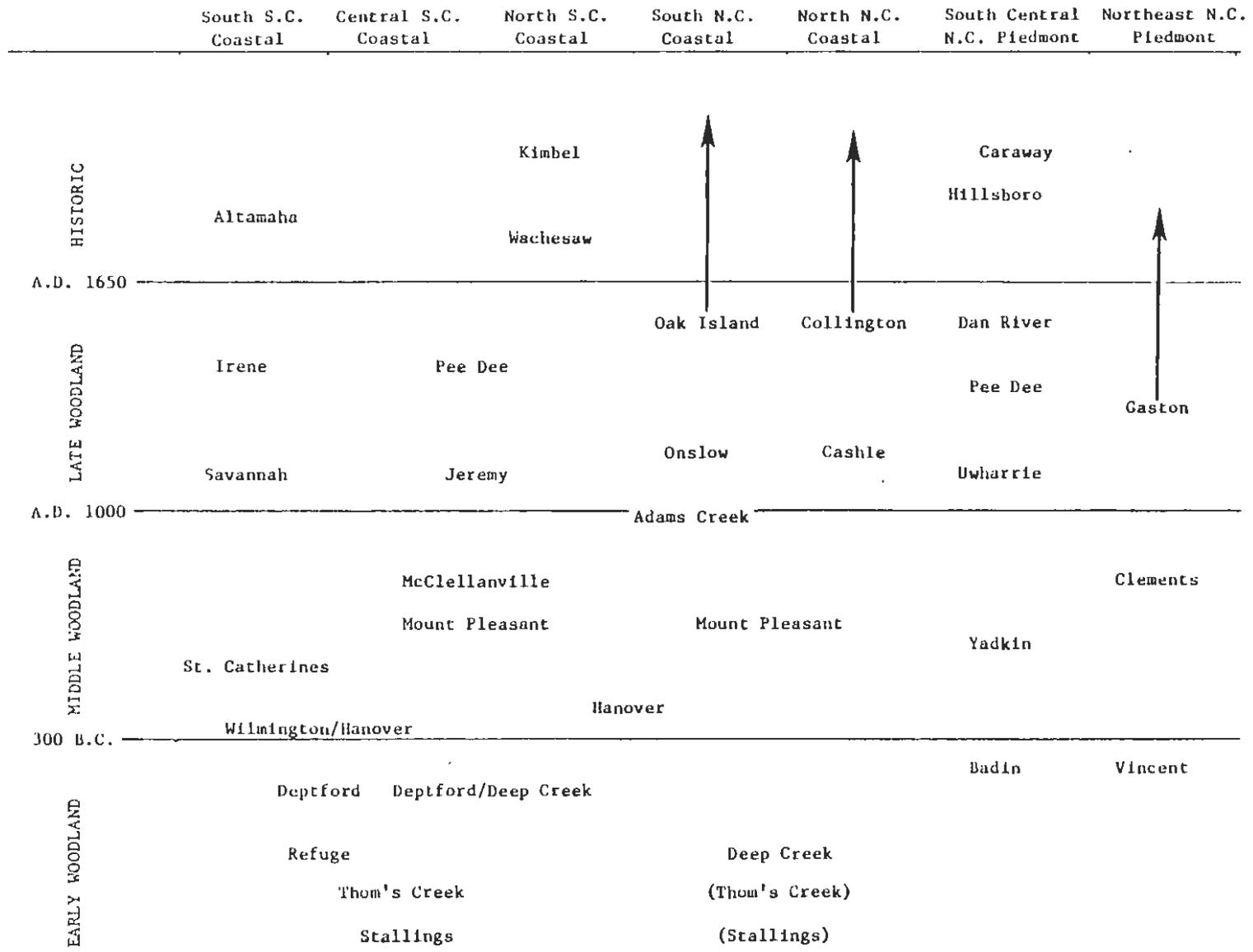


Figure 2. Chronology of the Woodland and Protohistoric periods in the Carolinas.

occasional resource (Quitmyer 1985a:90).

Toward the end of the Thom's Creek phase there is evidence of sea level change and a number of small, non-shell midden sites are found. Apparently the rising sea level drowned the tidal marshes (and sites) on which the Thom's Creek people relied.

The succeeding Refuge phase, which dates from about 1100 to 500 B.C., suggests fragmentation caused by the environmental changes (Lepionka et al. 1983; Williams 1968). Sites are generally small and some coastal sites evidence no shellfish collection at all (Trinkley 1982). Peterson (1971:153) characterizes Refuge as a degeneration of the preceding Thom's Creek series and a bridge to the succeeding Deptford culture.

The Deptford phase, which dates from 1100 B.C. to A.D. 600, is best characterized by fine to coarse sandy paste pottery with a check stamped surface treatment. The Deptford settlement pattern involves both coastal and inland sites. The coastal sites, which always appear to be situated adjacent to tidal creeks, evidence a diffuse subsistence system and are frequently small, lack shell, and are situated on the edge of swamp terraces. This "dual distribution" has suggested to Milanich (1971:194) a transhumant subsistence pattern. While such may be the case, it has yet to be documented on the coast. The Pinckney Island midden, north of Hilton Head Island, evidences a reliance on shellfish and was occupied in the late winter (Trinkley 1981). The Minim Island midden, on the coast of Georgetown County, indicates a greater reliance on fish, but was also apparently occupied in the fall or winter (Drucker and Jackson 1984).

The Middle Woodland period (ca. 300 B.C. to A.D. 1000) is characterized by the use of sand burial mounds and ossuaries along the Georgia, South Carolina, and North Carolina coasts (Brooks et al. 1982; Thomas and Larsen 1979; Wilson 1982). Middle Woodland coastal plain sites continue the Early Woodland Deptford pattern of mobility. While sites are found all along the coast and inland to the fall line, sites are characterized by sparse shell and few artifacts. Gone are the abundant shell tools, worked bone items, and clay balls. In many respects the South Carolina Late Woodland period (ca. A.D. 1000 to 1650 in some areas of the coast) may be characterized as a continuation of the previous Middle Woodland cultural assemblages. While outside the Carolinas there were major cultural changes, such as the continued development and elaboration of agriculture, the Carolina groups settled into a lifeway not appreciably different from that observed for the previous 500 to 700 years. This situation would remain unchanged until the development of the South Appalachian Mississippian complex.

The Middle and Late Woodland occupations in South Carolina are characterized by a pattern of settlement mobility and short-term occupation. On the southern coast they are associated with the

Wilmington and St. Catherines phases, which date from about A.D. 500 to at least A.D. 1150, although there is evidence that the St. Catherines pottery continued to be produced much later in time (Trinkley 1981). The tenacity of this simple lifestyle suggests that the Guale intrusion was relatively minor in many areas, or at least co-existed with the native inhabitants whose lifestyles were generally unchanged (Trinkley 1981). In addition, there are small quantities of pottery which resemble the more northern Middle Woodland Mount Pleasant series (Phelps 1984:41-44; Trinkley 1983) which were classified as "Untyped" by Trinkley (1981) at the Pinckney Island midden.

The South Appalachian Mississippian period (ca. A.D. 1100 to 1640) is the most elaborate level of culture attained by the native inhabitants and is followed by cultural disintegration brought about largely by European disease. The period is characterized by complicated stamped pottery, complex social organization, agriculture, and the construction of temple mounds and ceremonial centers. The earliest coastal phases are named the Savannah and Irene (A.D. 1200 to 1550). Sometime after the arrival of Europeans on the Georgia coast in A.D. 1519, the Irene phase is replaced by the Altamaha phase. The ceramics associated with this period were made,

at least through the end of the Spanish Mission period in the 1680s, when the various Guale groups were either relocated to the St. Augustine vicinity or dispersed by the English (DePratter and Howard 1980:31).

The history of the numerous small coastal Indian tribes after contact is poorly known. As Mooney noted, the coastal tribes,

were of but small importance politically; no sustained mission work was ever attempted among them, and there were but few literary men to take an interest in them. War, pestilence, whiskey and systematic slave hunts had nearly exterminated the aboriginal occupants of the Carolinas before anybody had thought them of sufficient importance to ask who they were, how they lived, or what were their beliefs and opinions (Mooney 1894:6).

Considerable ethnohistoric data has been collected on the Muskogean Georgia Guale Indians by Jones (1978, 1981). This group extended from the Salilla River in southern Georgia northward to the North Edisto River in South Carolina (Jones 1981:215). Jones suggests that the Guale may have been divided into chiefdoms, with two, the Orista and the Escaumacu-Ahoya, being found in South Carolina (Jones 1978:203). During the period from 1526 to 1586, Jones places the Escaumacu-Ahoya in the vicinity of the Broad River in Beaufort County, while the Orista are placed on the Beaufort River, north of Parris Island. By the late seventeenth century the principal town of the Orista appears to have been moved to Edisto

Island, about 30 miles to the north (Jones 1978:203).

Waddell considers Orista a variant of Edisto (Waddell 1980:126-168) and places them on Edisto Island by 1666. Prior to that time they were situated in the Port Royal/Santa Elena area. The Escamacu are noted to also have lived in the Port Royal area, between the Broad and Savannah rivers (Waddell 1980:3, 168-198). Nearby were the Yoya, Touppa, Mayon, Stalame, and Kussah (Waddell 1980:3). Many of these tribes (such as the Kussah and Edisto) shifted northward as a result of the Escamacu War (1576-1579) when the Spanish sent out major expeditions. Waddell believes that the Escamacu War "probably left the area between the Broad and the Savannah rivers deserted" (Waddell 1980:3). He notes that in 1684,

the Proprietors decided to clear their title to the coast between the Savannah and the Stono rivers . . . , so they had eight separate cessions and one general cession made to give them a paper claim to all of this territory. The Witcheaught (previously unknown), St. Helena (Escamacu), Wimbee, Combahee, Kussah, Ashepoo, Edisto, and Stono surrendered all their claims (Waddell 1980:4).

Historic Synopsis

The Spanish Period

The first Spanish explorations in the Carolina low country were conducted in the 1520s under the direction of Lucas Vasquez de Ayllon and Francisco Gordillo. One of the few areas explored by Gordillo which can be identified with any certainty is Santa Elena (St. Helena). Apparently Port Royal Sound was entered and land fall made at Santa Elena on Santa Elena's Day, August 18, 1520. "Cape Santa Elena," according to Quattlebaum (1956:8) was probably Hilton Head (Hoffman 1984:423).

Gordillo's accounts spurred Ayllon to seek a royal commission both to explore further the land and to establish a settlement in the land called Chicora (Quattlebaum 1956:12-17). In July 1526 Ayllon set sail for Chicora with a fleet of six vessels and has been thought to have established the settlement of San Miguel del Galdape in the vicinity of Winyah Bay (Quattlebaum 1956:23). Hoffman (1984:425) has more recently suggested that the settlement was at the mouth of the Santee River (Ayllon's Jordan River). Ferguson (n.d.:1) has suggested that San Miguel was established at Santa Elena in the Port Royal area. Regardless, the colony was abandoned in the winter of 1526 with the survivors reaching Hispaniola in 1527 (Quattlebaum 1956:27).

The French, in response to increasing Spanish activity in the New World, undertook a settlement in the land of Chicora in 1562. Charlesfort was established in May 1562 under the direction of Jean Ribaut. This settlement fared no better than the earlier Spanish

fort of San Miguel and was abandoned within the year (Quattlebaum 1956:42-56). Ribaut was convinced that his settlement was on the Jordan River in the vicinity of Ayllon's Chicora (Hoffman 1984:432). Recent historical and archaeological studies suggest that Charlesfort may have been situated on Port Royal Island in the vicinity of the Town of Port Royal (South 1982a). The deserted Charlesfort was burned by the Spanish in 1564 (South 1982a:1-2). A year later France's second attempt to establish its claim in the New World was thwarted by the Spanish destruction of the French Fort Caroline on the St. John's River. The massacre at Fort Caroline ended French attempts at colonization on the southeast Atlantic coast.

To protect against any future French intrusion such as Charlesfort, the Spanish proceeded to establish a major outpost in the Beaufort area. The town of Santa Elena was built in 1566, a year after a fort was built in St. Augustine. Three sequential forts were constructed: Fort San Salvador (1566-1570), Fort San Felipe (1570-1576), and Fort San Marcos (1577-1587). In spite of Indian hostilities and periodic burning of the town and forts, the Spanish maintained this settlement until 1587 when it was finally abandoned (South 1979, 1982a, 1982b). Spanish influence, however, continued through a chain of missions spreading up the Atlantic coast from St. Augustine into Georgia. That mission activity, however, declined noticeably during the eighteenth century, primarily because of 1702 and 1704 attacks on St. Augustine and outlying missions by South Carolina Governor James Moore (Deagan 1983:25-26, 40).

The British Proprietary Period

British influence in the New World began in the fifteenth century with the Cabot voyages, but the southern coast did not attract serious attention until King Charles II granted Carolina to the Lords Proprietors in 1663. In August 1663 William Hilton sailed from Barbados to explore the Carolina territory, spending a great deal of time in the Port Royal area (Holmgren 1959). Almost chosen for the first English colony, Hilton Head Island was passed over by Sir John Yeamans in favor of the more protected Charles Town site on the west bank of the Ashley River in 1670 (Clowse 1971:23-24; Holmgren 1959:39).

Like other European powers, the English were lured to the New World for reasons other than the acquisition of land and promotion of agriculture. The Lords Proprietors, who owned the colony until 1719-1720, intended to discover a staple crop whose marketing would provide great wealth through the mercantile system, which was designed to profit the mother country by providing raw materials unavailable in England (Clowse 1971). Charleston was settled by English citizens, including a number from Barbados, and by Huguenot refugees. Black slaves were brought directly from Africa, as well as the Barbados.

The Charleston settlement was moved from the mouth of the Ashley River to the junction of the Ashley and Cooper Rivers in 1680, but the colony was a thorough disappointment to the Proprietors. It failed to grow as expected, did not return the anticipated profit, and failed to evidence workable local government (Ferris 1968:124-125). The early economy was based almost exclusively on Indian trade, naval stores, lumber, and cattle. Rice began emerging as a money crop in the late seventeenth century, but did not markedly improve the economic well-being of the colony until the eighteenth century (Clowse 1971).

Meanwhile, Scottish Covenanters under Lord Cardross established Stuart's Town on Scot's Island (Port Royal) in 1684, where it existed for four years until destroyed by the Spanish. It was not until 1698 that the area was again occupied by the English. Both John Stuart and Major Robert Daniell took possession of lands on St. Helena and Port Royal islands. The town of Beaufort was founded in 1711 although it was not immediately settled. Spring Island was granted to John Cockran in 1706 in two parcels of 500 acres each (S.C. Department of Archives and History, Colonial Grants, volume 2, page 6). One grant mentions that the land is "part of an Island over against Altamaha Town."

Waddell (1980) provides no specific information regarding the three towns on the mainland west of Spring Island, Alatomahau, Chechessie, and Otetty, shown on the 1732 survey of the Governor Robert Johnson Barony of 8000 acres prepared by Hugh Bryan (S.C. Department of Archives and History, Miscellaneous Plats, Map Case 2-3). Swanton, however, suggests that both Callowaggie (Callawassie) and Chechessee are Yemassee words, with the later derived from the Chasee king of the Yemassee (Swanton 1922:97). The Chasee king is mentioned once in the Journals of the Commissioners of the Indian Trade, although with no clear Yemassee association, while the Allatamah Town is mentioned on several occasions (McDowell 1955:37, 46).

While most of the Beaufort Indian groups were persuaded to move to Polawana Island in 1712, the Yemassee, part of the Creek Confederacy, revolted in 1715. By 1718 the Yemassee were defeated and forced southward to Spanish protection. Consequently, the Beaufort area, known as St. Helena Parish, Granville County, was for the first time relatively safe from both the Spanish and the Indians. The Yemassee, however, continued occasional raids into South Carolina, such as the 1728 destruction of the Passage Fort at Bloody Point on Daufuskie Island (Starr 1984:16). In the same year the English raid on St. Augustine succeeded in breaking the Spanish hold and the remnant Indian groups made peace with the English. The results for the Beaufort area, however, were mixed. While there was a semblance of peace, frontier settlements were largely deserted, population growth was slow, and the Indian trade was diverted from Beaufort to Savannah.

The British Colonial Period

Although peace marked the Carolina colony, the Proprietors continued to have disputes with the populace, primarily over the colony's economic stagnation and deterioration. In 1727 the colony's government virtually broke down when the Council and the Commons were unable to agree on legislation to provide more bills of credit (Clowse 1971:238). This, coupled with the disastrous depression of 1728, brought the colony to the brink of mob violence. Clowse notes that the "initial step toward aiding South Carolina came when the proprietors were eliminated" in 1729 (Clowse 1971:241).

While South Carolina's economic woes were far from solved by this transfer, the Crown's Board of Trade began taking steps to remedy many of the problems. A new naval store law was passed in 1729 with possible advantages accruing to South Carolina. In 1730 the Parliament opened Carolina rice trade with markets in Spain and Portugal. The Board of Trade also dealt with the problem of the colony's financial solvency (Clowse 1971:245-247). Clowse notes that these changes, coupled with new land policies, "allowed the colony to go into an era of unprecedented expansion" (Clowse 1971:249). South Carolina's position was buttressed by the settlement of Georgia in 1733.

By 1730 the colony's population had risen to about 30,000 individuals, 20,000 of whom were black slaves (Clowse 1971:Table 1). The majority of these slaves were used in South Carolina's expanding rice industry. In the 1730 harvest year 48,155 barrels of rice were reported, up 15,771 barrels or 68% from the previous year (Clowse 1971:Table 3). Although rice was grown in the Beaufort area, it did not become a major crop until after the Revolutionary War. Rice was never a significant crop on the Beaufort Sea Islands, where ranch farming was favored because of its economic returns and favorable climate (Starr 1984:26-27). Elsewhere, however, rice monoculture shaped the social, political, and economic systems which produced and perpetuated the coastal plantation system prior to the rise of cotton culture.

Although indigo was known in the Carolina colony as early as 1669 and was being planted the following year, it was not until the 1740s that it became a major cash crop (Huneycutt 1949). While indigo was difficult to process, its success was partially due to it being complementary to rice. Huneycutt notes that planters were "able to 'dovetail' the work season of the two crops so that a single gang of slaves could cultivate both staples" (Huneycutt 1949:18). Indigo continued to be the main cash crop of South Carolina until the Revolutionary War fatally disrupted the industry.

During the war the British occupied Charleston for over two and one-half years (1780-1782). A post was established in Beaufort

to coordinate forays into the inland waterways after Prevost's retreat, which passed near Spring Island, from the Battle of Stono Ferry (Federal Writer's Project 1938:7; Rowland 1978:288). British earthworks were established around Port Royal and on Ladys Island (Rowland 1978:290). The removal of the royal bounties on rice, indigo, and naval stores caused considerable economic chaos with the eventual "restructuring of the state's agricultural and commercial base" (Brockington et al. 1985:34).

The Antebellum Period

While freed of Britain and her mercantilism, the new United States found its economy thoroughly disrupted. There was no longer a bounty on indigo, and in fact Britain encouraged competition from the British and French West Indies and India "to embarrass her former colonies" (Huneycutt 1949:44). As a consequence the economy shifted to tidewater rice production and cotton agriculture. Lepionka notes that "long staple cotton of the Sea Islands was of far higher value than the common variety (60 cents a pound compared to 15 cents a pound in the late 1830s) and this became the major cash crop of the coastal islands" (Lepionka et al. 1983:20). It was cotton, in the Beaufort area, that brought a full establishment of the plantation economy. Lepionka concisely states that,

[t]he cities of Charleston and Savannah and numerous smaller towns such as Beaufort and Georgetown were supported in their considerable splendor on this wealth An aristocratic planter class was created, but was based on the essential labor of black slavery without which the plantation economy could not function. Consequently, the demographic pattern of a black majority first established in colonial times was reinforced (Lepionka et al. 1983:21).

Mills, in 1826, provides a thorough commentary on the Beaufort District noting that,

Beaufort is admirably situated for commerce, possessing one of the finest ports and spacious harbors in the world There is no district in the state, either better watered, of more extended navigation, or possessing a larger portion of rich land, than Beaufort: more than one half of the territory is rich swamp land, capable of being improved so as to yield abundantly (Mills 1826:367).

Describing the Beaufort islands, Mills comments that they were "beautiful to the eye, rich in production, and withal salubrious" (Mills 1826:372). Land prices ranged from \$60 an acre for the best, \$30 for "second quality," and as low as 25 cents for the "inferior" lands. Grain and sugarcane were cultivated in small quantities for home use while,

[t]he principal attention of the planter is . . . devoted to the cultivation of cotton and rice, especially the former. The sea islands, or salt water lands, yield cotton of the finest staple, which commands the highest price in market; it has been no uncommon circumstance for such cotton to bring \$1 a pound. In favorable seasons, or particular spots, nearly 300 weight has been raised from an acre, and an active field hand can cultivate upwards of four acres, exclusive of one acre and half of corn and ground provisions (Mills 1826:368).

Reference to the 1860 agricultural census reveals that of the 891,228 acres of farmland, 274,015 (30.7%) were improved. In contrast, only 28% of the State's total farmland was improved, and only 17% of the neighboring Colleton District's farm land was improved. Even in wealthy Charleston District only 17.8% of the farm land was improved (Kennedy 1864:128-129). The cash value of Beaufort farms was \$9,900,652, while the state average by county was only \$4,655,083. The value of Beaufort farms was greater than any other district in the state for that year, and only Georgetown listed a greater cash value of farming implements and machinery (reflecting the more specialized equipment needed for rice production).

The record of wealth and prosperity, such as it was, is tempered by the realization that it was based on the racial imbalance typical of Southern slavery. In 1820 there were 32,199 people enumerated in Beaufort District, 84.9% of whom were black (Mills 1826:372). While the 1850 population had risen to 38,805, the racial breakdown had changed little, with 84.7% being black (83.2% were slaves). Thus, while the statewide ratio of free white to black slave was 1:1.4, the Beaufort ratio was 1:5.4 (DeBow 1853:338).

Civil War and the Postbellum

Hilton Head Island fell to Union forces on November 7, 1861 and was occupied by the Expeditionary Corps under the direction of General T.W. Sherman. Beaufort, deserted by the Confederate troops and the white towns-people, was occupied by the Union forces several weeks later. A single white person, who remained loyal to the Federal government, was found on Ladys Island (Johnson 1969:189). Hilton Head became the Headquarters for the Department of the South and served as the staging area for a variety of military campaigns. A brief sketch of this period, generally accurate, is offered by Holmgren (1959), while a similarly popular account is provided by Carse (1981). As a result of the Island's early occupation by Union forces, all of the plantations fell to military occupation, a large number of blacks flocked to the island, and a "Department of Experiments" was born. An excellent account of the "Port Royal Experiment" is provided by Rose (1964), while the land policies on St. Helena are explored by McGuire

(1985). Pierce notes that immediately after the fall of Hilton Head, seven slaves from Spring Island made their way to the Union outpost (U.S. Treasury Department 1862:30).

Spring Island seems to have escaped much of the damage caused by the Civil War. Only one account of the island has been identified in the Official Records. Toward the end of the war, on March 31, 1864, a Union gun-boat proceeded as far up the Colleton River as the north end of Spring Island, causing considerable alarm among the Confederate pickets along the mainland side of the river (Scott 1891:379).

Recently, Trinkley (1986) has examined the freedmen village of Mitchelville on Hilton Head Island. One result of the Mitchelville work was to document how little is actually known about the black heritage and postbellum history of the sea islands. Even the social research spearheaded by the University of North Carolina's Institute for Research in Social Science at Chapel Hill in the early twentieth century (e.g. Johnson 1969, Woofter 1930) failed to record much of the activities on islands such as Hilton Head or Spring.

McGuire (1982, 1985) provides a detailed account of the land policies in the area during the Civil War and her studies should be consulted for detailed information. In general, however, blacks slowly came to own a large proportion of the available land. Certificates of possession were eventually issued for a number of the sea island plantations (McGuire 1982:36). During the postbellum period previous owners slowly came forward to reclaim, or redeem, land confiscated by the Federal government. The 1872 redemption process was not totally successful, partially because some tracts had such low value. By the 1890s a program was established to provide owners unsuccessful at either restoration or redemption with token compensation (McGuire 1982:77; S.C. Department of Archives and History, Secretary of State Records, Beaufort County Tax Claims, Direct Tax Compensation Book IX/2/4/3B).

During the late nineteenth century most of the sea island plantations continued as a rural, isolated agrarian communities. The new plantation owners attempted to forge an economic relationship with the free black laborers and found a multitude of problems, including the need to pay higher wages, increasing problems with the cotton boll weevil, and decreasing fertility. The letters of G.C. Hardy, the manager of the Eustis Plantation on nearby Ladys Island in the 1870s, clearly reveal the problems faced during this period. Hardy, in his letters to Frederic Eustis, discusses the rising labor costs and the serious losses of cotton to the boll weevil (South Caroliniana Library, Frederic A. Eustis Collection).

In the 1870s a new form of livelihood was introduced -- the mining of phosphate for fertilizer. While both land and river rock

mining were conducted in South Carolina, the Beaufort area saw primarily river dredging to acquire the phosphate ore present as gravel, although land mining of phosphate nodules also took place (Mathews et al. 1980:27, 31). As the industry began to decline in the early twentieth century, blacks returned to agriculture and oyster factories.

Woofter (1930) provides information on the agricultural practices of the St. Helena blacks in the early twentieth century, noting that the population was largely stable, with most blacks remaining in the vicinity of their parents' "home" plantations (Woofter 1930:265). While islands, such as St. Helena, which were large and easily accessible began to change more rapidly during this period, the smaller, more isolated islands, such as Spring, probably maintained very clear connections with the past.

Spring Island Plantation

The specific history of the study tract has been partially reconstructed by Agnus Baldwin (1966) and her study forms the nucleus of this discussion. Additional archival research has been conducted to augment sections of her research and further research in several areas still remains to be conducted as part of the Phase 2 study on Spring Island.

Spring Island was granted to John Cockran on September 1, 1706 as two tracts of 500 acres each (S.C. Department of Archives and History, Colonial Grants, volume 2, page 6). While these grants account for only a third of Spring Island's acreage, it is clear that the grants were intended to cover the entire island. Baldwin (1966:2) notes that "we can presume that John Cockran, Indian Trader, selected this island strategically located across the Chechessie Creek" from three Indian towns in order to establish a trading post. No evidence to support this belief has been identified in the Journal of the Commissioners of the Indian Trade, although it is a possible use of the property. Baldwin mentions that Cockran's principal plantation was in St. Paul's Parish, to the north, so it is likely that Spring Island was a relatively minor economic holding.

Cockran's abuse of the Indians is well documented in McDowell (1955). On April 14, 1715 he and several other traders were sent to Pocotaligo by the Commissioners of the Indian Trade to settle a dispute with the Yemassee. After an apparently successful meeting the traders retired. The following morning they were taken prisoner, eventually killed, and the Yemassee War began.

Baldwin (1966:5) reports that James Cockran was the heir to John Cockran (see South Carolina Department of Archives and History, Memorials, volume 3, pages 165-167). While James Cockran was an important political figure in South Carolina, there is little indication that he made any improvements on Spring Island.

Baldwin (1966:9) questions whether James Cockran even used Spring Island for the simplest of activities, such as cattle. Cockran died intestate between 1719 and 1724. The estate was to be administered by Cockran's widow, Mary, but she died intestate. Administration of both estates was granted to Joseph Russell and Joseph Bryan (Charleston County WPA Wills, Inventories, and Miscellaneous Records, volume 60, page 145).

Spring Island was inherited by James Cockran's son, James Cockran the Younger (South Carolina Department of Archives and History, Memorials, volume 3, pages 165-167). It is during the tenure of James Cockran the Younger that there is the first evidence of improvements on Spring Island. Between 1738 and 1739 Anthony Trouchet built "a stack of chimneys with 2 fire places," built an oven, constructed a kitchen chimney, and split lathing and plastered a structure at Cockran's (Spring) Island (South Carolina Department of Archives and History, Judgement Roll 14A-1). This work cost a relatively modest sum of L47. Also on the same account is the L200 cost for "lathing and plastering his dwelling and building 2 stacks of chimneys at agreement." Brooker suggests that this last item would indicate a substantial house, perhaps two stories and about 50 by 44 feet (Brooker n.d.:11). However, since this entry does not specify Cockran's Island, as the others do, it is possible that it represents charges for another location. In any event, it is clear that by 1738 Spring Island was being developed as a working plantation.

Since the 1732 plan shows only one settlement, @ Pinckney landing across from Indian village, there is prob the 1738 settlement.

James Cockran, the Younger, died sometime between December 1, 1739 (the date of his will) and April 2, 1740 (the earliest date identified where he is listed as "deceased"). The executors of Cockran's estate were Richard Ash, Samuel Peronneau, and Hugh Bryan. Baldwin mentions that there are references to a deed of partion, dated December 5, 1744, and a settlement of partion, dated November 8, 1758, although neither have been identified (Baldwin 1966:14).

Several of the heirs to Cockran's estate drew lots for various parcels. One surviving example is the deed to Cato Ash, where he obtained lot 2, which includes Cockran's Point (possibly on Port Royal Island), but no land on Cockrans (Spring) Island (Charleston County RMC, DB FF, page 220). This deed specifies that the island was to be divided into two parcels; the first with 350 acres "to be taken off the southwest part of the said Island, by a line running across it, in a due southeast course," and the second with 650 acres with "the Surplus Land if any."



Baldwin suggests that through undetermined devices Mary Ash acquired ownership of Spring Island (see Baldwin 1966:15). Mary Ash married George Barksdale, but died prior to 1757, leaving possession, but not ownership, of island to Barksdale (Baldwin 1966:16). The only child from this marriage was Mary Cockran Barksdale. George Barksdale marries twice after Mary Ash, first to

Susannah Stone (having a son, George) and then to Elizabeth Patterson. George Barksdale eldest daughter, Mary, married John Edwards, a Beaufort merchant, in 1773 and had a son, George Edwards.

George Barksdale's will, written on December 2, 1775, was proved in 1783. No disposition of Spring Island is made in the will, strongly indicating that while he lived on the plantation, he did not own the property. Barksdale leaves his eldest daughter, Mary Cockran Barksdale, only three slaves, suggesting that she received inheritance of the island from her mother, George Barksdale's first wife, Mary Ash (Charleston County WPA Wills, volume 19, pages 351-352). Barksdale does, however, indicate that his "cattle on Spring Island and sheep Horses and Hogs" were to be sold at auction. This provides some indication of the activities which were taking place on Spring Island prior to the Revolution.

The earliest map identified for Spring Island dates to 1782 and is from the Scavenius Collection at the Dartmouth College Library (copy at the South Carolina Historical Society). This map of British military activities shows a single structure on Spring Island, located at the north end on the Chechessie Creek at modern day Pinckney Landing. This is probably the house of George Barksdale and may be the location of the earliest structure on the island built by James Cockran the Younger (Figure 3).

After George Barksdale's death, Baldwin suggests that George Barksdale continued to operate Spring Island for his sister, Mary Cockran Edwards. The one crop documented for this time period is indigo (information from a Beaufort merchant's account book cited by Baldwin 1966:18). Mary Edwards died on Spring Island in August 1791, leaving her property to be divided equally among her children (Charleston County WPA Record of Wills, volume 24, pages 935-936).

A portion of Spring Island passed from Mary Cockran Edwards to her son, George Edwards. The 1800 census lists George Edwards, single, as living on Spring Island. He owned 40 slaves and two unidentified white men were also living on the island (Baldwin 1966:20). In 1801, George Edwards married Elizabeth Barksdale and the couple began living in Charleston (Baldwin 1966:20). The remainder of the island was owned by his sisters, Eliza Edwards (who owned the south end) and Mary Holbrook (who owned the north). Consequently, the two unidentified white men also on the island may have been overseers.

On August 2, 1802 George Edwards leased 1051 acres on the south end of the island from Eliza Edwards. Eventually, George Edwards acquired the entire island (see Charleston County RMC, DB H7, pages 11-13; Charleston County Deed Book Q8, pages 161-163; Baldwin 1966:20). The 1812 "Chart of the Bars, Sounds of Port Royal and St. Helena, " prepared by Daniel Bythewood (National Archives, RG 77, I-4, sheet 3) shows three settlements on Spring Island

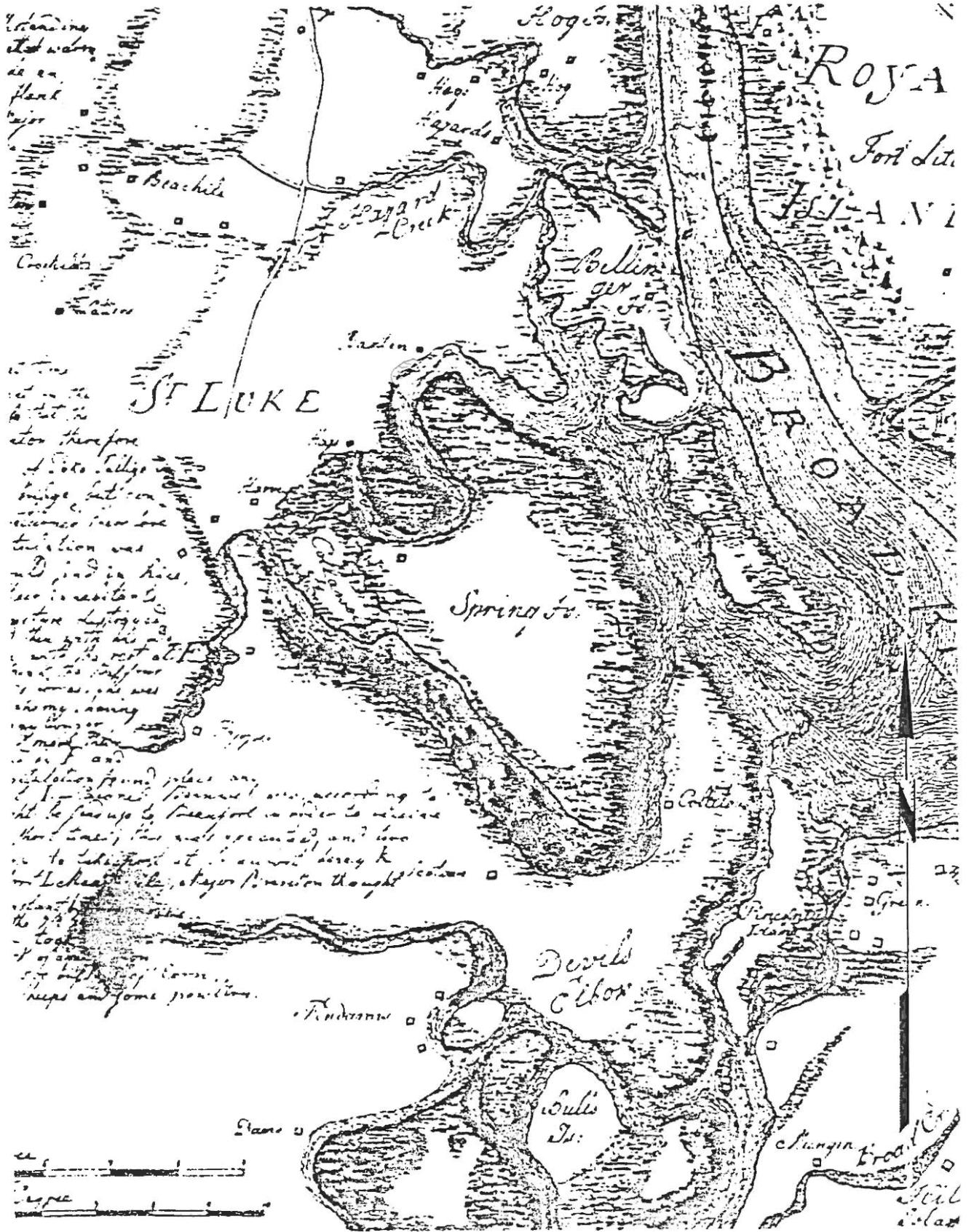


Figure 3. A portion of the 1782 plan of the Port Royal area, showing occupation on Spring Island.

(Figure 4). The northern settlement appears to be identical to that shown on the 1782 map at Pinckney Landing. The central settlement is on the east side of the island, in the vicinity of the tabby ruins (site 38BU1). The southern settlement is in the vicinity of the modern day Copp Landing. This map suggests that by 1812 the three settlements had been established and were functioning units.

By 1820 George Edwards owned 230 slaves, with 130 engaged in agriculture (Baldwin 1966:21). Baldwin also suggests that George Edwards' son, George Barksdale Edwards was becoming active in the operation of the plantation. By 1830 the number of slaves increased to 345 and there are a number of individuals living on the plantation (Baldwin 1966:22). In 1840 there were a total of 250 slaves on the plantation, with 105 engaged in agriculture and six in maintenance (Baldwin 1966:22).

The 1850 agricultural census provides the first good indication of the productivity of the plantation. George Edwards was farming 1000 acres, with 4000 acres of unimproved land (which may have included marsh lands). The cash value of Spring Island was \$50,000 and farm machinery was valued at \$2300. Livestock included 12 horses, 16 asses and mules, 75 milk cows, 40 working oxen, 200 cattle, 70 sheep, and 105 swine, for a total value of \$5400. Crops and other produce raised on the island included 2400 bushels of Indian corn, 2800 pounds of rise, 20 bales of cotton, 200 bushels of peas and beans, 500 bushels of sweet potatoes, and 100 pounds of butter (Baldwin 1966:22).

Baldwin (1966:22) quotes an uncited 1931 news article by Miss Chlotilde Martin on George Edwards in which it is reported that the island was divided into four plantations: Bonny Shore, Goose Pond, Old House, and Laural. The article indicates that Bonny Shore was in the area of the Copp Landing, while Old House was the east side of the island, around the tabby ruins. The degree of trust placed in this article must be tempered with the realization that it was written 80 years after the fact. The 1812 map of Spring Island does suggest the possibility of at least three distinct operating units, and the inventory and appraisalment of George Edwards made in 1859 lists two slave drivers, again suggesting that the plantation operation was broken into more manageable units.

George Edwards died April 11, 1859, leaving the Spring Island plantation to his son George Barksdale Edwards (Baldwin 1966:23). Baldwin, reviewing George Edwards' inventory suggests that,

the household furnishings however, do not appear to be elaborate or sufficient to furnish the large Tabby House now in ruins on the island. It is possible that he lived in a smaller house on the Island and his son and wife, Emma Julia, lived in the "big" house (Baldwin 1966:23).

While this remains a possibility, it must also be recognized that

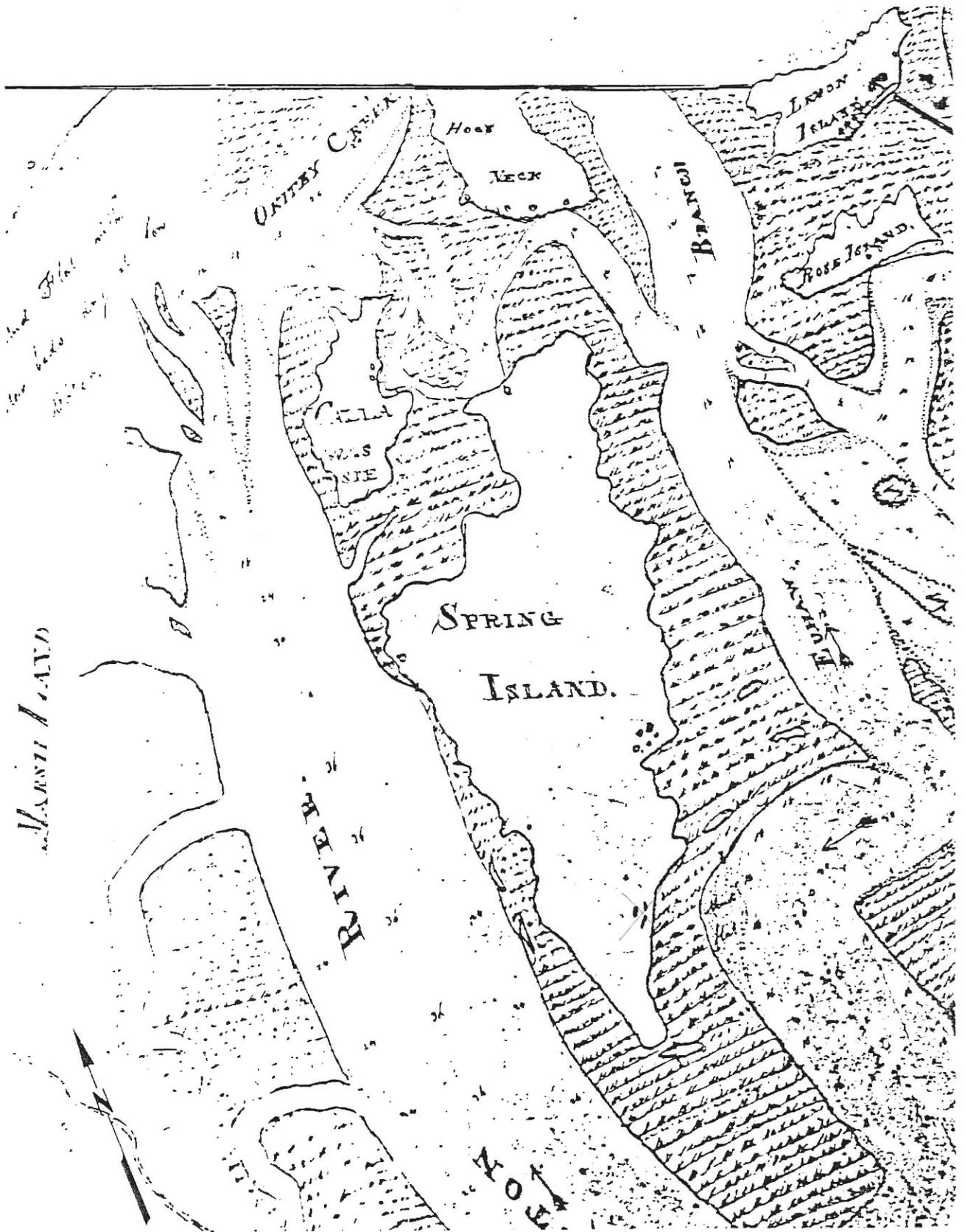


Figure 4. 1812 plan showing Spring Island.

household furnishings were rather indifferently inventoried. In addition, custom and style at this period relied on the frequent movement of furniture from room to room to suit particular needs and functions (Colin Brooker, personal communication 1989).

It appears that George Barksdale Edwards attempted to settle his father's estate, advertising several sales of slaves (Baldwin 1966:24). Litigation between parties to the estate arose (Charleston County RMC, DB, pages 378-382) and George Barksdale Edwards died intestate in June 1860 (Baldwin 1966:24). The 1860 census found only an overseer, Jacob W. Oestervicker, and his family residing on Spring Island. Baldwin reports that litigation continued over the division of the estate (Baldwin 1966:24).

The property was confiscated by the Federal Government in 1861, with the fall of Hilton Head and the surrounding sea islands. At that time the District Tax Commissioners reported the owner as the Estate of George B. Edwards and described the tract as encompassing 2450 acres with a value of \$9800. Taxes, penalty, costs, and interests on the estate amounted to a total of \$380.43 and the property was purchased by the government for \$10,500.

In 1866 Emma J. Edwards, as guardian, applies for the redemption of Spring Island and a certificate of redemption was issued (National Archives, RG 58). The 1870 agricultural census provides little assistance, since both the estate of George Edwards and George B. Edwards (the son of the deceased George B. Edwards) are listed as each owning 3012 acres (Baldwin 1966:25).

In 1872 the plantation was directed to be sold under the direction of Asher Cohen, Special Referee in the matter of "Ogden and Elizabeth Hammond vs. the heirs of George B. Edwards." The property was advertised as,

All that valuable Plantation called Spring Island in Beaufort County, S.C. situate at the juncture of the Chechessee and Colleton River directly opposite Fort Point, containing about 3000 acres high land, about 200 of which are cleared and very fertile for Sea Island or Short Cotton and Provisions. It is abundantly supplied with springs of good water and affords a fine pasture for all kinds of stock together with several small Islands adjacent forming part of and being appurtenant there to and containing ___ acres.

On the Plantation is a large dwelling House and ample outbuildings. There are several settlements which render this property easy to be divided into different plantations. Being an Island it requires no fencing.

It commands a fine view of the Harbor of Port Royal 10 miles distant from the entrance. Considered healthy to

live at all the year, and well known as one of the best Sea Island Cotton Plantations on the coast (The Charleston Daily Courier, January 9, 1872).

There is a coastal survey chart showing Spring Island in 1873 which is based on topographic surveys conducted from 1852 through 1872 (South Carolina Department of Archives and History, Coast Chart No. 55, Coast of South Carolina and Georgia From Hunting Island to Ossabaw Sound). It is likely that this map shows the island immediately prior to the Civil War (Figure 5). Three distinct settlements are shown. The first, at modern day Pinckney Landing on Chechessee Creek, appears to be double slave row of eight structures. The second, at the modern day Copp Landing, consists of a double row along the access road consisting of 14 structures, seven of which are on the northeast side of the road and six on the southwest side of the road. In addition, there are three buildings at the landing which appear to barns or other utilitarian structures and another placed somewhat inland which may be a dwelling. The third settlement is at the present location of the tabby ruins. It consists of the main settlement with the main house, two flankers, and a series of three additional structures. To the northeast is a double slave row of 10 structures, while an arc-shaped slave row of eight structures is situated to the southwest of the main complex.

The plantation was sold to Elizabeth Hammond Inwood as Trustee for Trenholm Inwood on July 10, 1873 (Beaufort County RMC DB 7, page 325). In 1874 Elizabeth Inwood sold the property to J.M. Mackay and J.P. Southern, taking back a mortgage. When the mortgage was not satisfied the property reverted (Baldwin 1966:25). In 1885 Elizabeth Inwood died and the property was passed to her son, Trenholm Inwood. He sold Spring Island to Thomas Martin on February 14, 1895 (Beaufort County RMC, DB 18, page 784).

The property was next conveyed in 1902 to the Spring Island Barony Club (Beaufort County RMC DB 24, page 428) which held the tract until 1912 until it was turned over to Henry Buist for liquidation (Beaufort County RMC DB30, page 310). On May 2, 1912 the island was sold to Alice M. Townsend, excepting 100 acres and a "bungalow" leased to William M. Copp (Beaufort County RMC DB 30, page 403).

In 1920 William Copp, as the sole surviving executor and trustee of the estate of Alice M. Townsend purchases the property (Beaufort County RMC DB 38, page 405). Baldwin notes that the plantation was first used for truck farming by Copp and was later converted to cattle. A house was built by Copp at present day Copp landing in 1927. While no clear documentation of land use has been identified for Spring Island during this period, the 1943 edition of the 15' Okatie Quadrangle map, which is based on field work conducted in 1912, shows 16 structures on the island. This map, however, probably shows a compilation of structures from 1912

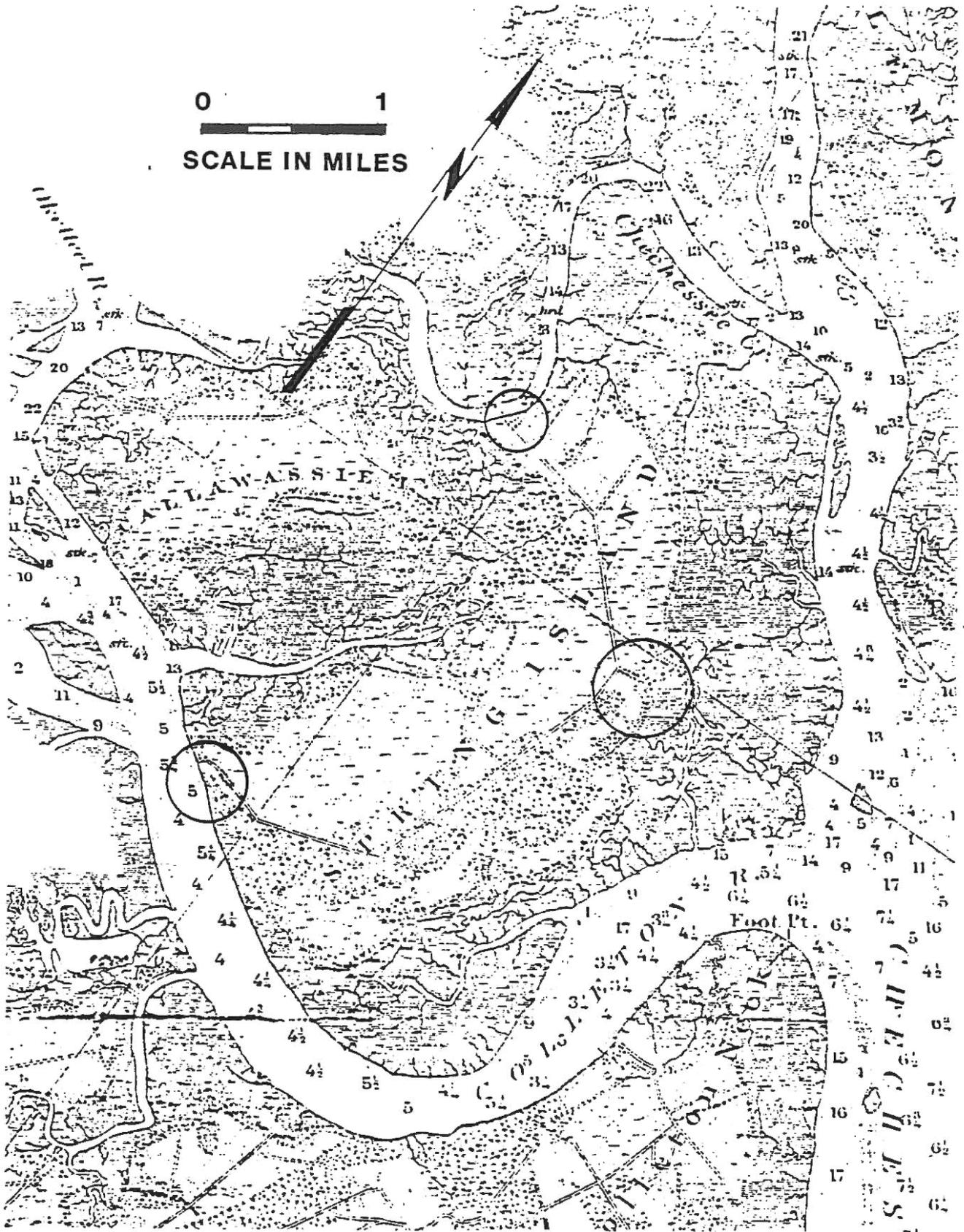


Figure 5. Spring Island in 1872.

through 1943. The tabby house is shown on the eastern shore of the island, as are structures at Copp Landing and Pinckney Landing (Figure 6). In addition, a school is shown in the center of the island. On the 1937 Beaufort County Highway Map this school is identified as the "Spring Island School," and was for "Negroes." Figure 6 appears to show some of the activity taking place on the island as the result of Copp's farming activity. Baldwin, again citing Chlotilde Martin's 1931 newspaper article, notes that "thirty-five negro families lived on the Island in little tenant houses painted red and warm colors" (Baldwin 1966:26)

The 1939 aerial photographs of Spring Island (National Archives, CDU 4 127-129, CDU 4 98) show about half of the island is in cultivation, while the remainder is wooded. Several tenant houses are visible on these photographs, although only the index sheet was available for this initial study (on file, Map Repository, Thomas Cooper Library). The north end of the Phase 1 survey tract is entirely wooded, while the southern third of the tract appears to be heavily cultivated.

Spring Island was transferred to Minnie Carter in 1943 by Otilie M. Copp Miles, the daughter of William Copp (Beaufort County RMC DB 59, page 597). In 1945 the island was sold by Carter to P.A. Horswell, excepting timber rights, saw mill, field crops, fruits, and nuts, which were retained by Carter until 1947 (Beaufort County RMC DB 60, page 201). Horswell sold Spring Island to Robert M. Lee on the same day he purchased it from Carter (Beaufort County RMC DB 60, page 202). Lee retained the property until December 20, 1946, when it was sold to John F. Lucas (Beaufort County RMC DB 65, page 38). In 1958 Lucas sold one-half interest in Spring Island to his wife, Bertha (Beaufort County RMC DB 90, page 223). After the death of John F. Lucas, Bertha Lucas sold the island to Lucille T. and Elisha J. Walker on November 10, 1964 (Beaufort County RMC DB 127, page 97). The 1978 tax assessment for Spring Island lists one barn built in 1910 (dating from the ownership of the Spring Island Barony) and another barn built in 1920 (dating from the occupation of William Copp) (Beaufort County Tax Assessor, PIN 600-011-000-0001-0000).

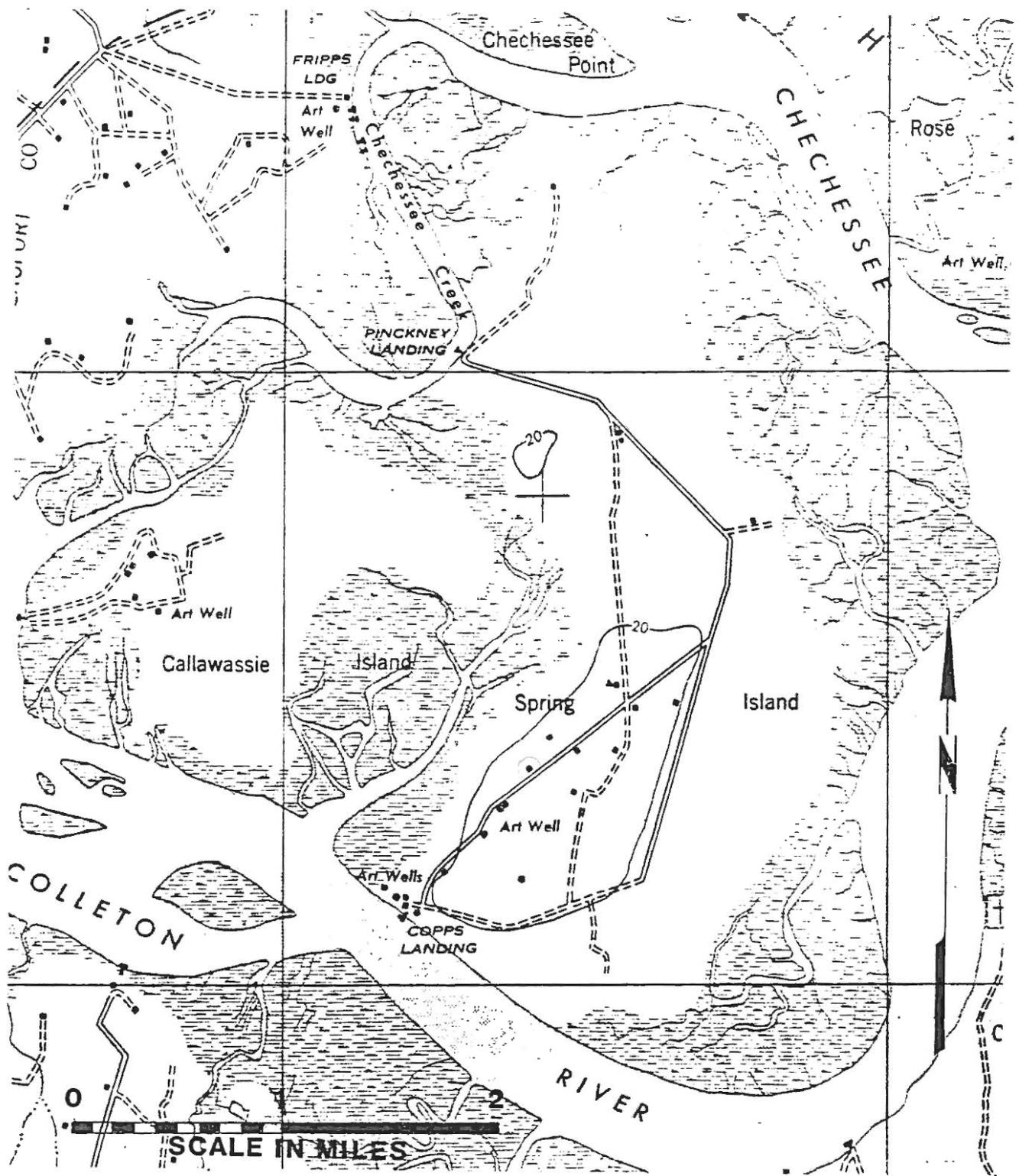


Figure 6. 1943 Okatie 15' Quadrangle showing Spring Island.

RESEARCH STRATEGY AND METHODS

Introduction

As was previously indicated, the primary goals of this survey are to identify, record, and assess the significance of archaeological sites within the approximately 200 acres designated as the first phase of the Spring Island development. Secondary goals included an examination of the soils and drainage as they affect the location of prehistoric sites, and to examine the aboriginal settlement systems as observed in this initial phase of investigations. No major analytical hypotheses were created prior to the field work and data analysis, although certain expectations regarding the secondary goals will be outlined in these discussions. The research design proposed for this study is, as discussed by Goodyear et al. (1979:2), fundamentally explorative and explicative.

The previous discussions regarding soils and drainage lead to the conclusion that prehistoric sites will be found in areas of moderately to well drained soils. Further, the bulk of the site components will be Middle to Late Woodland, since the high sea level stands during these periods are thought to have restricted the dispersion of resources such as large mammals and forest products. Finally, sites are expected to be small and exhibit low artifact diversity since the use of extractive sites is brief, the sites represent a narrow range of activities, and group size was small (Brooks and Scurry 1978). Previous research has also clearly exhibited a non-random pattern to prehistoric site settlement. Even when vast areas of well drained soils are available for settlement, the sites tend to be found clustered around small tidal inlets and marsh areas (see Scurry and Brooks 1980:77 for Charleston County data, Trinkley 1987 for Beaufort County data).

Based on these data, prehistoric sites at Spring Island were expected to occur on the better drained Eddings, Eulonia, Seabrook, and Wando soils, but were not anticipated in the areas of Argent, Coosaw, Murad, Wahee, or Yonges soils. Prehistoric sites, however, were not expected inland, away from marsh or tidal creeks. This situation was anticipated because of the "edge effect" where a variety of resources are brought into close proximity. The only well drained soil situated along the marsh edge is the Eddings series, associated with almost 56% of the shoreline. The remaining soils in close proximity of the water are more poorly drained Murad, Eulonia, and Coosaw soils. Consequently, it was anticipated that prehistoric sites would be found clustered in the well drain soil regions.

Turning to historic site locations, previous research has suggested that the main house or major plantation complex will be situated in areas of "high ground and deep water," which incorporate the positive attributes of well drained soils and immediate access to water transport (Hartley 1984; South and Hartley 1980). As plantation crops and owners changed during the colonial and antebellum periods, it is possible that settlement areas might also change location. Additionally, it might be impossible to locate the plantation complex in an area which was healthful, centrally located, and adjacent to a deep water access. In such cases compromises on the ideal would be made, but the weight given to each of the various attributes is unclear. While the health and well-being of the owner's slave chattel was of considerable concern, slave rows were not commonly situated on the best land, and in some cases were located on very poorly drained soils (Singleton 1980; Zierden and Calhoun 1983).

The historic documentation, previously discussed, revealed the location of the earliest (eighteenth century) plantation complex, possibly built by James Cockran the Younger. This site is situated on well drained Seabrook soils adjacent to the deep water of Chechessie Creek. By the early 1800s Spring Island was divided into three holdings and this is evident on the 1812 map of the island. The original eighteenth century complex remains intact, and a new settlement has been established on the well drained Wando soils on Callawassie Creek at the southwest edge of the island. The third settlement, the site of the large tabby ruins (38BU1), is situated on well drained Seabrook soils at the head of a small tidal creek on the east central side of the island. While this site is on well drained soils and is situated on a slight bluff to take advantage of healthful breezes, it is not situated adjacent to deep water. It is possible to navigate this creek only at high tide. The division of the island into three parts left the central portion with no deep water access.

While it is clear that no major plantation complex existed in the vicinity of the Phase 1 tract, the historical research has provided virtually no information on the large number of additional structures essential to the operation of a plantation. Consequently, it was recognized that other structures may have been located remotely removed from the main complex.

Archival Research

This study incorporated a review of the site files at the South Carolina Institute of Archaeology and Anthropology. In addition, archival and historical research was conducted at the South Carolina Historical Society, the Charleston County RMC, the Thomas Cooper Library, the South Carolina Department of Archives and History, and the Beaufort RMC. Throughout this historical research an emphasis was placed on the primary, rather than secondary, sources as the appropriate level of initial study. Since

Baldwin (1966) had compiled some historical records for Spring Island, her study was used as a point of departure. While the historical research is not exhaustive, and does not exhaust resources at the Charleston RMC, the South Carolina Historical Society, or the South Caroliniana collections, it does provide a clear background and is a sufficient base for future work in the project area. This historical and archival research was conducted by the author of this study, with assistance from Ms. Mona Grunden and Ms. Liz Pinckney.

Field Survey

The initially proposed field techniques (discussed with the Staff Archaeologist of the State Historic Preservation Office at the South Carolina Department of Archives and History) involved an intensive, systematic examination of the Phase 1 tract. This work involved the placement of shovel tests at 100 foot intervals along transects perpendicular to the shore at 200 foot intervals.

Should a site be identified by the shovel testing, further tests at closer intervals (50 feet) would be used to obtain data on site boundaries, artifact quantity and diversity, site integrity, and temporal affiliation. The information required for completion of the South Carolina Institute of Archaeology and Anthropology site forms would be collected and photographs would be taken, if warranted in the opinion of the field investigator.

All soil would be screened through 1/4-inch mesh, with each shovel test numbered sequentially by transect (hence Transect 1, Shovel Tests 1, 2, etc.). Each test would measure about 0.9 foot square and would be excavated to at least the base of A or Ap horizon (normally a 1.0 to 1.5 foot depth). All cultural remains (except brick, tabby, shell, or mortar) would be collected. Brick, tabby, shell, or mortar recovered from shovel tests would be noted with occasional samples collected. Consistent notes would be made of soil profiles at recorded sites.

In addition, Chicora would relocate the seven sites previously identified by Lepionka (1986). This work would involve both the interpretation of the shovel test transects, and also the use of auger testing at intervals less than the 100 foot spacing used for the shovel tests. These auger tests would be tied into permanent grid points and all fill would be screened through 1/4-inch mesh. Auger tests would be numbered sequentially and keyed to the site map.

This emphasis on systematic shovel testing to survey the tract is required by the extensive woods coverage, which was anticipated to severely restrict surface visibility. No effort was made to incorporate an examination of the marsh edge (except for specific site areas) since it appeared that the initial Lepionka survey relied extensively on this technique. The intensity of shovel

testing was to be based on information concerning soil drainage, with areas of poorly drained soils receiving less intensive investigation.

These plans were put into effect with no significant variations. A total of 31 transects were established, with those on the southern two-thirds of the tract oriented northwest-southeast to keep them roughly perpendicular to the marsh, while those on the northern end of the tract were oriented east-west (Figure 7). With only one exception these transects were sequentially numbered from south to north and the tests along each transect were numbered from the shore to the inland area. These transects were typically 200 feet apart, although the distance between Transects 17 and 18 was only 100 feet and the distance between Transects 1 and 31 was 150 feet. Because one research goal was to examine site locations relative to drainage and soil types, it was decided to investigate the entire tract at the same level of intensity, rather than varying intensity based on supposed ground suitability.

The total number of possible shovel tests along the transects was 430. A total of 393 tests were actually excavated (91%), with the being located in very low, frequently wet areas. This work provided very uniform coverage to the Phase 1 tract.

Four previously identified sites were tested with an additional 55 shovel tests, typically at 20 foot intervals. An additional three sites received a total of 75 auger tests. Although the original proposal indicated that all of the previously recorded sites would receive auger test surveys, upon field examination it became clear that several of the sites were clearly so ephemeral that this level of investigation was unnecessary. In those cases we have relied on the transect shovel tests to provide justification for the site assessments.

Surface collections were made from several of the sites, although generally ground visibility was too limited to make this approach a valid technique for boundary or artifact quantity studies. The surface materials, all from selective grab collections, are only able to provide some additional information on temporal periods.

Laboratory and Analysis Methods

The cleaning of artifacts was conducted in Beaufort on November 1, 1989. Cataloging of the specimens was conducted at the Chicora laboratories in Columbia on November 4 through 6. All artifacts except brass and lead specimens were wet cleaned. Brass and lead items were dry brushed and evaluated for further conservation needs. Conservation treatments are being conducted by Chicora personnel in Columbia.

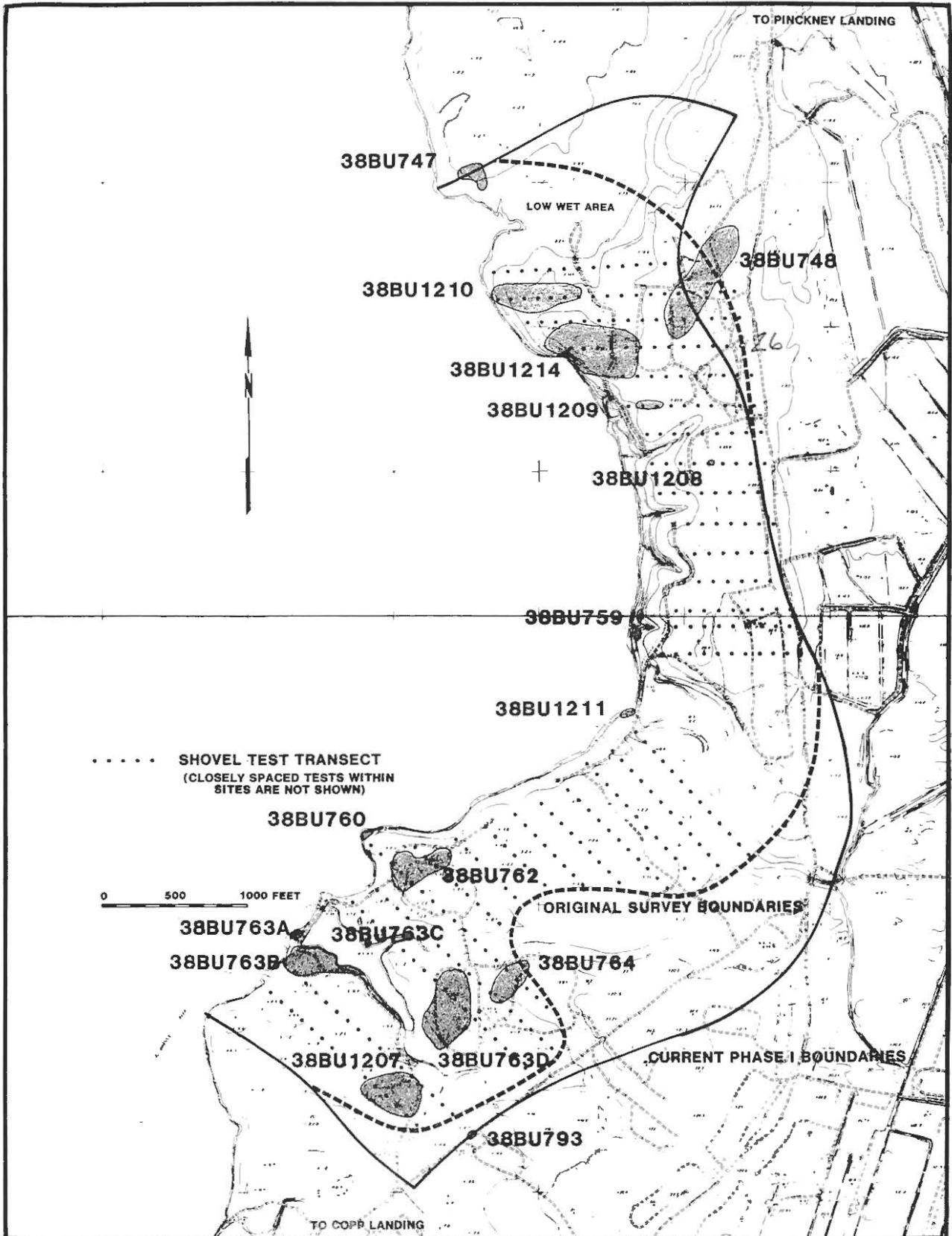


Figure 7. Topographic map of the Phase 1 survey, showing transects and identified sites.

Brass items, if they exhibit active bronze disease, are being subjected to electrolytic reduction in a sodium carbonate solution with up to 4.5 volts for periods of up to 72 hours. Hand cleaning with soft brass brushes or fine-grade bronze wool follows the electrolysis. Afterwards, the surface chlorides are removed with deionized water baths and the items are dried in an acetone bath. The conserved cuprous items are coated with a 20% solution of acryloid B-72 in toluene. Ferrous objects are being treated in one of two ways. After the mechanical removal of gross encrustations, the artifacts are tested for sound metal by the use of a magnet. Items lacking sound metal are subjected to multiple baths of deionized water to remove chlorides. The baths are continued until a conductivity meter indicates a level of chlorides no greater than 1.0 ppm. The specimens are dewatered in acetone baths and given an application of 10% acryloid B-72 in toluene, not only to seal out moisture, but also to provide some additional strength. Items which contain sound metal are subjected to electrolytic reduction in a bath of sodium carbonate solution in currents no greater than 5 volts for a period of 5 to 20 days. When all visible corrosion is removed, the artifacts are wire brushed and placed in a series of deionized water soaks, identical to those described above, for the removal of chlorides. When the artifacts test free of chlorides (at a level less than 0.1 ppm), they are air dried and a series of phosphoric (10%) and tannic (20%) acid solutions are applied. The artifacts are air dried for 24 hours, dewatered in acetone baths, and coated with a 10% solution of acryloid B-72 in toluene.

As previously discussed, the materials have been accepted for curation by The Environmental and Historical Museum of Hilton Head Island as Accession Number 1989.6 and have been cataloged using that institution's accessioning practices (ARCH 1447 through ARCH 1551). Specimens were packed in plastic bags and boxed. All material will be delivered to the curatorial facility at the completion of the conservation treatments.

Analysis of the collections followed professionally accepted standards with a level of intensity suitable to the quantity and quality of the remains. Prehistoric pottery was classified using common coastal Georgia and South Carolina typologies (DePratter 1979; Trinkley 1983). The temporal, cultural, and typological classifications of the historic remains follow Noel Hume (1970), Miller (1980), Price (1970), and South (1977).

IDENTIFIED SITES AND RECOMMENDATIONS

These investigations identified a total of 14 archaeological sites on the Phase 1 development tract. Four of these represent sites not previously identified by Lepionka, while the remainder represent loci previously recorded.

Reference to Lepionka's (1986) report will reveal that he tended to lump a number of discrete site areas or loci together, assigning a single site number. In some cases such sites are separated by considerable distance, while in other cases the loci joined together represent distinct temporal periods. While this practice does reduce the number of sites subject to compliance review, it tends to blur significant differences between the various loci. This investigation has chosen to separate several of Lepionka's sites, coordinating these changes with the South Carolina Institute of Archaeology and Anthropology, which maintains the permanent state site files. Revised site forms have been submitted to that agency using the site designations discussed in this section.

38BU747

Site 38BU747 is situated on the north edge of the Phase 1 development in the vicinity of the proposed bridge connecting Spring and Callawassie islands. The UTM coordinates are E515600 N3577100 and the site measures about 225 feet by 140 feet. Elevation in the site area ranges from 10 to 12 feet and the soils are poorly drained Coosaw series. It is located on the north edge of a small tidal slough and consists of at least two areas of primarily oyster shell midden. This site has been previously identified by Lepionka as his Site 24, locus S59, although the location was misplaced on the various maps. It appears that Lepionka placed several shovel tests in this site, as well as a small excavation unit. Materials recovered during the Chicora survey include two Deptford Cord Marked sherds, both of which came from an area between the middens. No evidence of site damage was identified and site integrity appears high. A total of 16 shovel tests were excavated within the site boundaries and material has been recovered from a maximum depth of 1.1 feet.

This site represents a relatively small Deptford phase camp oriented toward shellfish collection. The site has the potential to yield information on Deptford settlement and subsistence activities. The site is recommended as eligible for inclusion on the National Register of Historic Places. Appropriate mitigation could include either green spacing or data recovery. If data recovery is necessary, at least two units should be placed within

midden areas to recover subsistence data, while two additional units should be placed in non-midden areas to determine if features such as post holes or pits are present.

38BU748

Site 38BU748 was originally recorded by Lepionka as Site 25. It is situated 1300 feet inland from the marsh at the northeast corner of the Phase 1 tract on excessively well drained Wando soils. The site elevation is 24 feet and the central UTM coordinates are E516120 N3576920. This site was investigated through a series of 15 shovel tests and the site boundaries, on the basis of this testing, have been established as 800 feet northeast-southwest by 200 feet east-west. This area was previously identified by Lepionka as Site 25.

The site incorporates several fields, now in second growth pine, and several mixed hardwood and pine forest areas. Artifacts recovered include one Deptford Plain, one Deptford Cord Marked, and one Stallings Plain from shovel tests. In addition, one Stallings Plain, one Deptford Plain, one Deptford Cord Marked, and one quartz anvil fragment were recovered from the surface. The shovel tests reveal extensive plow disturbance and no areas of clear site integrity could be identified. Shell middens were previously associated with the site, but are now thoroughly distributed through the fields and wooded areas. As a result, this site is recommended as not eligible for inclusion on the National Register and no further investigations are recommended.

38BU759

Site 38BU759 consists of two areas of shell midden associated with an extinct freshwater slough adjacent to the marsh in the middle of the Phase 1 tract. The central UTM coordinates are E515960 N3576180. The site loci are at an elevation of 5 to 8 feet and are associated with Eddings soils. Both middens are eroding from the bank in an area of mixed hardwood and pine vegetation. The northern locus measures about 75 by 10 feet, while the southern locus measures 100 by 10 feet. These two middens were tested by a total of 20 shovel tests, but no cultural remains could be identified further inland than about 6 feet. The southern midden had been recorded by Lepionka as Site 36, locus S56; the northern midden was apparently not previously recorded.

No materials were recovered from either midden, although it is probable that they represent small Middle Woodland occupations. Because the site has been heavily eroded and is today nothing more than a thin veneer of shell, 38BU759 is recommended as not eligible for inclusion on the National Register and no additional work is recommended.

38BU760

Site 38BU760 is a small shell midden situated on a point of Murad sand at the south end of the Phase 1 development tract. The central UTM coordinates are E515375 N3575800 and the site elevation is about 5 feet. A series of eight shovel tests, placed in the site area, reveal that the midden does not extend inland more than 10 feet, while it extends about 100 feet along the marsh edge. The maximum depth of the shell midden is 0.3 foot, with it rapidly thinning out toward the southeast (inland). No artifacts were found associated with this midden, although it, like 38BU759, is thought to represent the Middle Woodland.

This site was originally identified by Lepionka as Site 37, although a more northern locus (identified as S54) could not be recovered during this survey. The site has been extensively eroded with only minimal midden left intact in the bank. The absence of cultural remains inland from the midden suggest that the site has been largely destroyed. Consequently, 38BU760 is recommended as not eligible for inclusion on the National Register of Historic Places and no further work is recommended.

38BU762

Site 38BU762 is situated about 300 feet inland from 38BU760 in an area of heavy cultivation. The central UTM coordinates are E515460 N3575750 and the site is situated at an elevation of 13 feet on Murad soils. This site was originally recorded by Lepionka as Site 39, although the Chicora investigations have reduced its size and slightly shifted the site location. A series of 10 shovel tests were excavated at this site, establishing site boundaries of about 400 by 150 feet. The maximum depth of cultural remains was found to be 1 foot, with all materials recovered from the plowzone.

Only one specimen was recovered from this site, a Deptford Plain sherd. Based on the low density of artifacts and the highly plowed nature of the field, it appears that this site possesses a very low level of site integrity. It is recommended as not eligible for inclusion on the National Register and no further investigations are warranted.

38BU763

Site 38BU763 is found at the south end of the Phase 1 tract surrounding a large tidal impoundment. This site was originally identified by Lepionka as Site 2 with no subdivision into various loci. These recent investigations have retained the original site number, but have divided the site into four loci, designated A through D. Locus A represents a small remnant shell midden adjacent to the marsh which has been damaged by the impoundment construction and which is now isolated on an artificial island. Locus B consists of a series of small shell middens to the south of the impoundment

and adjacent to a small freshwater pond. Locus C, situated on the north side of the impoundment, is a small shell midden. Locus D, situated to the east of the impoundment, is a deeply plowed prehistoric midden with a historic component. The central UTM coordinates for loci A through C are E515240 N3575550, while the coordinates for locus D are E515540 N3575400. The various site areas are all found on Eddings soils and range in elevation from 5 to 10 feet.

Locus A has been tested by two non-systematic shovel tests, each 1.5 feet square. These tests have produced primarily Early Woodland materials to a maximum depth of 3.1 feet. Recovered were 13 Stallings Plain sherds, one Thom's Creek Shell Punctate sherd, one Wilmington Cord Marked sherd, 12 unidentifiable sherds, eight animal bones, and one chert Savannah River projectile point fragment. Recovered from the surface of this locus were 22 Stallings Plain sherds, one Thom's Creek Plain sherd, one Thom's Creek Incised sherd, 12 unidentifiable sherds, and two baked clay object fragments. This locus covers an area about 50 feet square.

Locus B is found on a level area between the impoundment and a freshwater pond to the south of locus A. A series of 17 shovel tests were excavated in this area in order to establish site boundaries and also to obtain a small sample of artifacts. The site consists of several intact shell middens and additional areas of shell dispersed through construction and cultivation. Only two shovel tests produced temporally sensitive remains -- one Deptford Cord Marked sherd and eight St. Catherines Cord Marked sherds. This site covers an area 400 feet north-south by 250 feet east-west.

Locus C is situated on the north side of the impoundment on a small point of low ground. The area consists of at least one intact shell midden about 0.4 foot in depth. Two shovel tests were excavated in this locus, although no artifacts were recovered. This site area is thought to cover about 30 feet in diameter.

Locus D is situated in a cultivated field to the east of the impoundment's southern tip. A series of 15 shovel tests were excavated in the site vicinity and an additional 31 auger tests were placed in the locus to further examine the area. While this locus has produced primarily Middle Woodland sherds, there is also a historic component. Material recovered from the shovel tests includes one kaolin pipe bowl fragment, one colono sherd, one machine cut nail fragment, and three unidentifiable prehistoric sherds. A surface collection yielded two Deptford sherds, one brown bottle glass fragment, one aqua bottle glass fragment, and six mortar fragments with wattle or lathing impressions. The auger tests yielded one undecorated pearlware ceramic, one Colono ware sherd, one machine cut nail fragment, one unidentifiable nail fragment, seven Deptford Cord Marked sherds, six Deptford Plain sherds, 17 unidentifiable sherds, one chert flake, and one animal

bone. In addition, the auger tests produced a small quantity of fired brick and additional examples of wattle impressed mortar fragments. This locus covers an area of 500 by 250 feet.

Although locus A has been damaged by the construction of the impoundment, the depth of deposits, the temporal period represented, and the abundance of faunal remains, indicates that the remnants of this site area are capable of yielding significant information about Early Woodland occupation on Spring Island. This locus, therefore, is recommended as eligible for inclusion on the National Register and should either be green spaced or excavated. If green spacing is not practical, at least three 10-foot units should be excavated to recover a sample of the cultural remains present. Locus B, which represents a Middle Woodland shell midden, appears to have a high degree of site integrity and is capable of yielding information on both Middle Woodland settlement and subsistence questions. This area is also recommended as eligible for inclusion on the National Register and should also be green spaced or subjected to data recovery. If excavation at this site is necessary, it should include the examination of at least two spatially discrete shell middens, as well as several areas between middens. Locus C, although small, appears to represent an intact Middle Woodland shell midden similar to sites 38BU759 and 38BU760. At present, these small middens appear qualitatively distinct from the larger middens such as locus B and deserve additional investigation. Consequently, this locus is also recommended as eligible for inclusion on the National Register of Historic Places. Green spacing is the preferred alternative, although data recovery could be accomplished with the excavation of up to three 10-foot units.

The final locus (area D) appears to represent thoroughly plowed shell middens with little integrity. Of greater interest than the prehistoric remains, however, is the presence of the nineteenth century artifacts and mortar with wattle impressions. These historic remains can be isolated to a concentration measuring about 40 feet in diameter which is thought to represent the remains of a small structure. The artifacts recovered are indicative of a domestic use and the status of both the archaeological and architectural remains appears consistent with a slave occupation. There is, however, no evidence of additional structures. Isolated slave structures are occasionally reported in historical accounts, although they are rarely recognized in archaeological research. While this locus has particular importance to our interpretation of the Spring Island plantation complex, the site appears to have lost its integrity through intensive cultivation. As a result, it is recommended as not eligible for inclusion on the National Register as a distinct portion of the overall site.

38BU764

Site 38BU764 is situated about 200 feet to the east of site

38BU763D in a wooded area adjacent to a cultivated field. The central UTM coordinates are E515650 N3575520 and the site is found in an area of Eddings soil at an elevation ranging from 11 to 13 feet. Materials were found to cover an area measuring about 300 by 150 feet, although the site core could be defined in an area approximately 50 feet in diameter. This site was originally identified by Lepionka as Site 41, although this recent work does not incorporate his locus F97E since it is spatially distinct from 38BU764 and is situated outside the Phase 1 boundaries.

A series of 10 shovel tests, two of which produced specimens, were excavated within the site boundaries. Recovered were one Deptford Check Stamped sherd and one unidentifiable sherd.

The shell midden at this site is sparse and appears to have been heavily damaged by previous cultivation or logging. Artifact quantity and variety are low. As a result, this site is recommended as not eligible for inclusion on the National Register and no additional investigations are recommended.

38BU793

This site is situated adjacent to the main dirt road bordering the eastern side of the Phase 1 development tract. The original mapping provided for the survey boundaries excluded this site and it was not until the completion of the field work that it became apparent that the Phase 1 boundaries would encompass this area. Consequently, only minimal investigations have been carried out at this site.

The site, which consists of an early twentieth century tenant house built on a Deptford phase shell midden, is situated on Eddings soils at an elevation of 14 feet MSL. Site vegetation consists of dense mixed hardwoods and pine, except for an area around the structure which has been periodically bush hogged and lightly disked. The central UTM coordinates are E515570 N3575180. The site boundary is estimated to encompass an area of approximately 100 feet in diameter.

Because this site was not originally included in the Phase 1 development tract, no shovel or auger tests were conducted. A brief, unsystematic grab surface collection, however, produced four undecorated whiteware ceramics, one industrial stoneware fragment, three milk glass fragments, and a hard rubber toy gun fragment. Prehistoric remains at the site include one Deptford Check Stamped sherd, one Deptford Cord Marked sherd, and two Refuge sherds.

Also present at the site are the standing architectural remains of a vernacular tenant structure, probably built in the first quarter of the nineteenth century (based on cartographic sources, architectural evidence, and historical documentation). The structure is notable as an example of the housing being built for

black sea island tenants during this period. Most of the wood for the structure appears to have been made on the island, with only the finishing details brought from off the island. The piers for the structure are re-cycled tabby blocks, taken from an, as yet, unidentified nineteenth century site. The house has a shed extension and an extended through-passage design. The structure is in dilapidated condition, with extensive wood boring insect damage to the structural timbers. In addition, the chimney has been completely robbed. The structure has been briefly examined by Mr. Colin Brooker, an architectural historian working with Chicora Foundation on Spring Island.

Site 38BU793 is one of three nearly identical examples of tenant housing recorded by Chicora. One of the other two, 38BU1212, is in excellent condition, while the third, 38BU1213, is in very poor condition. We recommend 38BU793 as eligible for inclusion on the National Register because it represents the architecture typical of Spring Island in the early twentieth century. There are very few well documented examples of isolated sea island vernacular architecture and this structure has the ability to provide significant insights into the building technology and design of the period. In addition, the site is eligible for the historic archaeological remains present, which have the potential to provide information on tenant dietary patterns and status reconstructions.

The archaeological remains at 38BU793 are suitable for green spacing, or data recovery. Data recovery would involve the excavation of up to eight units in the vicinity of the structure to investigate refuse disposal practices and recover additional archaeological remains. The architectural remains at the site, however, are unsuitable for green spacing since it is unlikely that the structure could be cost effectively preserved. Green spacing, then, would be demolition through neglect. The architectural data present at the structure should be thoroughly recorded to Historic American Building Survey standards which will include both photographic documentation and scaled drawings. This documentation should be curated at the South Carolina Department of Archives and History and at the National Park Service.

38BU1207

Site 38BU1207 is situated at the south edge of the Phase 1 tract, about 400 feet southwest of 38BU763D. The central UTM coordinates are E515400 N3575250. The site is in a heavily wooded area on Eddings soils at an elevation of 13 feet. An impounded tidal slough is located about 200 feet to the northeast and separates this site from 38BU763D. Site boundaries have been established, on the basis of shovel and auger tests, to be about 300 by 300 feet.

This site represents a multicomponent site, with a thin veneer of shell midden covering the entire area. Portions of this midden

have been heavily damaged by previous cultivation or logging, although a few areas exhibit some limited degree of integrity. A series of 15 shovel tests and 17 auger tests have been excavated at the site. The shovel tests yielded one iron buckle, one aqua panel bottle fragment, one unidentifiable metal fragment, one Thom's Creek Reed Punctate sherd, one Deptford Plain sherd, three Deptford Cord Marked sherds, two Deptford Incised sherds, three unidentifiable sherd, one chert flake, and two animal bones. The auger tests produced two black bottle glass fragments, two aqua bottle glass fragments, one machine cut nail fragment, 12 Deptford Plain sherds, two Deptford Cord Marked sherds, one Deptford Check Stamped sherd, one Deptford Incised sherd, and two unidentifiable sherds. In addition, both the shovel and auger tests yielded mortar fragments with wattle impressions very similar to those found at 38BU763D.

The earliest occupation at this site appears to have been during the Early Woodland with use continuing through the Middle Woodland. This component contributed the shell midden found scattered across the site today. The historic component probably dates from the nineteenth century and in all respects appears to be identical to that identified at 38BU763D. Unfortunately, this site has also been heavily damaged by cultivation or logging and there is very limited site integrity. This site is recommended as not eligible for inclusion on the National Register of Historic Places and no further investigations are recommended.

38BU1208

Site 38BU1208 is situated in the middle of the Phase 1 tract and consists of a single positive shovel test. The central UTM coordinates are E516120 N3576550. The site is situated on Seabrook soils at an elevation of 20 feet. The site is in a forested area immediately west of a field in second growth pine. The single item recovered from the three shovel tests is a Deptford Incised sherd. The site has been estimated to cover an area 20 feet in diameter and there is no evidence of site integrity. As a result, this site is recommended as not eligible for inclusion on the National Register of Historic Places.

38BU1209

Site 38BU1209 is also situated in the central area of the Phase 1 development and is probably associated with an adjacent small spring-fed slough. The area is today moderately vegetated with an open understory. Soils in the site area are Eddings sands and the elevation is about 20 feet. The central UTM coordinates are E515980 N3576660. A series of five shovel tests were excavated to establish site boundaries of 150 feet east-west by 30 feet north-south (with the site essentially oriented parallel to the marsh slough). A single Deptford Cord Marked sherd was recovered from these tests in an area of dense shell midden. The only other area

of midden has been extensively damaged by recent land clearing.

This site appears to lack sufficient integrity to be considered eligible for inclusion on the National Register. Consequently, no further investigations are recommended for this site.

38BU1210

Site 38BU1210 is situated at the north end of the Phase 1 development tract, south of a tidal inlet. The central UTM coordinates are E515750 N3576860. Soils in the site area are Eddings sands and the elevation ranges from 16 to 19 feet. Adjacent to the marsh there is a low bluff with eroding shell. It was based on this visible shell that Lepionka defined his Site 24, locus S58. To the north the topography gradually slopes to the slough. The site is characterized by a mixed hardwood and pine forest with a light understory. The site consists of a series of shell middens roughly oriented east-west, parallel to the slough. Site boundaries have been established based on the shovel tests and the site measures about 500 feet east-west by 200 feet north-south.

A series of 14 shovel tests were excavated within the site, yielding one Deptford Cord Marked sherd, two unidentifiable sherds, and one chert flake. A single Stallings Plain sherd was recovered from the surface of a clearing within the site area. As with other sites of this type, the few sherds recovered were found between shell middens, not within the middens.

This site represents an intact Middle Woodland site with a series of small, discrete shell middens. The site appears to exhibit a high degree of integrity and is capable of yielding information on Middle Woodland settlement and subsistence. The site is recommended as eligible for inclusion on the National Register of Historic Places. Green spacing is the preferred mitigation alternative, although if this is not possible, development impact to the site can be mitigated through data recovery. Excavations at this site should emphasize the excavation of up to three shell midden areas, with testing in adjacent non-midden areas.

38BU1211

Site 38BU1211 is a small shell midden adjacent to the south shore of an impounded tidal slough in the middle of the Phase 1 tract. Soils are Murad sands and the site elevation is 5 feet. The central UTM coordinates are E515920 N3576010. The site is characterized by salt-tolerant scrub vegetation and is eroding into the Callawassie Creek marsh. Lepionka identified this midden as Site 36, locus S55, lumping it with locus S56 (which has been assigned site number 38BU759).

The site has been tested with six shovel tests which revealed

a dense midden of oyster and ribbed mussel covering an area 100 feet along the shore and continuing inland 30 feet. The midden has a maximum depth of 1.5 feet. While no prehistoric sherds were encountered in the midden, abundant charcoal was found. Lepionka has attributed this midden to non-cultural activity, specifically raccoons. This is an entirely implausible explanation for a midden of this size and depth which contains charcoal. It appears more likely that this is a specialized gathering site dating from the Middle Woodland period.

This site appears somewhat similar to sites such as 38BU759 and 38BU760, except that it has retained considerable integrity and has been subjected to only minor erosion. Since these small shoreline sites are qualitatively distinct from the larger groups of shell middens at sites such as 38BU763B and 38BU1210, they pose significant questions regarding site settlement, function, and subsistence base. This site is recommended as eligible for inclusion on the National Register of Historic Places. Either green spacing or data recovery is appropriate mitigation to development.

38BU1214

Site 38BU1214 is a large cluster of shell middens located about 300 feet south of and spatially isolated from 38BU1210. The central UTM coordinates are E515890 N3576790 and the site is situated on Eddings sands at an elevation of 20 feet. This site was previously recorded by Lepionka as Site 24, locus S57, but has been given a new site number by this survey to keep it distinct from the other loci identified by Lepionka over an area of 1800 linear feet along the shore. The site is in an area of mixed hardwood and pine with a generally light understory. The site was initially recognized by Lepionka based on the eroding shoreline, although the extent of the site inland was not recognized until this current survey. Site 38BU1214 is situated on a sandy rise which gradually drops to the north and south. To the west there is a high bluff overlooking the Callawassie Creek marsh.

The site, which measures 600 by 300 feet, was investigated by 17 shovel tests and 27 auger tests. The shovel tests yielded one Stallings Plain sherd, six Deptford Plain sherds, and two Deptford Cord Marked sherds. The auger tests produced three Deptford Plain sherds and one Deptford Cord Marked sherd. At least three areas of dense shell midden have been identified within this site, although it is likely that at least a dozen middens probably occur in the site area. As with previous examples of these larger Middle Woodland middens, pottery tends to be associated with non-midden areas, rather than with the shell middens.

Site integrity at 38BU1214 is regarded as high. The discrete midden areas may represent either a temporal range of site use or discrete occupation areas within a more limited period of use. The site has the potential to contribute significant data regarding

Deptford phase site settlement and subsistence. As a result, this site is recommended as eligible for inclusion on the National Register of Historic Places. If green spacing is impractical, this site should receive data recovery which investigates at least three distinct midden areas, as well as at least one area between middens.

CONCLUSIONS

Aboriginal Sites

The Phase 1 survey examined only 200 acres, or less than 6% of the total island. Consequently, information obtained concerning aboriginal settlement patterns and associations with soil drainage must be viewed with some degree of skepticism. These data, however, offer some tentative suggestions which deserve further investigation on Spring and other low country sea islands.

A total of 17 loci of aboriginal occupation were encountered in this survey. Occupation appears to span the period from about 1800 B.C. through about A.D. 1000, representing the Stallings, Thom's Creek, Refuge, Deptford, and St. Catherines phases. Of these, the Deptford phase is clearly dominant, being found at 12 of the loci. An additional four loci failed to yield diagnostic remains, so only one aboriginal site within this survey tract was identified which failed to provide evidence of Deptford use (38BU763A). Overall, Deptford sites have a density of at least one site per 17 acres and since site locations are not random the density is actually quite higher. The density of sites from other time periods is correspondingly very low. The Stallings and Thom's Creek components are both found at two sites, while the Refuge and St. Catherines components are limited to a single site each.

The implications of these findings to aboriginal population estimates and settlement patterns are unclear. It seems unlikely that Deptford phase population levels were higher than successive periods. Rather, there appears to be a specialized lifestyle with a number of small bands frequently moving to new locations for shellfish collection. These observations, of course, border on speculation given our current level of understanding.

This situation clearly demonstrates the need to integrate small, seemingly insignificant sites, into the broader pattern of archaeological investigations on the coast of South Carolina. For years archaeologists have been identifying small shell middens and passing them over in favor of the larger, more impressive sites. Certainly there has been some justification in this decision. The larger sites, such as Minim Island (38GE46), present a broader range of artifactual and subsistence remains. The investigation of these sites is essential to understand an important aspect of aboriginal dynamics. However, without also investigating the smaller sites the total nature of the prehistoric economy will remain unclear, or even worse, incorrectly interpreted.

There appear to be three "types" of late Early Woodland

through Middle Woodland period sites present in the Phase 1 survey tract. These types are based on spatial dimensions, content, and location. While the primary data for the definitions has been derived from Spring Island, they appear to resemble sites found throughout the Beaufort area.

The first type consists of very small, thin shell middens confined to the immediate shore area. These sites have middens of primarily oyster, although occasionally large numbers of other shells, such as ribbed mussel, may also be present. These sites only infrequently produce pottery and tend to be under a foot in thickness (frequently being only 0.5 foot in depth). Areal extent varies considerably, but appears to usually be under 500 square feet. Examples of this site type in the Phase 1 tract are 38BU759, 38BU760, and 38BU1211. These sites are distinct from the others because of their very small size, thin deposition, and close proximity to the marsh environment.

Two of the three Type 1 sites in the survey tract are found on Murad soils, while the third is situated on Eddings soil. It appears that the nature and function of these sites was such that well drained soils were a less significant site location criteria than proximity to the marsh biome.

The second type consists of relatively large sites consisting of a series of discrete shell middens composed almost entirely of oyster. These middens tend to have few artifacts associated with them, although cultural remains are found adjacent to the shell piles. The sites tend to be situated within 100 feet of a fresh water slough and/or the marsh. Examples of this site type found within the Phase 1 tract include 38BU747, 38BU763B, 38BU763C, 38BU1209, 38BU1210, and 38BU1214. Site 38BU763A is excluded because of its earlier Stallings-Thom's Creek associations. These sites are distinct from the others in their size, composition (a series of small discrete middens), and location.

Of the six Type 2 sites found in the Phase 1 survey, five are situated on Eddings soils, while one is on Coosaw soils. In contrast to the Type 1 sites where soil drainage was relatively insignificant, the Type 2 sites are typically located in very well drained, elevated locations.

The third site type consists of relatively poorly understood middens located from 200 to 800 feet distant of water sources. Cultural remains are relatively abundant and there is evidence of shell middens. Unfortunately, all seven examples from the current study on Spring Island (38BU748, 38BU762, 38BU763D, 38BU764, 38BU793, 38BU1207, and 38BU1208) evidence extensive plow disturbance. There is strong possibility that these sites are essentially similar to the Type 2 sites, with the cultural materials more extensively distributed through heavy plowing. Of the seven sites, five are situated on Eddings soils, one is on

Seabrook soils, one is on Wando soils, and one is on Murad soils. This suggests a pattern similar to the Type 2 sites where the preferred site location was on high, well drained soil. The average distance from a water source is slightly over 400 feet. It is this distance which tends segregate the Type 2 and Type 3 sites.

If this analysis is correct, then the Deptford phase settlement system on the Phase 1 survey tract appears to consist of small accumulations of shell immediately adjacent to the marsh which may represent short-term gathering and/or processing areas, as well as larger accumulations of shell near a water source which may represent temporary camps. These temporary camps may represent the refuse from either seasonal or non-seasonal rounds, although none appear to represent repeated occupations. In general the sites suggest rather small bands. The third type of site cannot, at present, be integrated into this settlement system. The larger late Early Woodland through Middle Woodland sites occasionally found in the area may represent base camps for larger groups.

This reconstruction, tenuous as it may be, demonstrates that if the post-Thom's Creek settlement systems along the coast are to be understood, then the "small" sites must be recognized as a significant aspect of the archaeological record. In addition, it demonstrates that "traditional" archaeological techniques and questions which emphasize the recovery of diagnostic cultural remains are largely unsuitable for anthropological reconstructions.

The small Type 1 sites may fail to yield any pottery or diagnostic lithics. The sites may also fail to produce other objects of traditional archaeological investigation and interpretation, such as pits or post holes. While these alone can be considered significant clues to their function, they must be coupled with a more intensive collection and analysis of subsistence remains. Of primary concern is the collection of reliable shellfish samples suitable for the analysis of seasonality, habitats being harvested, intensity of harvesting, demographics, and shellfish preparation. This requires that archaeology be recognized as simply a technique for the collection of very specialized, traditionally non-archaeological data. It will also require that specialists in shellfish be fully funded.

The larger Type 2 sites are expected to present a more typical archaeological picture, since they are expected to yield diagnostic cultural remains and possibly features. Yet they too must be approached in an untypical fashion if the data are to be systematically collected, analyzed, and interpreted. It is essential that these sites be investigated with sufficient intensity that intra-site patterns are recognized. At present we can recognize that there are areas of middens dispersed over the site area and it appears that the middens are distinct from the non-midden areas in the recovery of diagnostic remains, although it is not possible to determine patterns or densities of refuse.

Investigations at these sites must include provisions to plot shell midden and artifactual densities, probably through the use of computer plotting. Such an approach will require some form of subsurface testing at small intervals, perhaps 10 to 20 feet, with the collection not only of artifacts, but also the quantification of shell midden. Excavation must then incorporate both shell middens and non-midden areas. Investigation of the shell midden should follow the emphasis on shellfish analysis described for the Type 1 sites, while the non-midden areas should be explored for diagnostic artifacts, and evidence of structures and pits.

Investigation of the third site type must wait until sites of clear integrity are identified. While there have been convincing cases made recently that plowed sites are capable of yielding significant archaeological data, it seems unlikely that valid midden studies can be conducted under such circumstances.

It should also be recognized that the excavation of one or two sites of any one type will provide insufficient data on which to reconstruct aboriginal settlement and subsistence systems. To generalize about an entire class of sites will require that a fairly large number be investigated at some detailed level. In addition, it is as significant to establish the range of variation as it is to construct a generalization.

Within the Phase 1 development tract on Spring Island one (38BU1211) of the three Type 1 sites has been recommended as eligible for inclusion on the National Register. The remaining two have suffered extensive erosion and no longer are considered to have sufficient integrity to yield valid samples. Five of the six Type 2 sites (38BU747, 38BU763B, 38BU763C, 38BU1210, and 38BU1214) are recommended as eligible for inclusion on the National Register. The remaining site has been damaged by recent ground clearing and has lost its integrity. None of the Type 3 sites are recommended as eligible for inclusion on the National Register of Historic Places because they all have suffered extensive agricultural damage. One additional site, 38BU763A, is also recommended as eligible for the National Register, although it is not included in this late Early Woodland - Middle Woodland reconstruction.

All of the eligible sites are suitable for green spacing and recommendations for this are provided below. If these sites cannot be economically green spaced, the development impacts may be mitigated through data recovery, using the techniques and research design discussed in this section. Determinations of eligibility, and suitability of green spacing and data recovery plans, however, are solely determined by the South Carolina State Historic Preservation Office.

Historic Sites

Three sites with historic components were identified in the

Phase 1 survey, representing two distinct classes. The first represents a standing example of vernacular architecture dating from the first quarter of the twentieth century and used as tenant housing on the Spring Island Plantation (38BU793). This site was situated on the moderately well drained Eddings soils adjacent to one of the main roads on the island. The site consists of both archaeological and architectural remains which are recommended as eligible for inclusion on the National Register of Historic Places.

This site represents a part of history which is often forgotten. The emphasis has been on the main houses and the plantation owners (whether antebellum or postbellum), largely because traditional history is written by and about the wealthy, the high status, and the literate. Relatively little attention has been devoted to the poor and the illiterate. Tenancy on Spring Island is a major historical and social event from about 1870 through 1940. Sites such as 38BU793 provide one of the few avenues for research into this significant event. The archaeological remains have the potential to reconstruct the life of a Spring Island tenant and to provide flesh to the meager historical accounts. The architectural remains have the potential to document changing building techniques and fashions on the sea islands. It is in the area of architecture where we may expect to see clearly the "two opposite poles of archaism and innovation."

While the archaeological remains are suitable for green spacing, the structure is in a dilapidated condition and green spacing is an inappropriate mitigation technique. Consequently, the recommended mitigation at this site is the production of photographs and measured line drawings to the standards established by the Historic American Buildings Survey. These specifications ensure not only long-term archival stability of the materials, but also that all significant architectural details are recorded in complete detail.

The remaining two historic sites are 38BU763D and 38BU1207. Both sites appear to date from the mid-nineteenth century and represent probable isolated slave dwellings. While few architectural details are present, both sites have produced evidence of mortar wattle and daub remains. While slave sites tend to form rows or settlements, isolated structures are occasionally mentioned in historic documents, usually associated with a very specific function such as housing for rice gate tenders. Craton briefly discusses the function of "watchmen," who were,

set to live in a hut on the edge of the fields or provision grounds . . . expected to be vigilant twenty-four hours a day, seven days a week (Craton 1987:214)

These individuals watched over the crops, protecting them from invading birds, wild hogs, and theft.

The two sites identified in the Phase 1 survey may have such a function, although they are within 800 feet of each other, on opposite sides of a freshwater slough. The sparse architectural and archaeological remains would appear to support such a limited function. An alternative interpretation, however, is that they represent freedmen housing dating from the early postbellum period.

Unfortunately, both sites have been heavily damaged by cultivation and cannot be recommended as eligible for inclusion on the National Register.

Green Spacing Specifications

Green spacing is recognized as an appropriate, and often cost-effective, mitigation measure for archaeological site conservation. Such green spacing, however, must ensure the permanent protection and integrity of the archaeological data. Six recommendations are offered if green spacing is to be considered; these provisions are subject to review and approval of the State Historic Preservation Office.

1. All sites are to be blocked out in the field with a buffer sufficient to ensure complete protection of the remains.
2. Any clearing necessary at the sites must be conducted only by hand. No heavy equipment may be used and all cut vegetation must be removed from the site area.
3. The sites must continue to be clearly defined during all phases of construction. No equipment may be allowed in these areas, or be allowed to use the areas as turn-arounds. The sites may not be used to stockpile supplies, nor be otherwise disturbed. All personnel, including contractor's personnel, must be strictly prohibited from entering the areas. This is of particular importance to prevent looting of the sites.
4. Any landscaping in the site area must be conducted by hand and ground disturbance must be limited to the upper 0.2 foot of the soil. No utilities, including sprinkler lines or underground cables, may be placed through the site areas.
5. Callawassie Development Corporation must develop a historic easement or protective covenant protecting those areas set aside in green spacing and this protection must be in perpetuity.
6. Appropriate security must be provided to ensure that no one digs or otherwise disturbs the various sites.

At least two sites, 38BU763C and 38BU1211 appear to be suitable for green spacing. In addition, two other sites, 38BU763A and 38BU763B, may be suitable depending on the eventual house construction layout. Three sites, 38BU747, 38BU1219, and 38BU1214, because of their size or location appear to be poor candidates for green spacing.

SOURCES CITED

- Baldwin, Agnus
1966 History of Spring Island Plantation, Beaufort County, South Carolina. Ms. on file, Chicora Foundation, Inc., Columbia.
- Bense, Judith A., Hester A. Davis, Lorraine Heartfield, and Kathleen Deagan
1986 Standards and Guidelines for Quality Control in Archaeological Resource Management in the Southeastern United States. Southeastern Archaeology 5:52-62.
- Braudel, Fernand
1976 The Mediterranean and the Mediterranean World in the Age of Phillip II. Volume 1. Harper and Row, New York.
- Brockington, Paul, Michael Scardaville, Patrick H. Garrow, David Singer, Linda France, and Cheryl Holt
1985 Rural Settlement in the Charleston Bay Area: Eighteenth and Nineteenth Century Sites in the Mark Clark Expressway Corridor. Garrow and Associates, Atlanta. Submitted to the S.C. Department of Highways and Public Transportation, Columbia.
- Brooker, Colin
n.d. A Survey of Tabby Structures on Spring Island Plantation, South Carolina. Ms. on file, Chicora Foundation, Inc., Columbia.
- Brooks, Mark J. and James D. Scurry
1978 An Intensive Archaeological Survey of Amoco Realty Property in Berkeley County, South Carolina with a Test of Two Subsistence-Settlement Hypotheses for the Prehistoric Period. Research Manuscript Series 147. S.C. Institute of Archaeology and Anthropology, University of South Carolina, Columbia.
- Brooks, Mark J., Larry Lepionka, Ted A. Rathbun, and John Goldsborough
1982 Preliminary Archaeological Investigations at the Callawassie Island Burial Mound (38BU19), Beaufort County, South Carolina. Research Manuscript Series 185. South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.
- Carse, Robert
1981 Department of the South: Hilton Head Island in the

Civil War. State Printing, Columbia.

Clowse, Converse D.

1971 Economic Beginnings in Colonial South Carolina, 1670-1730. University of South Carolina Press, Columbia.

Coe, Joffre L.

1964 The Formative Cultures of the Carolina Piedmont. Transactions of the American Philosophical Society 54(5).

Colquhoun, Donald J.

1969 Geomorphology of the Lower Coastal Plain of South Carolina. Division of Geology, S.C. State Development Board, Columbia.

Colquhoun, D.J., M.J. Brooks, W.H. Abbott, F.W. Stapor, W.S. Newman, and R.R. Pardi

1980 Principles and Problems in Establishing a Holocene Sea-Level Curve for South Carolina. In Excursions in Southeastern Geology, edited by James D. Howard, Chester B. DePratter, and Robert W. Frey, pp. 143-159. Guidebook 20. Geological Society of America, Atlanta.

Cook, C. Wythe

1936 Geology of the Coastal Plain of South Carolina. Bulletin 867. U.S. Geological Survey, Washington, D.C.

Craton, Michael

1978 Searching for the Invisible Man: Slaves and Plantation Life in Jamaica. Harvard University Press, Cambridge.

Deagan, Kathleen

1983 Spanish St. Augustine: The Archaeology of a Colonial Creole Community. Academic Press, New York.

DeBow, J.D.B.

1853 The Seventh Census of the United States: 1850. Robert Armstrong, Washington, D.C.

DePratter, Chester

1979 Ceramics. In The Anthropology of St. Catherines Island 2. The Refuge-Deptford Mortuary Complex, edited by David Hurst Thomas and Clark Spencer Larsen, pp. 109-132. Anthropological Papers of the American Museum of Natural History 56(1).

DePratter, Chester and J.D. Howard

1980 Indian Occupation and Geologic History of the Georgia Coast: A 5,000 Year Summary. In Excursions in Southeastern Geology, edited by James D. Howard and

Chester B. DePratter, and Robert W. Frey, pp. 1-65.
Guidebook 20. Geological Society of America, Atlanta.

Drucker, Lesley and Susan Jackson

1984 Shell in Motion: An Archaeological Study of the Minim Island National Register Site, Georgetown County, South Carolina. Carolina Archaeological Services, Columbia. Submitted to Charleston District, U.S. Army Corps of Engineers, Charleston.

Federal Writers' Project

1938 Beaufort and the Sea Islands. Review Printing, Savannah.

Ferguson, Leland G.

n.d. Human Interaction in the Indian Villages of La Florida: Anthropology and Archaeology. Ms. on file, Department of Anthropology, University of South Carolina, Columbia.

Ferris, Robert G., editor

1968 Explorers and Settlers. U.S. Department of the Interior, National Park Service, Washington, D.C.

Flint, Richard F.

1971 Glacial and Quaternary Geology. John Wiley and Sons, New York.

Forten, Charlotte

1864 Life on the Sea Islands. Atlantic Monthly 12(79):587-596.

Glassow, Michael A.

1977 Issues in Evaluating the Significance of Archaeological Resources. American Antiquity 42:413-420.

Goodyear, Albert C., John H. House, and Neal W. Ackerly

1979 Laurens-Anderson: An Archaeological Study of the Inter-Riverine Piedmont. Anthropological Studies 4. South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Hammond, Harry

1884 Report on Common Production of the State of South Carolina. In Report on the Cotton Production in the United States, edited by Eugene W. Hilgard, pp. 451-526. Census Office, Department of the Interior, Washington, DC.

Hartley, Michael O.

1984 The Ashley River: A Survey of Seventeenth Century Sites. Research Manuscript Series 192. South Carolina

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

Hoffman, Paul E.

1984 The Chicora Legend and Franco-Spanish Rivalry in La
Florida. The Florida Historical Quarterly 62:419-438.

Holmgren, Virginia C.

1959 Hilton Head: A Sea Island Chronicle. Hilton Head Island
Publishing, Hilton Head Island, South Carolina.

Huneycutt, Dwight J.

1949 The Economics of the Indigo Industry in South Carolina.
Unpublished M.A. Thesis, Department of Economics,
University of South Carolina, Columbia,

Janiskee, Robert L. and Michael Bell

1980 Climate. In Soil Survey of Beaufort and Jasper
Counties, South Carolina, edited by W.M. Stuck, pp. 1-
2. Soil Conservation Service, U.S. Department of
Agriculture, Washington, DC.

Johnson, Guion G.

1969 A Social History of the Sea Islands. Negro Universities
Press, New York.

Jones, Grant D.

1978 The Ethnohistory of the Guale Coast Through 1684. In
The Anthropology of St. Catherines Island: Natural and
Cultural History, edited by David H. Thomas, Grant D.
Jones, Roger S. Durham, and Clark S. Larsen, pp. 178-
210. Anthropological Papers 55(2). American Museum of
Natural History, New York.

1981 Guale Indians of the Southeastern United States Coast.
In Excursions in Southeastern Geology, edited by James
D. Howard, Chester B. DePratter, and Robert W. Frey,
pp. 215-224. Guidebook 20. Geological Society of
American, Atlanta.

Kennedy, Joseph C.G.

1864 Agriculture of the United States in 1860. Government
Printing Office, Washington, DC.

Kurtz, Herman and Kenneth Wagner

1957 Tidal Marshes of the Gulf and Atlantic Coasts of
Northern Florida and Charleston, South Carolina.
Studies 24. Florida State University, Tallahassee.

Landers, H.

1970 Hilton Head and the Sea Islands of South Carolina.
Climatography of the United States Number 21-383.

Environmental Science Services Administration, U.S.
Department of Commerce, Washington, DC.

Lepionka, Larry

1986 Archaeological Reconnaissance Survey of Spring Island, Beaufort County, South Carolina. Ms. on file, South Carolina Department of Archives and History, Columbia.

Lepionka, Larry, Donald Colquhoun, Rochelle Marrinan, David McCollum, Mark Brooks, John Foss, William Abbott, and Ramona Grunden

1983 The Second Refuge Site: Location 22 (38JA61), Savannah National Wildlife Refuge, Jasper County, South Carolina. University of South Carolina, Beaufort. Submitted to National Park Service, Interagency Archaeological Service, Atlanta.

Mathews, Thomas, Frank Stapor, Jr., Charles Richter, John Milgarese, Michael McKenzie, and Lee Barclay

1980 Ecological Characterization of the Sea Island Region of South Carolina and Georgia, volume 1. Office of Biological Services, United States Fish and Wildlife Service, Washington, D.C.

McDowell, W.L., editor

1955 Journals of the Commissioners of the Indian Trade. Colonial Records of South Carolina, South Carolina Department of Archives and History, Columbia.

McGuire, Mary J.

1982 Getting Their Hands of the Land: Black Farmers in St. Helena Parish, 1861-1900. Unpublished M.A. thesis, Department of History, University of South Carolina, Columbia.

1985 Getting Their Hands on the Land: The Revolution in St. Helena Parish, 1861-1900. Unpublished Ph.D. dissertation, Department of History, University of South Carolina, Columbia.

Michie, James L.

1977 The Late Pleistocene Human Occupation of South Carolina. Unpublished Honor's Thesis, Department of Anthropology, University of South Carolina, Columbia.

Milanich, Jerald T.

1971 The Deptford Phase: An Archaeological Reconstruction. Ph.D. dissertation, University of Florida. University Microfilms, Ann Arbor.

- Miller, George L.
 1980 Classification and Economic Scaling of 19th Century Ceramics. Historical Archaeology 14:1-40.
- Mills, Robert
 1826 Statistics of South Carolina. Hurlbut and Lloyd, Charleston.
- Mooney, James
 1894 The Siouan Tribes of the East. Bulletin 22. Bureau of American Ethnology, Washington, DC.
- Noel Hume, Ivor
 1970 A Guide to Artifacts of Colonial America. Alfred A. Knopf, New York.
- Peterson, Drexel
 1971 Time and Settlement in the Archaeology of Groton Plantation, South Carolina. Unpublished Ph.D. Dissertation, Department of Anthropology, Harvard University, Cambridge.
- Phelps, David S.
 1984 Archaeology of the Tillett Site: The First Fishing Community at Wanchese, Roanoke Island. Archaeological Research Report 6. Archaeology Laboratory, Department of Sociology, Anthropology and Economics, East Carolina University, Greenville.
- Price, Cynthia R.
 1979 19th Century Ceramics in the Eastern Ozark Boarder Region. Monograph Series 1. Center for Archaeological Research, Southwest Missouri University, Springfield.
- Quattlebaum, Paul
 1956 The Land Called Chicora. University of Florida Press, Gainesville.
- Quitmyer, Irvy
 1985a Aboriginal Subsistence Activities in the Kings Bay Locality. In Aboriginal Subsistence and Settlement Archaeology of the Kings Bay Locality, vol. 2, edited by William H. Adams, pp. 73-91. Reports of Investigations 2. Department of Anthropology, University of Florida, Gainesville.
- 1985b The Environment of the Kings Bay Locality. In Aboriginal Subsistence and Settlement Archaeology of the Kings Bay Locality, vol. 2, edited by William H. Adams, pp. 1-32. Reports of Investigations 2. Department of Anthropology, University of Florida, Gainesville.

- Rose, Willie Lee
 1964 Rehearsal for Reconstruction: The Port Royal Experiment. Oxford University Press, London.
- Rosengarten, Theodore
 1987 Tombee: Portrait of a Cotton Planter. McGraw-Hill, New York.
- Rowland, Lawrence S.
 1978 Eighteenth Century Beaufort: A Study of South Carolina's Southern Parishes to 1800. Unpublished Ph.D. dissertation, Department of History, University of South Carolina, Columbia.
- Sandifer, Paul A., John V. Miglarese, Dale R. Calder, John J. Manzi, and Lee A. Barclay
 1980 Ecological Characterization of the Sea Island Coastal Region of South Carolina and Georgia, vol. 3. Office of Biological Services, Fish and Wildlife Service, Washington, DC.
- Scott, Robert N.
 1891 The War of the Rebellion: A Compilation of the Official Records of the Union and Confederate Armies. Series 1, Volume 35, Part 1. Government Printing Office, Washington, D.C.
- Scurry, James D. and Mark J. Brooks
 1980 An Intensive Archaeological Survey of the South Carolina State Ports Authority's Bellview Plantation, Charleston, South Carolina. Research Manuscript Series 158. S.C. Institute of Archaeology and Anthropology, University of South Carolina, Columbia.
- Service, E.R.
 1966 The Hunters. Prentice-Hall, Englewood.
- Singleton, Theresa A.
 1980 The Archaeology of Afro-American Slavery in Coastal Georgia: A Regional Perception of Slave Household and Community Patterns. Ph.D. dissertation, University of Florida, Gainesville. University Microfilms, Ann Arbor.
- Smith, Lynwood
 1933 Physiography of South Carolina. Unpublished M.S. Thesis, Department of Geology, University of South Carolina, Columbia.
- South, Stanley
 1977 Method and Theory in Historical Archaeology. Academic Press, New York.

- 1979 The Search for Santa Elena on Parris Island, South Carolina. Research Manuscript Series 150. S.C. Institute of Archaeology and Anthropology, University of South Carolina, Columbia.
- 1980 The Discovery of Santa Elena. Research Manuscript Series 165. S.C. Institute of Archaeology and Anthropology, University of South Carolina, Columbia.
- 1982a A Search for the French Charlesfort of 1562. Research Manuscript Series 177. S.C. Institute of Archaeology and Anthropology, University of South Carolina, Columbia.
- 1982b Exploring Santa Elena 1981. Research Manuscript Series 184. S.C. Institute of Archaeology and Anthropology, University of South Carolina, Columbia.
- 1983 Revealing Santa Elena 1982. Research Manuscript Series 188. S.C. Institute of Archaeology and Anthropology, University of South Carolina, Columbia.
- 1984 Testing Archaeological Sampling Methods at Fort San Felipe 1983. Research Manuscript Series 190. S.C. Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

South, Stanley and Mike Hartley

- 1980 Deep Water and High Ground: Seventeenth Century Low Country Settlement. Research Manuscript Series 166. South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Starr, Rebecca K.

- 1984 A Place Called Daufuskie: Island Bridge to Georgia 1520-1830. Unpublished M.A. Thesis, Department of History, University of South Carolina, Columbia.

Stuck, W. M.

- 1980 Soil Survey of Beaufort and Jasper Counties, South Carolina. Soil Conservation Service, U.S. Department of Agriculture, Washington, D.C.

Swanton, John R.

- 1922 Early History of the Creek Indians and Their Neighbors. Bureau of American Ethnology, Bulletin 73. Government Printing Office, Washington, D.C.

Thomas, David H. and Clark S. Larsen

- 1979 The Anthropology of St. Catherine's Island: The Refuge-Deptford Mortuary Complex. Anthropological Papers 56(1). American Museum of Natural History, New York.

- Thompson, Morrow B.
 1972 What is an Estuary? In Port Royal Sound Environmental Study, edited by the S.C. Water Resources Commission, pp. 7-15. State Printing Company, Columbia.
- Trinkley, Michael
 1981 Studies of Three Woodland Period Sites in Beaufort County, South Carolina. South Carolina Department of Highways and Public Transportation, Columbia.
- 1982 A Summary Report of the Excavations at Alligator Creek, Charleston County, S.C. U.S.D.A., Forest Service, Columbia.
- 1983 Ceramics of the Central South Carolina Coast. South Carolina Antiquities 15:43-54.
- 1987 Archaeological Survey of Hilton Head Island, Beaufort County, South Carolina. Research Series 9. Chicora Foundation, Columbia.
- Trinkley, Michael, editor
 1986 Indian and Freedmen Occupation at the Fish Haul Site (38BU805), Beaufort County, South Carolina. Research Series 7. Chicora Foundation, Inc., Columbia.
- 1989 Archaeological Investigations at Haig Point, Webb, and Oak Ridge, Daufuskie Island, Beaufort County, South Carolina. Research Manuscript Series 15. Chicora Foundation, Inc., Columbia.
- United States Treasury Department
 1862 The Negroes at Port Royal: Report of E.L. Pierce, Government Agent, to the Honorable Salmon P. Chase, Secretary of the Treasury. R.F. Wallcut, Boston.
- Waddell, Gene
 1980 Indians of the South Carolina Low Country. Reprint Company, Spartanburg, South Carolina.
- Walthall, John A.
 1980 Prehistoric Indians of the Southeast: Archaeology of Alabama. University of Alabama Press, University.
- Waring, Antonio J., Jr.
 1961 Fluted Points on the South Carolina Coast. American Antiquity 26:550-552.
- Williams, Stephen, editor
 1968 The Waring Papers: The Collected Works of Antonio J. Waring, Jr. Papers of the Peabody Museum of Archaeology and Ethnology 58. Harvard University, Cambridge.

Wilson, Homes H.

1982 An Analysis of Skeletal Material from Bw'67, Brunswick County, North Carolina. Unpublished M.A. Thesis, Department of Anthropology, University of North Carolina, Chapel Hill.

Woofter, T.J.

1930 Black Yeomanry: Life on Saint Helena Island. Henry Holt, New York.

Zierden, Martha and Jeanne Calhoun

1983 An Archaeological Assessment of the Greenfield Borrow Pit, Georgetown County. The Charleston Museum, Charleston, South Carolina.