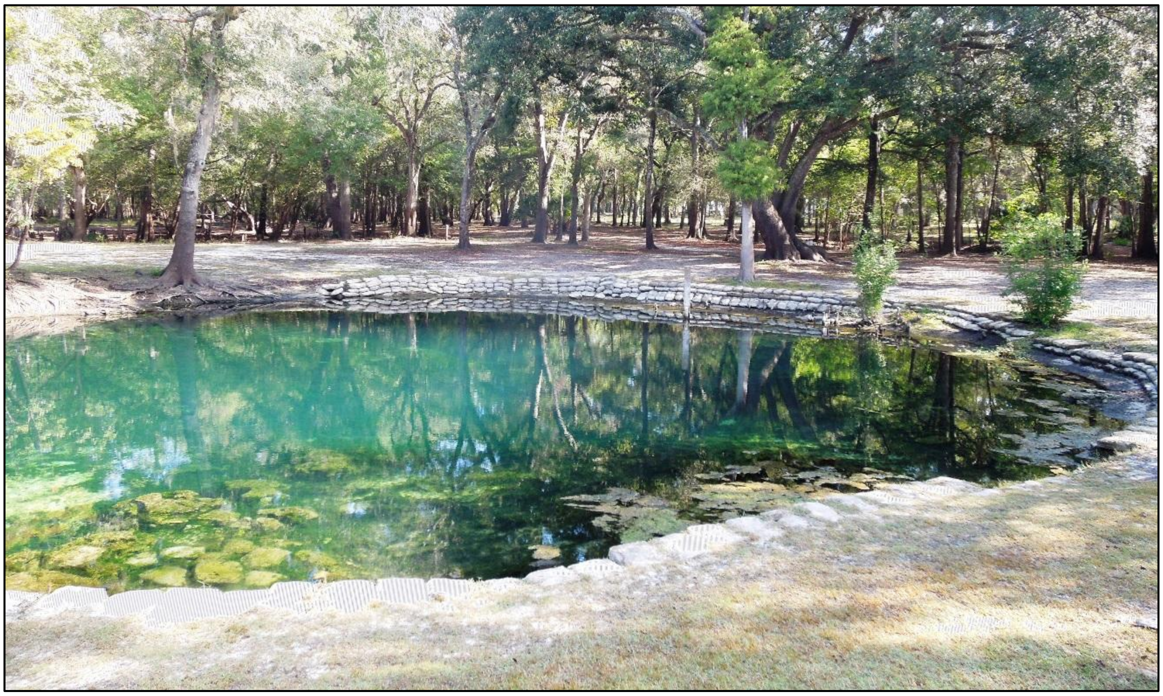
CULTURAL RESOURCES ASSESSMENT SURVEY WITHIN OTTER SPRINGS PARK, GILCHRIST COUNTY, FLORIDA



Jason M. O'Donoughue and Kenneth E. Sassaman

Technical Report 19
Laboratory of Southeastern Archaeology
Department of Anthropology
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Cover photo of Otter Springs #2, Gilchrist County, Florida, October 2014.

MANAGEMENT SUMMARY

The Laboratory of Southeastern Archaeology (LSA) of the Department of Anthropology, University of Florida, conducted a Cultural Resources Assessment Survey at Otter Springs Park on October 20–21, 2014 to aid the Suwannee River Water Management District (SRWMD) as they plan infrastructural repair and maintenance dredging. The SRWMD plans to conduct maintenance dredging of the spring and to install split-rail fence to prevent physical damage to the springs from small motorized vehicles. This survey was conducted to identify subsurface cultural resources that could be impacted by these activities and to evaluate their eligibility for nomination to the National Register of Historic Places (NRHP). This research was conducted under 1A-32 permit #1415.017. The survey was performed in accordance with Chapter 267 Florida Statutes and all work including background research, field work, artifact analysis and curation, and preparation of this report conformed to Chapter 1A-46, Florida Administrative Code and the Cultural Resource Management Standards and Operation Manual (FDHR 2002).

Archival research indicated that one archaeological site, the Otter Springs site (8GI12), had been previously recorded within the project area of potential effect (APE). This site has not been evaluated with regards to its eligibility for inclusion on the NRHP by the State Historic Preservation Officer (SHPO). Subsurface testing involved the excavation of shovel tests pits (STPs) at 30-m intervals within the areas subject to subsurface disturbance. In total, 19 STPs were excavated, 18 of which contained cultural materials in undisturbed contexts. Subsurface disturbance within the APE was found to be extensive, but of variable depth.

The previously recorded Otter Springs site (8GI12) was relocated and its boundary expanded. This is a moderate density lithic and ceramic scatter dating primarily to the Woodland period (ca. 2500–1250 B.P.), although there is some indication of earlier and later occupation. This site has the potential to yield information pertinent to both local and regional archaeological questions. Based on the results of the survey, the LSA considers the Otter Springs site (8GI12) to be eligible for inclusion on the NRHP under Criterion D.

The LSA has several recommendations that will aid the SRWMD in minimizing impacts to archaeological resources: (1) split-rail fence installation should be monitored by a professional archaeologist; (2) repair of the sand-cement retaining wall around Otter Spring #2 should be monitored by a professional archaeologist; (3) dredging of the springs should be monitored by a professional archaeologist; (4) installation of silt fence around the spoil dewatering areas can proceed without further archaeological intervention; and (5) future activities taking place outside the project APE should be preceded by archaeological reconnaissance.

ACKNOWLEDGMENTS

Archaeological investigations at Otter Springs Park was conducted under 1A-32 permit #1415.017 issued by the Bureau of Archaeological Research (BAR), Division of Historic Resources, Florida Department of State. We extend our thanks to BAR Senior Archaeologist Julie Byrd for her assistance in navigating the paperwork and advice on technical matters.

Dave Dickens, Chief of the Bureau of Administrative and Operations, and Gwen Lord, Contracts and Procurement Coordinator at the Suwannee River Water Management District facilitated this research. We are thankful to have had the opportunity to expand our research on the archaeology of Florida's springs.

The field crew at Otter Springs endured long days of survey, but in an idyllic setting. We are thankful to Zack Gilmore for his diligent work. Administrative staff of the Department of Anthropology, University of Florida ensured smooth operations and responded quickly and cheerfully to last-minute requests. We are especially grateful to Office Manager Karen Jones for her fiscal oversight and to Patricia King and Pam Freeman for logistical support.

CONTENTS

CHAPTER 1
INTRODUCTION

The Laboratory of Southeastern Archaeology (LSA) of the Department of Anthropology, University of Florida, conducted a Cultural Resources Assessment Survey (CRAS) at Otter Springs Park on October 20–21, 2014 to aid the Suwannee River Water Management District (SRWMD) as they plan infrastructural repair and maintenance dredging. This survey was conducted to identify subsurface cultural resources that could be impacted by these activities and to evaluate their eligibility for nomination to the National Register of Historic Places (NRHP). This research was conducted under 1A-32 permit #1415.017. The survey was performed in accordance with Chapter 267 Florida Statutes and all work including background research, field work, artifact analysis and curation, and preparation of this report conformed to Chapter 1A-46, Florida Administrative Code and the Cultural Resource Management Standards and Operation Manual (FDHR 2002).

PROJECT DESCRIPTION

Otter Springs Park is a 636-acre park and campground located in western Gilchrist County, near the border with Dixie County (Figure 1-1). The park is approximately 60 km west of Gainesville and 37 km inland from the Gulf of Mexico. Otter Springs is a second-magnitude spring consisting of two separate spring pools connected by a 75-m (250-ft) artificial channel that was excavated in the early 1960s. Otter Spring #1 is the main (original) spring, and has a pool measuring approximately 40 m (130 ft.) in diameter with a concrete retaining wall on the southern margin. Otter Spring #2 is located approximately 45 m (150 ft.) northeast of the main spring. It has a 21-m (68-ft) diameter pool surrounded by a sand cement retaining wall. It flows southwest into the pool of the main spring, through the artificial channel. Prior to the excavation of this channel Otter Springs #2 did not flow onto the surface. It is visible on historic aerial photographs as a water-bearing sink or karst window. The spring run flows generally westward for approximately 1.3 km (0.8 mi), where it joins the Suwannee River.

The SRWMD plans several activities that may impact cultural resources at Otter Springs (Figure 1-1). First, they plan to conduct maintenance dredging to remove sediment that has intruded in the past 50 years. This sediment is impeding the flow of Otter Spring #1. Second, they plan to install split rail-fencing around Otter Spring #1 and the perimeter of the recreational area to prevent physical damage to the springs from small motorized vehicles (e.g., ATVs and golf carts). Fence posts will be installed to a depth of 3 feet. The SRWMD plans to make use of existing fencing and natural boundaries (e.g., sinkholes and trees) to construct a barrier to motor vehicles while minimizing the number of fence posts to be installed. Finally, they plan to repair the sand-cement retaining wall around Otter Spring #2 by encasing it in rubble embedded in concrete. Subsurface impacts for this portion of the project will be limited to 12 inches in depth. The project area of potential effect (APE) thus includes an approximately 300-m

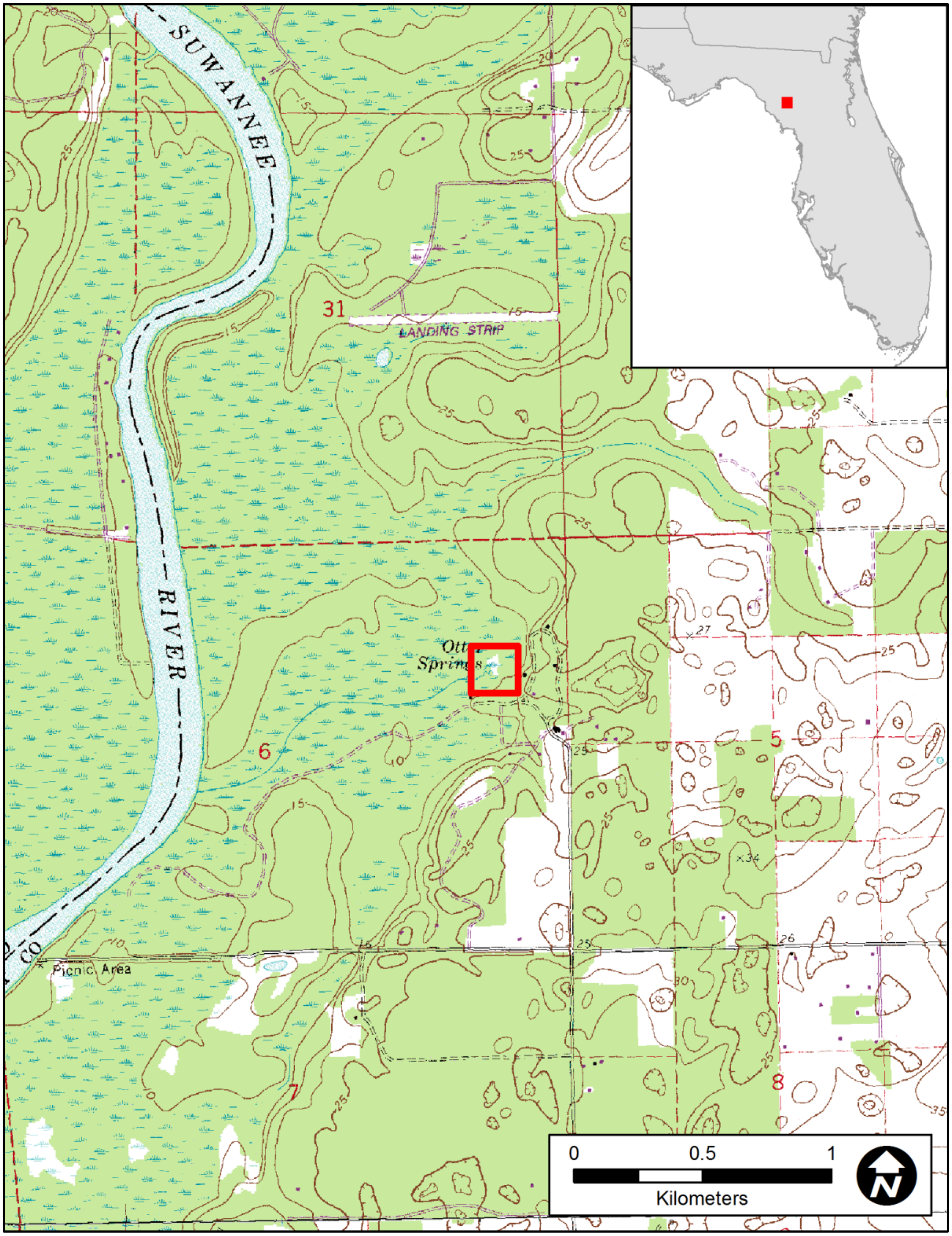

Figure 1-1. Subsection of the USGS 7.5’ Wannee (1993) Topographic Quad showing the location of the project area.

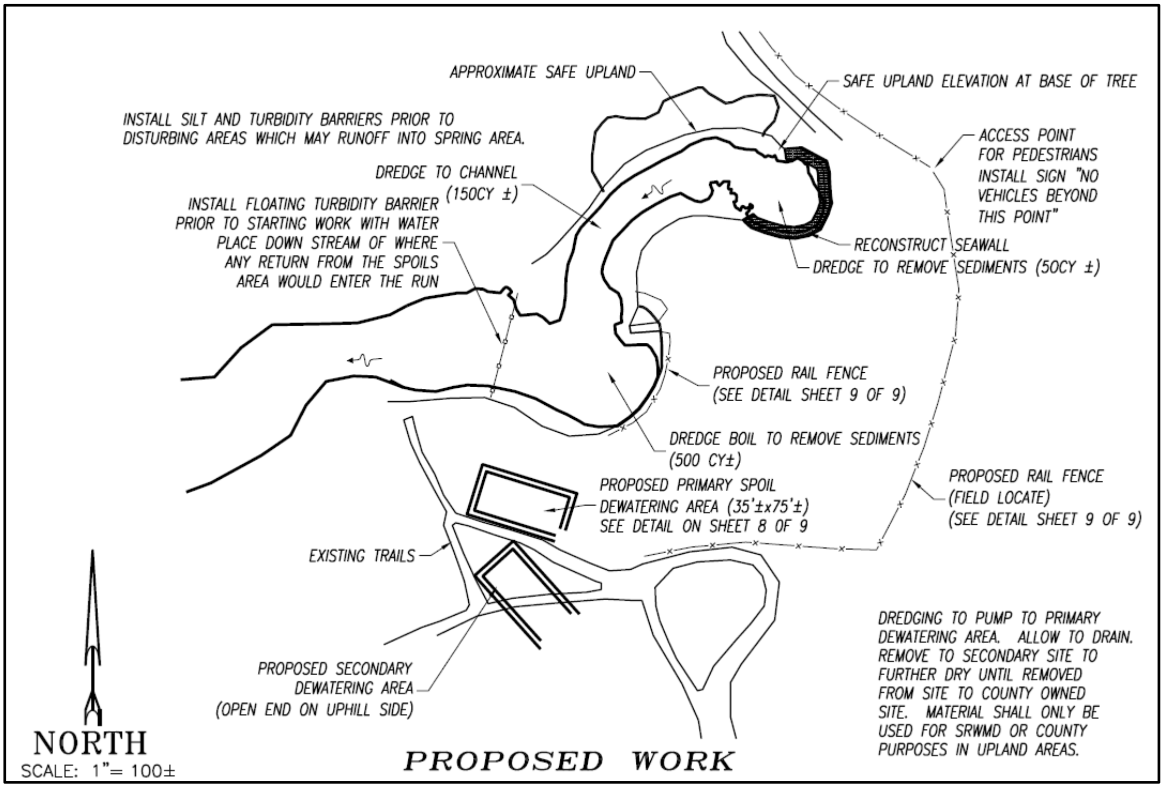

Figure 1-2. Engineering drawing detailing areas to be impacted by maintenance dredging and infrastructural repair. Drawing provided by SRWMD.

linear expanse in which split-rail fencing will be installed, the area immediately around Otter Springs #2, and approximately 500 m^2 of potential spoil dewatering area that will be surrounded by silt fence. Silt fencing will be installed to a depth on 8 inches.

The research undertaken at Otter Springs is consonant with ongoing research into the archaeology and history of Florida's springs by the LSA. Florida is home to the densest concentration of artesian springs in the world, with nearly 800 recorded in the state. Previous research at springs in the St. Johns River Valley has illuminated a diversity of activities taking place at springs in the past (e.g., O'Donoughue et al. 2011; Sassaman et al. 2011). These places house evidence of votive deposits, domestic refuse, burial mounds, villages, and regional gatherings. Many springs have a long history of use, but the ways that people engaged them varied over space and time. Our knowledge of this variability is enhanced by the research at Otter Springs, which expands the regional database of springs that have been archaeologically investigated by the LSA.

One previously recorded site, the Otter Springs site (8GI12), lies within the project APE. As recorded in the Florida Master Site Files (FMSF), the boundary of the Otter Spring site encompasses both spring pools and the surrounding land, measuring approximately 4.8 acres in extent. This site was originally recorded in 1958 by John Goggin, on the basis of his examination of a private collection of material recovered from the spring. Little detail is given in the FMSF records, but the collection consisted of aboriginal potsherds and lithic tools. In 1974, two divers reported the recovery of potsherds and faunal remains from a cave approximately 91 m (300 ft.) back from the vent at Otter Springs, at a depth of 17 m (55 ft.). The FMSF records do not indicate the recovery of cultural materials from terrestrial deposits surrounding the spring. A National Register of Historic Places determination has not been made for the site.

Redevelopment activities have the potential to adversely affect archaeological resources at Otter Springs. Given the prior recovery of archaeological materials from Otter Springs, there is good potential for the presence of significant cultural resources in the project area. This is mitigated somewhat by mid-20th century land alterations (e.g., excavation of the channel and emplacement of retaining walls) associated with recreational activities. The CRAS reported here was designed to determine the character and extent of archaeological deposits and the depth of modern, near-surface disturbance in the project APE. The survey entailed archival research and subsurface testing within the project APE. Shovel test pits (STPs) were excavated at 30-m intervals in the APE.

In total, 19 STPs were excavated during the course of this survey. The previously recorded Otter Springs site (8GI12) was relocated and its boundary expanded. Subsurface disturbance was found to be extensive, with modern fill present over much of the project area. However, cultural materials were recovered from undisturbed contexts in all but one locale.

ORGANIZATION OF THE REPORT

The remainder of this report is divided into three sections. Chapter 2 details the environmental, archaeological, and historical contexts of the project area. In Chapter 3 we discuss in detail the methods and results of the CRAS. Finally, in Chapter 4 we summarize the conclusions of the report and make recommendations for managing cultural resources at the park going forward.

CHAPTER 2
ENVIRONMENTAL CONTEXT AND CULTURE HISTORY

This chapter presents background information relevant to the Cultural Resources Assessment Survey of Otter Springs Park. The environmental context—including regional physiography and geology, paleoenvironmental reconstructions, and factors affecting spring discharge—are considered first. Following this is a discussion of the archaeological and historical background for the project. This includes a summary of both regional and localized patterns and a discussion of previously recorded sites in the vicinity of the project APE.

ENVIRONMENTAL CONTEXT

Otter Springs Park is a 636-acre park and campground located in western Gilchrist County, near the border with Dixie County. The park is approximately 60 km west of Gainesville and 37 km inland from the Gulf of Mexico. The project APE is immediately south and west of the springs, approximately 1 km east of the Suwannee River. This area is within the *Lower Suwannee River Valley* physiographic province, which is in turn a part of the *Ocala Uplift* district.

Regional Physiography

The dominant factors in the geomorphology of Florida have been ancient marine forces and karst processes (Schmidt 1997). The Florida platform is broad with relatively little topographic relief. A sequence of Cenozoic carbonate sediments of varying thickness overlies a basement of mixed Mesozoic and Paleozoic formations. Approximately half of the Florida platform lies above sea-level today, although this situation did not always pertain in the past. Over the course of the Cenozoic era the platform has been subject to repeated marine transgressions and regressions, resulting in a broad, low-lying coastal zone in areas that were formerly shallow sea floors and a series of marine terraces and scarps along former coastlines. The interior highlands of Florida were not inundated by the most recent marine transgressions of the Pleistocene, but have instead been sculpted by fluvial erosion and karst processes (Scott 1997).

Karst terrain develops in regions underlain by carbonate rocks (e.g., limestone and dolomite) and is characterized by numerous surface and subsurface solution features—such as sinkholes, caves, springs, sink-rise streams, conduits, and fractures—that impart a distinctive hydrology and topography (Lane 1986). Channeled surface water is generally limited in areas of developed karst as surface water is typically captured by solution features and funneled into subsurface aquifers. The primary geomorphic agent in karst terrains is water, particularly through the chemical weathering of carbonate rocks. This process is driven by precipitation and the movement of groundwater, which in turn is controlled by gradients in hydrostatic pressure and the permeability of bedrock and surrounding sedimentary matrix.

The Floridan Aquifer System (FAS) underlies all of Florida and much of Georgia and South Carolina. This is a thick sequence of highly permeable carbonate rocks that are bounded above and below by less permeable materials, called confining units. It ranges in thickness from less than 200 feet in the panhandle to over 3,400 feet thick in the central and southern peninsula (Miller 1997). The FAS can be divided vertically into an Upper (UFA) and Lower (LFA) aquifer, which are separated by a middle confining (or semi-confining) unit. The UFA is the source of most of the springs in Florida, and is used extensively as a source of potable water (Miller 1997).

Geologists have identified a number of physiographic divisions in Florida (e.g., Cooke 1939; White 1970). The discussion below follows the conventions established by Brooks (1981). Otter Springs Park is located within the *Lower Suwannee River Valley* physiographic province. This is the area encompassed by the erosional valley of the Suwannee River. The lower portion of the valley is characterized by flood plain swamps bordered by well-drained limestone plains with varying amounts of surficial sand. The *Lower Suwannee River Valley* province is part of the *Ocala Uplift* district, a structural high of Paleogene carbonates that are generally covered by a thin layer of siliciclastic sediments. Most of these recent sediments are residual clays and aeolian sands (Brooks 1981; Scott 1997). Elevations in the immediate vicinity of the park reach as high as 27 feet, although the project area lies at or below 10 feet.

The Suwannee River and major tributaries emanate some 350 km upstream to the northeast in the Northern Highlands physiographic regime. After coursing through quaternary sands and tertiary weathered clays to the north, the river transitions to the lowlands. This transition is characterized by the appearance of weathered surficial sands underlain by karstic carbonate lithologies (Puri et al. 1967). The river channel also becomes increasingly incised and restrained within a bedrock-lined channel (Mossa and Konwinski 1998). In this lower segment limestone outcrops throughout the valley, and frequently contains chert and other siliclastic rocks suitable for use in manufacturing stone tools (Austin and Estabrook 2000). Similarly, numerous sinks and springs are present within the river floodplain, including a first order magnitude spring at both Fanning Springs and Manatee Springs. South of Fanning Springs the river flows generally to the south-southwest in a moderately sinuous course. The floodplain in this vicinity ranges from 0.5- to 2-km wide. This low-lying zone is dominated by bottomland hardwood swamps (Liudahl et al. 2005). In contrast, the interior terraces, across which the project area traverses, rise 10 to 25 feet above the floodplain. These terraces are characterized by irregular sand ridges supporting mesic vegetation, interspersed with hydric hammocks, bottomland swamps, and emergent wetlands. Where the Suwannee River flows into the Gulf of Mexico there is a final transition towards coastal swamps and mud flats. Historically, the Suwannee has a low sediment load, meaning that there is little clastic material provided by the river for island or beach building (Mossa and Konwinski 1998; Puri et al. 1967).

The area surrounding Otter Springs Park is typified by eight soil series, two of which occur in the project area (FNAI 2010; USDA-SCS 1992). Lowland soils in the Suwannee River floodplain include the *Elloree-Osier-Fluvaquents complex* and, at slightly elevated positions in the floodplain, *Garcon fine sand, 0 to 5 percent slopes* and *Resota fine sand, 0 to 5 percent slopes* (Figure 2-1).These are nearly level, poorly to somewhat poorly drained soils common in floodplains and other drainages. Bottomland forest communities consisting of cypress, bay, sweetgum, red maple, and water oak are typical, with hammocks of live oak, laurel oak, slash pine, and longleaf pine in the higher *Garcon fine sand*.

Fine, sandy soils of the *Albany, Blanton, Bonneau, Mandarin*, and *Ridgewood* series characterize the uplands to the east of Otter Springs. These are gently sloping soils that are somewhat poorly to moderately well drained. Plant communities in unmanaged areas are typically upland hardwood forests and can include a variety of oaks (live, laurel, post), hickory, magnolia, maple, sweetgum, and loblolly and longleaf pine.

Post-Pleistocene Environments of Florida

General narratives of post-Pleistocene change in Florida emphasize the gradual inundation of the peninsula as sea level rose and precipitation increased (e.g., Milanich 1994; Miller 1992; Watts and Hansen 1988). This is thought to reflect global- and regional-scale processes, as oceanic currents and atmospheric circulation accommodated the influx of glacial meltwater. At the onset of the Holocene, conditions in Florida were in the midst of a shift from arid and cool with limited surface water to warm and wet with abundant surface water. In the following we review evidence for sea-level rise, increased temperature and precipitation, and greater surface water availability.

Recent sea-level reconstructions in the Gulf of Mexico (e.g., Balsillie and Donoghue 2004; Otvos 2004) and globally (Siddall et al. 2003; Smith et al. 2011) suggest that sea-level was nearly 100 meters lower than present when humans first occupied Florida ca. 13,000 B.P.[1]. At this time, sea-level was rising from a low of about 120 mbsl during the Last Glacial Maximum. The rate of both deglaciation and sea-level rise increased markedly after 13,000 B.P., with sea level reaching 8 mbsl by ca. 8000 B.P. The average sea-level rise over this span was 10 mm per year, though whether this rise was gradual or punctuated is unclear. Donoghue (2011) argues for a punctuated model, and documents several periods of rapid sea-level rise in the Gulf which correspond to pulses of glacial meltwater or to global climate change events. Notably, one such period began at 8700 B.P. when sea-level rose some 10 meters in 500 years (twice the average rate of change). Water levels continued to rise, although less rapidly, until 6000 B.P. when they reached near-modern levels.

The main source of inference about temperature and precipitation are sediment cores extracted from deep Florida lakes (Grimm et al. 1993; Grimm et al. 2006; Watts 1969, 1971, 1975, 1980; Watts et al. 1992). Lake cores in Florida indicate that lacustrine sedimentation began between 12,000 and 9000 B.P. in many places (e.g., Donar et al. 2009; Watts 1969), though water levels were likely lower and more seasonal than today. Palynological analysis of Early Holocene sediments indicates (1) that water levels were reduced in the lakes, which in many cases were emergent wetlands rather than open water

[1] All dates discussed below refer to calibrated ages before present (A.D. 1950), unless otherwise noted.

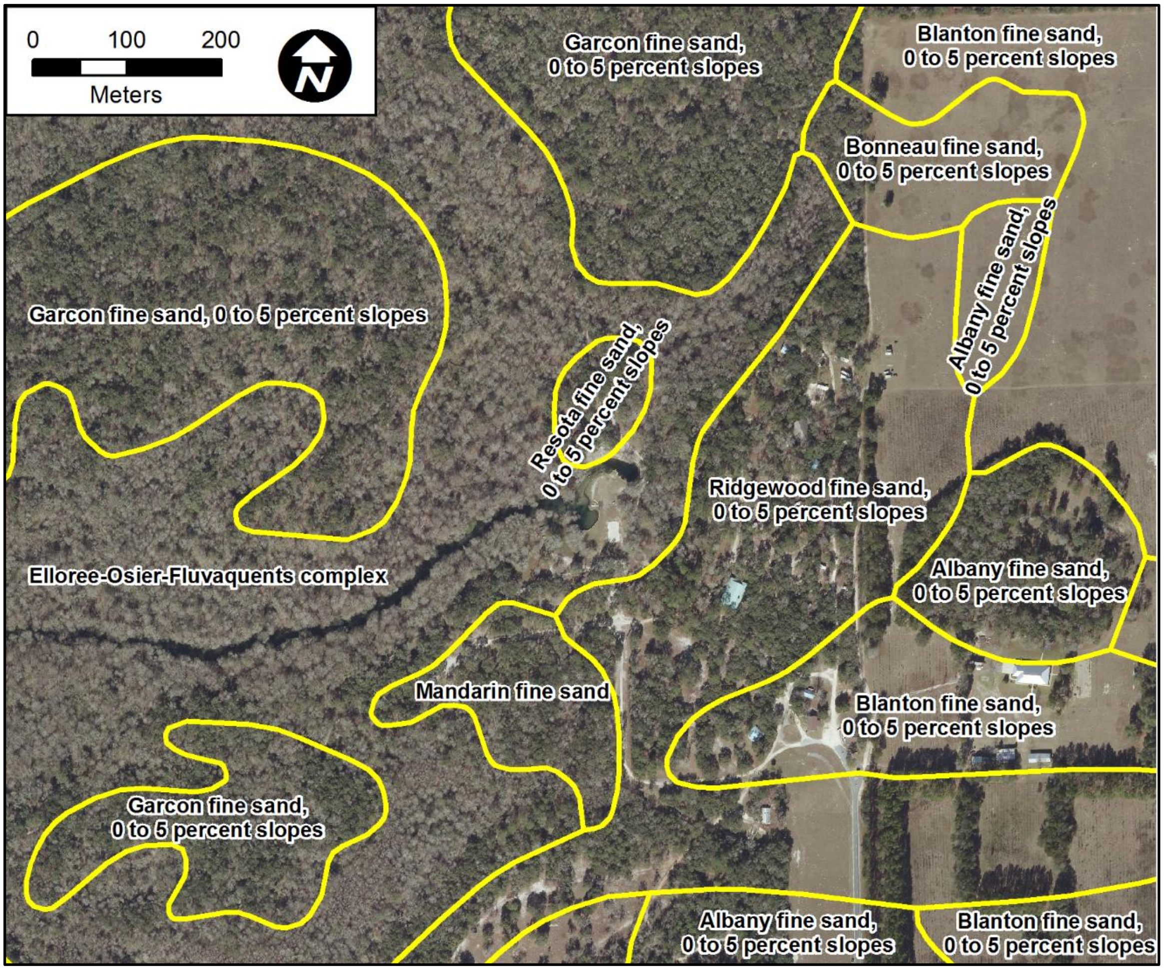

Figure 2-1. Soils in the vicinity of Otter Springs.

bodies, and (2) that the upland forest was dominated by oak and grasses, indicating a dry prairie- or savanna-like habitat. Different species of oaks can tolerate a variety of moisture conditions, so alone they are not indicative of a prairie. Rather, it is the combination of oaks and grasses that suggests a prairie and scrub-shrub landscape.

However, this reconstruction is not uncontested. The pollen assemblage of the Early Holocene is similar in many respects to that recorded during dry, cool stadials of the Pleistocene. However, isotopic analysis of leaf waxes used to estimate the relative abundance of C3 and C4 plants in a Lake Tulane core suggests that this scenario may not hold, at least not across the entire peninsula (Huang et al. 2006). Despite the abundance of grass pollen in the core, low δ^{13}C values indicate a relative paucity of C4 plants (i.e., most grasses). Further, the grass pollen assemblage has relatively low amounts of herbs, such as Ambrosia, that would indicate an oak-grass savanna. An alternative scenario, then, is that the grass pollen is derived from emergent or damp-ground grasses surrounding the lake and thus is over-represented in the core and not reflective of the regional vegetation. The uplands, then, may have contained closed woodlands and not a savannah/prairie.

Following this, the available records indicate a broad transition in Holocene vegetation and (by proxy) temperature and moisture regimes in the Middle Holocene. By approximately 6000 B.P. forest composition changed from oak-dominated to pine-dominated. This is frequently taken as evidence for the establishment of modern climatic conditions in the state and is likely reflective of increases in summer precipitation and temperature at this time, likely driven by a shift in the position of the Intertropical Convergence Zone (ITCZ) and greater El Niño Southern Oscillation (ENSO) activity (Donders et al. 2011; Donders et al. 2005; Kelly and Gore 2008).

As the above review indicates, many factors were at play in the past environments of Florida. Hemispheric and global processes (e.g., eustatic sea-level rise, atmospheric circulation) combine with localized factors such as topography and soils to affect climate variability and resource structure regionally and locally. Although the broad patterns of post-Pleistocene environmental changes in Florida seem well established, local and short term variations are less clear.

Factors Affecting Spring Flow

The most notable physiographic feature of the park is Otter Springs itself. The disposition of the springs is driven by both regional and local geologic and climatic processes. The presence of a spring and the quality and quantity of water flowing from it are dependent on a unique blend of surface and subsurface processes. Like all artesian springs in Florida, Otter Spring discharges groundwater from the Floridan Aquifer System (FAS).

The hydrologic cycle of karst aquifers can be conceptually divided into processes of recharge, flow, and discharge. Precipitation is the main source of recharge to karst aquifers. Precipitation may enter the groundwater system through closed basins (sinkholes, lakes, etc.) that recharge the aquifer directly, or by diffuse percolation through overlying soil or sediment, entering the aquifer through fractures and matrix pores of the underlying rock (White 2002). The flow of groundwater in karst aquifers is driven by gradients in pressure and temperature, which are in turn are closely related to recharge and discharge. That is, flow is generally directed away from recharge zones towards points of discharge.

Springs are the primary discharge point for groundwater in karst aquifers (Scott et al. 2004; White 2002). Springs may be subdivided into several types on the basis of size, source of water, or discharge mechanism (White 2002:90). The springs of Florida are generally of two types: seep (or water table), and karst (or artesian) springs. Seep springs occur when water percolating through surficial soils and sediments encounters an impermeable layer. The water moves laterally along this layer until it reaches a point of lowered elevation and emerges at the surface. The water emanating from seep springs in Florida are not derived from the FAS. Karst or artesian springs appear where groundwater emerges at the surface due to pressure. These comprise the bulk of the 700+

identified springs in Florida (Scott et al. 2004:8-9). Two criteria must be satisfied for a karst spring to be present. First, the confining unit overlying the aquifer must be absent or breached so that there is a pathway for the transmission of water from the aquifer to the surface. Second, hydrostatic pressure in the aquifer must be high enough to drive water up and onto the surface.

The intensity of artesian flow in karst springs is pressure dependent. This pressure fluctuates both temporally and spatially as a result of several factors that vary within and between individual spring basins: precipitation, sea level, topography, soil characteristics, distribution of other karst features, and variations in the physical properties of the aquifer (e.g., permeability; Scott et al. 2004). Current understanding of spring flow dynamics emphasizes precipitation as the main driver of discharge variation (Knowles et al. 2002; White 2002). However, areas of relatively young karst, such as Florida, tend to have lower amplitude variation in discharge, longer lag time in response to precipitation events, and greater buffering of high frequency/low intensity events, which may not substantially recharge the FAS. Rather, high-intensity storms and seasonal, annual, and decadal precipitation cycles appear to exert greater influence on variation in spring discharge (Florea and Vacher 2006, 2007). In addition, deepwater upwelling can contribute significant amounts of water to spring discharge (Moore et al. 2009). Thus, discharge at springs may include both water that entered the aquifer relatively recently and much older waters, recharged as much as 30,000 years ago (Plummer 1993; Toth and Katz 2006). At longer temporal scales changes in sea level and precipitation implicate fluctuating hydrostatic pressure in the FAS and spring flow.

Otter Springs is a second-magnitude spring with an average discharge of 10.5 ft^3/s. The springs are surrounded by a 636-acre park and campground owned by Gilchrist County. The Suwannee River Water Management District owns the spring itself and the land immediately adjacent to it. Otter Springs consists of two separate spring pools connected by a 75-m (250-ft) artificial channel that was excavated in the early 1960s. Otter Spring #1 is the main (original) spring, and has a pool measuring approximately 40 m (130 ft.) in diameter with a concrete retaining wall on the southern margin. Otter Spring #1 is not currently flowing. The average depth of Otter Springs #1 is approximately 3 m (10 ft.; Scott et al. 2004:102). The spring run flows generally westward for approximately 1.3 km (0.8 mi), where it joins the Suwannee River. Otter Spring #2 is located approximately 45 m (150 ft.) northeast of the main spring. It has a 21-m (68-ft) diameter pool surrounded by a sand cement retaining wall. It flows southwest into the pool of the main spring, through the artificial channel. Prior to the excavation of this channel Otter Springs #2 did not flow onto the surface. It is visible on historic aerial photographs as a water-bearing sink or karst window. Otter Springs #2 has a maximum depth of approximately 8.4 m (27.5 ft.) over a vertical fissure in the limestone (Scott et al. 2004:102). Due to their proximity to the Suwannee River, the springs are subject to flooding, and thus the size and depth of the spring pools are variable.

Recent Land Alterations (1944–Present)

Like many other springs in Florida, Otter Springs has been developed for recreational use and undergone significant land alteration in recent decades. These alterations can be seen on aerial photographs of the area taken by the USDA. Figure 2-2 presents aerial photographs from 1944, 1952, 1959, 1962, 1974, and 1999. These photographs detail the steady expansion of Otter Springs, indicating that subsurface disturbance in the vicinity of the spring is likely. The earliest available aerial photograph is from 1944. A road leading to the spring is visible, as is the original spring pool and the karst window that would eventually become Otter Springs #2. Land around the spring had already been cleared by the time of this image. Further land clearance is visible by 1952 and the original spring pool has a more circular appearance, indicating some modification to the shoreline. The installation of the concrete retaining wall is suggested by an area of high reflectance in the 1959 aerial. Sometime between 1959 and 1962 the artificial channel was dredged between the original spring and the karst window. Further development is apparent by 1974, with new roads and structures visible. Additional recreational facilities, including the sand volleyball court, are visible in the 1999 image.

The historic photographs indicate that significant land alteration took place in the vicinity of Otter Springs over the past 70 years. This includes the clearing of vegetation, removal of fill from the spring and channelized area, installation of retaining walls, and construction of roads and structures. The area west of the spring appears to have undergone little modification.

ARCHAEOLOGICAL AND HISTORICAL CONTEXTS

Florida has a long history of human occupation, beginning at least 13,000 years ago. Archaeologically, Otter Springs Park is located in an interstitial region with affinities to both interior north Florida and the north peninsular Gulf Coast (as defined by Milanich 1994:xix). The culture history of the region can be broadly divide into five chronological periods: Paleoindian (ca. 13,000–11,500 B.P.); Archaic (ca. 11,500–2500 B.P.); Woodland (ca. 2500–1250 B.P.); Post-Woodland (1250-450 B.P.); and Post-Contact/Historic (450 B.P.–Present). In the following we summarize both regional and state-wide patterns, but with an emphasis on the Lower Suwannee River valley and north peninsular Gulf Coast.

Paleoindian (ca. 13,000–11,500 B.P.)

When Paleoindian people first migrated into Florida during the Late Pleistocene, they undoubtedly encountered a markedly different landscape than today. As discussed above, Florida was considerably drier during the late Pleistocene and early Holocene. Paleoenvironmental studies indicate that Florida was arid and prairie-like with surface water limited to perched ponds and deep freshwater springs (e.g., Watts et al. 1996; Watts and Hansen 1988). Further, reduced sea level would have exposed portions of the platform that are now inundated, resulting in a much broader peninsula.

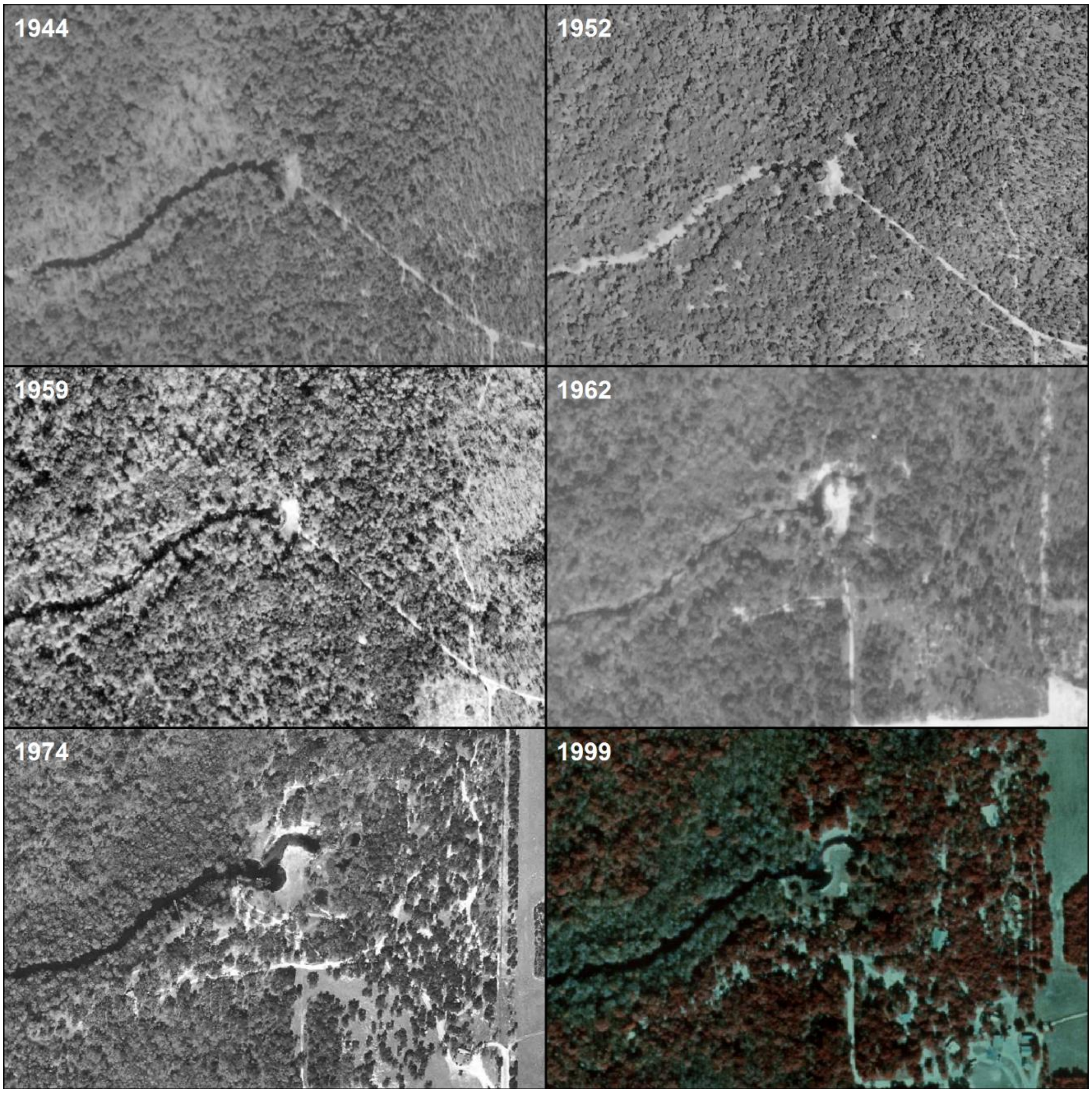

Figure 2-2. Aerial photographs of Otter Springs taken between 1944 and 1999.

Given the arid climatic conditions that prevailed in Florida at the time, it has been argued that deep sinkholes and springs were some of the few locales where fresh water would have been reliably available (Dunbar 1991; Neill 1964). Though highly nomadic, Paleoindian populations may have been tethered to these places, frequently revisiting them in the course of their subsistence pursuits. These watering holes would also have attracted large game, thus affording people ample hunting opportunities. This model, known as the Oasis Model, has recently been evaluated by Thulman (2009:271), who concluded "reliable water sources were the strongest environmental constraint on the occupation patterns [of Paleoindians]." Thulman argues that the largest lakes and springs are the most likely to have contained water during the late Pleistocene and early Holocene.

Late Pleistocene settlements of peninsular Florida are recognized by the presence of a series of diagnostic hafted bifaces. In general, hafted bifaces are lanceolate-shaped and may be either fluted on unfluted. The earliest of these are generally classified as a variant of Clovis. Other forms include Simpson, Suwannee, and Dalton. The temporal placement of these latter forms is uncertain, but they are generally thought to post-date Clovis. In addition to these hafted bifaces, the Paleoindian toolkit includes unifacial scrapers, bifacial knives, bola stones, adzes, retouched flake and blade tools, and a variety of items manufactured from ivory and bone (Milanich 1994).

The timing of the human colonization of the Americas is the subject of heated debate amongst specialists. The Clovis tradition, dating to as early as 13,000 B.P., has long been regarded as the earliest manifestation of human presence on the continent. However, there is increasing acceptance that an earlier occupation likely existed. A number of "pre-Clovis" sites have been reported, with tool assemblages unlike those of Clovis occupations and dates older than 13,000 B.P. (Waters and Stafford 2007). Three of these are located in Florida—Page-Ladson, Sloth-Hole, and Wakulla Springs Lodge—and pre-date Clovis by as much as 1500 years (Rink et al. 2012). The newly-defined Page-Ladson point, known from three sites in Florida, has been hypothesized to be a pre-Clovis diagnostic. Although the tool assemblage differs from that at Clovis-aged sites, technological similarities suggest that these may be pre-cursors to Clovis bifaces.

Paleoindian sites near the study area are poorly represented. These sites tend to be clustered to the north, away from the Lower Suwannee River valley, although first order magnitude springs such as at Fanning and Manatee Springs would have likely been inhabited during this time period, and deposits of this age are strongly suspected at Fanning Springs (Bland and Chance 2000).

Archaic (11,500–2500 B.P.)

The beginning of the Archaic period generally coincides with the onset of the Holocene and the gradual amelioration of the environment following the glacial conditions of the late Pleistocene. Regionally, the Archaic is generally divided into Early (11,500–8900 B.P.), Middle (8900–5800 B.P.), and Late (5800–2500 B.P.) subperiods. These divisions are recognized largely on the basis of shifts in technology, settlement patterns, and subsistence regimes, although the precise timing of these vary considerably both throughout the Southeast and within the state of Florida. Broad brush strokes generally paint a picture of increasing population, reduced settlement mobility, and subsistence intensification as communities adapted to near-modern environmental conditions.

The Early Archaic period is recognized by a shift in the form of diagnostic hafted bifaces. Lanceolate forms, characteristic of the Paleoindian period, were no longer manufactured by approximately 11,000 B.P. In their place appear a variety of side- and corner-notched forms, the most common of which are Kirk and Bolen. The remainder of the technological inventory is largely reminiscent of Paleoindian assemblages, although with an increase in the diversity of tool forms.

Early Archaic communities were likely highly mobile and, like Paleoindian communities, may have been tethered to sources of freshwater and toolstone. However, both sea level and precipitation increased over the course of the early Holocene, so the constraint posed by freshwater availability would have lessened gradually, opening up new areas for exploitation (Donoghue 2011; Milanich 1994:62–63). Early Archaic components are frequently found at Paleoindian sites, but are also found in previously unoccupied locales. Overall, Early Archaic sites are more widely distributed than Paleoindian sites, again attesting to the broadening of settlement opportunities.

Archaeological developments over the interval 10,000–7500 B.P. are poorly understood. In general this interval is thought to continue trends set forth earlier. However, it is marked by the disappearance of notched hafted bifaces and the appearance of stemmed varieties. Kirk stemmed or serrated is perhaps the earliest of these, in use by approximately 9,000 B.P. Following this are a variety of named forms (Levy, Alachua, Putnam, Marion) grouped under the rubric “Florida Archaic Stemmed.”

This period also saw the inception of the pond-burial tradition, best known in Florida from the Windover archaeological site in Brevard County (Doran 2002). Professional investigation documented (minimally) 168 individuals interred in saturated peat deposits. In addition to well-preserved human remains, researchers recovered organic materials not typically preserved in terrestrial sites, including textiles, botanicals, and wooden and bone artifacts. Radiocarbon assays suggest the site was in use for a few centuries between ca. 9000 and 8000 B.P. Pond mortuaries from this time have been documented at other locations in Florida as well. The slough adjacent to Little Salt Spring is estimated to contain the remains of over 1,000 individuals interred during the Middle Archaic (Clausen et al. 1979). Large mid-Holocene pond mortuaries have also been documented at Republic Groves (Wharton et al. 1981) and Bay West (Beriault et al. 1981), where burials number in the hundreds.

Although settlement and subsistence trends appear continuous with earlier periods, the shift in both hafted biface form and mortuary treatment has led some researchers to suggest that there is a marked cultural discontinuity in Florida at this time. Faught and Waggoner (2012) marshaled evidence from a state-wide database of radiocarbon dates, site distributions, and stratigraphic unconformities to suggest that there was a dearth of settlement in Florida from 10,000–9,000 B.P. Consequently, later inhabitants of the state may not have been descendants, either genetically or culturally, of Paleoindian and Early Archaic communities.

After ca. 7500 B.P. there was an increased focus on aquatic resources, as evidenced by the appearance of shell middens and mounds along the coasts and interior river valleys of the state. This may have been in part enabled by a stabilization of hydrologic regimes, facilitated by increased precipitation and a reduction of the rate of sea-level rise at it approached near-modern levels. However, the precise relationship between environmental and cultural changes at this time has yet to be established, and other explanatory factors may be at play. In addition to shifting settlement and subsistence pattern, changes also occurred in ritual practices and exchange relationships. Mortuary traditions shifted at this time, with interments in mounds of shell and sand appearing by ca. 6500 B.P. Long-distance relationships with denizens of the interior Southeast are indicated by ca. 5600 B.P. This is inferred from the appearance of items that originated from far-flung locales. These include bannerstones, polished stone beads, and pendants produced of materials not available in the Florida peninsula (e.g., greenstone, steatite, jasper from the interior Piedmont). Thus at this time there was an influx of new materials from both local (shell) and exotic contexts, contact with foreign individuals and places, and a shift from pond burials to terrestrial interment. The interrelationship of these developments in the context of shifting settlement and subsistence practices is as yet unclear, but provides an intriguing avenue for future research.

The Late Archaic period is marked regionally by the establishment of near-modern climatic regimes and sea level. This interval is characterized by long-distance exchange and interaction centered on Poverty Point, in Louisiana (Gibson 2000; Kidder 2010). Pottery appeared by ca. 4500 B.P. in Florida (Sassaman 2004). This pottery, among the earliest in North America, was tempered with Spanish moss fibers and is locally referred to as either Orange, in eastern Florida, or Norwood in western Florida. The distinctiveness of these series has not been firmly established, and they may in fact be largely indistinguishable. Decorative motifs include geometric patterns of incised lines, as well as simple stamping. The latter of these is apparently restricted to the Gulf coastal region. Though primarily tempered with fiber, pastes frequently include sand and/or sponge spicules in varying amounts.

Despite the addition of pottery, regional syntheses emphasize continuity throughout the course of the Archaic period. Settlement and subsistence patterns are thought to reflect a gradual settling in to the stabilizing climatic regimes of the state. Mobility decreased with an increased focus on the aquatic resources of the coasts and interior rivers and wetlands. However, this picture of gradual adaptation is being overturned by recent research that increasingly recognizes the importance of sociality, interaction, identity, and history to Archaic communities (e.g., Gilmore 2014; Randall et al. 2014; Russo 2004; Sassaman 2010).

Components dating to the Archaic period are poorly represented within the study area (Johnson and Kohler 1987), although lithic assemblages characterized by abundant thermally altered lithic waste flakes and diagnostic hafted bifaces have been identified at Fanning Springs State Park (8LV537) in Levy County (Bland and Chance 2000; Weisman and Newman 1995). A review of FMSF records indicates that the majority of Archaic material identified in the vicinity are in private collections, based on sites that have not been definitely located.

Woodland (2500–1250 B.P.)

Archaeological sites post-dating ca. 2500 B.P., during what is known regionally as the Woodland period, are much more numerous along the Gulf coast and interior riverine drainage of the Suwannee River. Whether this is due to settlement dispersal, population increase, or the inundation and/or destruction of earlier sites is unclear. It is likely that some combination of these factors is responsible.

In the Southeast, the Woodland period is generally characterized by an increased reliance on pottery and horticulture and the appearance of widespread mound construction and ceremonialism (Anderson and Sassaman 2012). However, all of these developments have their roots in the Archaic period. Also at this time there is greater regional differentiation both across the Southeast and within Florida. Fiber-tempered pottery was no longer manufactured by this time, and was replaced by a variety of wares with differing tempering agents and decorative motifs.

Along the Gulf Coast, Deptford sites date between ca. 2500 and 1800 B.P. In this region Deptford sites are frequently situated within the live oak-magnolia hammocks associated with salt marshes (Milanich and Fairbanks 1980:68). These sites are characterized by relatively shallow shell middens, typically composed of oyster and other marine resources. Often the middens are arranged in circular rings, ranging in size from 20- to 30-m in diameter, and contain pit features, post holes, and refuse features. Collectively these elements are thought to represent residential units within villages (Milanich 1994:122-123). Inland sites have also been documented. Such sites tend to be characterized by low-density scatters, and likely represent short-duration encampments (Johnson and Kohler 1987; Milanich 1994:126).

Material culture assemblages are characterized by small amounts of lithic tools, typically modified flakes and small bifaces, in addition to bone and shell tools. Pottery is by far the dominant material culture class recovered. Within the study region, most Woodland period vessels appear to have been undecorated sand-tempered plain wares (Borremans 1990). Limestone-tempered Pasco plain and spiculate-tempered St. Johns wares occur as minorities within assemblages as well. Distinctive impressed designs are diagnostic of the Deptford period. Designs include check stamping, simple stamping, and linear check stamping, in addition to stick impressions (Milanich 1994:130-133).

Beginning around 1800 B.P. there is a florescence of traditions throughout peninsular Florida including Weeden Island in the northern Gulf Coast and interior highlands, Manasota on the southern Gulf Coast, and St. Johns I on the Atlantic Coast. In certain respects, these traditions share many similarities in ceremonial and political practices. Typically, there is a distinction between sacred and secular contexts. Villages have been identified, and appear to contain households associated with nearby mortuary features. Much of the ceremonial symbolism appears to have emerged from earlier Deptford traditions, including the construction of burial and ceremonial mounds, and the importance of exotic objects. As many researchers have noted, however, those traditions within the Suwannee River Basin and associated Gulf Coastal regime have resisted divisions (Borremans 1990; Milanich 1994:208), and ceramic assemblages diagnostic of Swift Creek, Weeden Island, Manasota, and St. Johns traditions are all found within the north peninsular Gulf Coastal region. In part, the diversity of ceramic wares may reflect the underlying ecological and economic potential of the region. However, contributing to the confusion is the predominance of plain wares, such as sand-tempered plain, Pasco plain, and St. Johns plain, which lack the chronological specificity of decorated wares. Because of the lack of chronological resolution, and the local diversity, sites dating between ca. 1800 and 1250 B.P. are routinely referred to as "Weeden Island-Related." Sites of this period have been identified throughout the coastal marine marshes of Levy and Dixie County, as well as interior locales adjacent to the Suwannee River (Johnson and Kohler 1987; Jones and Borremans 1991; Kohler and Johnson 1986).

Post-Woodland (1200–450 B.P.)

The social diversity and typological complexity that characterizes the Woodland period continues into the so-called Post-Woodland or Mississippian period. The term Mississippian has been used in Florida to denote complex societies, such as Fort Walton and Pensacola cultures along the panhandle, St. Johns II along the St. Johns River, and Safety Harbor cultures of the central Gulf Coast. The term itself underscores a presumed linkage with Mississippian cultures within the Midcontinent and throughout the Southeast. The Mississippian period denotes the era when large, highly stratified societies emerged in the Southeast (Anderson and Sassaman 2012:152-190). Many of these would be classified as chiefdoms, or, arguably, states under cultural evolutionary nomenclature. Individual societies were widespread at this time, but were not persistent and many political centers went through cycles of emergence, fluorescence, and collapse. Maize agriculture was widespread in the Southeast. Monumental architecture, with numerous mortuary and platform mounds arranged around plazas, hierarchical settlement patterns, stratified social organization, and regional exchange and interaction, perhaps in the context of shared religious ideology, all characterize Mississippian societies in the Southeast

The degree of interaction of Florida societies with contemporaneous Mississippian communities in the interior Southeast is a debated topic (e.g., Ashley and White 2012). Some vessel forms bear traits similar to Mississippian pottery and there is evidence of settlement hierarchy and stratification in some locales. However, maize agriculture was rare in Florida, and maize itself was not a major food source. The presence of whelk and conch shells at many sites in the interior, however, indicates some level of contact and the possibility that Florida communities were brokers for these exchange items.

While contacts and influences in Florida can be debated, these indigenous Floridian societies are thought have exhibited complex social organization, including chiefly elite, large-scale ceremonial complexes, and possibly intensive horticulture or agriculture. In addition, archaeologists have defined the Alachua and Suwannee River cultures as two post-Weeden Island, and presumably intrusive, traditions in Northern Peninsular Florida (Milanich 1994:333). Sites attributable to these traditions are located within the Middle Florida Hammock Belt, notable for its fertile and well drained soils. Such sites appear to represent small hamlets, frequently with associated mortuary mounds. Largely on the basis of corn-cob impressions on pottery it is presumed that maize-based horticulture or agriculture was practiced, apparently without clear distinctions in economic or social status amongst participants.

As in the preceding era, the Lower Suwannee River and associated Gulf Coastal lowlands are characterized by diversity in lifeways. Evidence for Fort Walton or Safety Harbor influences are minimal. However, the region appears to have been the locus of multiple overlapping, if not coeval, populations living in close proximity after 1250 B.P. Near the coast, populations descended from earlier Weeden Island I inhabitants appear to have continued a maritime way of life (Milanich 1994:213). Surveys within the Gulf Coastal Hammock and Cedar Key have identified both village and mound complexes that may date to this time frame (Jones and Borremans 1991). However, survey by Johnson and Kohler (1987) has demonstrated that Alachua culture assemblages are present throughout Dixie County, even a few miles from the coast. These sites tend to be located upon land more suitable for agriculture. Ceramics associated with this archaeological culture are Lochloosa Punctated, Alachua Cob Marked, Prairie Cord Marked, Prairie Fabric Marked, and Prairie Punctated-over-Cord Marked. In a number of cases Weeden Island-related assemblages co-occur where Alachua tradition assemblages are found. Because of a lack of dated contexts it is currently unknown to what extent these represent separate groups occupying similar landforms, or whether it is a question of chronology.

Post-Contact and Historic Era

A series of Spanish expeditions into Florida began when Juan Ponce de Léon came ashore near Melbourne A.D. 1513, dubbing the peninsula *La Florida*. Subsequent explorations and attempted colorizations led by de Leon, Hernando de Soto, and others failed to establish a permanent foothold, but informed Europeans about Florida and its relationship to the Caribbean, and Central and South America (Tebeau and Marina 1999:16–25).

France began exploring Florida somewhat later, with an excursion led by Jean Ribault in A.D. 1562 (Museum of Florida History 2013:2; Tebeau and Marina 1999:27–30). Ribault entered the St. Johns River near present-day Jacksonville and enjoyed brief, but amicable relationships with native populations. Two years later René Goulaine de Laudonnière returned and established Fort Caroline near the mouth of the St. Johns River. This spurred a response from the Spanish, who in A.D. 1565 dispatched Pedro Menéndez de Avilés to expel the French, capture Fort Caroline, and establish a permanent Spanish settlement. Menéndez and his fleet first sighted Florida's coast on the feast day of Saint Augustine, and thus gave the saint's name to the new settlement (Tebeau and Marina 1999:31). This would become the first permanent European settlement in the present-day United States. Although never more than a garrison town, Saint Augustine remained important as a strategic point to rebuff incursions from Spain's colonial rivals (Gannon 2007:7-8).

Menéndez successfully expelled the French, attacking and killing many. Fort Caroline was captured and renamed San Mateo. Shortly after this Menéndez invited the Franciscan Order in Spain to convert the native populations to Christianity. From A.D. 1567–1705 the Franciscans established mission across northern Florida and up the Atlantic Coast, as far north as Savannah (Hann 1996; Tebeau and Marina 1999:39–48). Missionization efforts peaked in the middle of the seventeenth century, when there were 70 missionaries in 38 churches in northern Florida. Missions in Florida were not as economically exploitative as they would be later, in other areas of the United States (Gannon 2007:12–13). This was largely due to the absence of Spanish settlers at most Florida missions and the lack of close supervision from the Crown. However, native populations in Florida, and the greater Southeast, experienced sharp declines as a result of contact with Europeans. Many missions were abandoned in the A.D. 1650s after a series of epidemics decimated native populations. However, many persisted until the beginning of the eighteenth century when, from A.D. 1702–06 British raiders destroyed the remaining Spanish missions and enslaved or killed most of the native population.

The British—who established colonies in Jamestown, Virginia in A.D. 1607 and Plymouth, Massachusetts in A.D. 1620—became increasingly aggressive in the eighteenth century (Gannon 2007:16–17). They twice laid siege to St. Augustine in A.D. 1702 and 1740, but failed to capture it. The Spanish were also attacked by French forces moving east from Louisiana, who captured Pensacola in A.D. 1719 (Museum of Florida History 2013:3). Under the terms of the Treaty of Paris, negotiated to end the French and Indian War, Spain ceded control of Florida to the British in A.D. 1763. In exchange the British returned control of Havana to Spain. The British divided La Florida into two colonies, West Florida and East Florida, with capitals in Pensacola and St. Augustine, respectively (Gannon 2007:16–17; Museum of Florida History 2013:3; Tebeau and Marina 1999:65).

Following the expulsion of the Spanish and the destruction of native populations, the period of British control saw diverse populations enter Florida. The British introduced large-scale plantation farming, bringing enslaved Africans with them. Extensive land grants were offered in an attempt to attract white settlers from the north. Meanwhile, Lower Creek Indians, whom the British referred to as Seminoles, also moved into Florida in numbers at this time. British control was short lived. Although both Floridas remained loyal to the British Crown during the War for American Independence, Spain recaptured Pensacola in A.D. 1781 (Gannon 2007:22; Museum of Florida History 2013:4; Tebeau and Marina 1999:79). Full control of Florida was ceded back to Spain under the Second Treaty of Paris that marked the end of the American Revolution.

Florida became a territory of the United States on February 22, 1819, under the Adams–Onis treaty (Tebeau and Marina 1999:105). Andrew Jackson was installed as governor and given the task of occupying and establishing territorial government in Florida. Although the United States had now taken official control of Florida, the First Seminole War would not officially end until late in 1823, with the Treaty of Moultrie Creek. Under this treaty, the United States government granted the Seminoles a 4,000,000-acre reservation stretching from south of Ocala to Charlotte Harbor (Stanaback 1976:11). However, under increasing pressure from settlers moving into Florida from the north, the United States reversed the decision less than ten years later, and decreed that all Seminoles must relinquish their lands and relocate to reservations west of the Mississippi by January 1, 1836. The Seminoles were resistant, and intermittent skirmishes erupted on December 28, 1835, when Major Francis Dade and 108 men were killed in Sumter County. This event marked the onset of the Second Seminole War, a bloody, seven-year affair that resulted in tremendous loss of life. At the close of the war many Seminoles relocated to reservations in Oklahoma, some by choice, others under military escort. Most of the remaining population retreated into the Everglades.

After the close of the Second Seminole War the United States government passed the Armed Occupation Act in 1842 to encouraged settlers to move into Florida. By 1850 the population in Florida was 87,445 (Museum of Florida History 2013:6). Sixteen years later, in 1861, Florida became the third southern state to secede from the Union (Gannon 2007:28; Museum of Florida History 2013:6). As the state was geographically distant from Union control, Florida was spared much of the destruction experience by its Confederate neighbors. However, most of Florida's ports were controlled by Union forces during the war. Florida provided an estimated 14,000–15,000 troops to the Confederate Army, as well as salt, beef, and cotton.

Union troops took control of Tallahassee on May 10, 1865. In the aftermath of the Civil War the federal government emplaced a program of reconstruction in Florida and other southern states. This had multiple effects, notably the reduction of the cotton industry with the loss of slave labor, and the enactment of reforms aimed at improving the opportunities for African Americans (Gannon 2007:29; Tebeau and Marina 1999:223).

Following the Civil War and Reconstruction came a period of expansion and development in Florida. Agriculture, the notably citrus and cattle industries, continued to expand, and extractive industries were established (e.g., lumber, turpentine, phosphate mining). The tourism industry began to take root in Florida at this time as entrepreneurs began offering scenic tours of Florida's interior rivers on paddle-wheel steamboats. Tourism was bolstered by the construction of railroads, hotels, and resorts by oil tycoon Henry Flagler on the Atlantic coast and railroad magnate Henry Plant around Tampa Bay (Gannon 2007:33–34).

PREVIOUS INVESTIGATIONS

The Florida Master Site File database indicates that six archaeological sites have been previously recorded within 3 km of the project area (Figure 2-3, Table 2-1). Most of these are lithic scatters lacking pottery or lithic and ceramic scatters dating to the Woodland period. Several have been recorded on the basis of vague verbal descriptions and have not been verified by fieldwork. Only one has been evaluated by the State Historic Preservation Office (SHPO)—8GI80—and was found to be ineligible for inclusion on the National Register of Historic Places (NRHP). No historic structures have been recorded within 3 km of the project area.

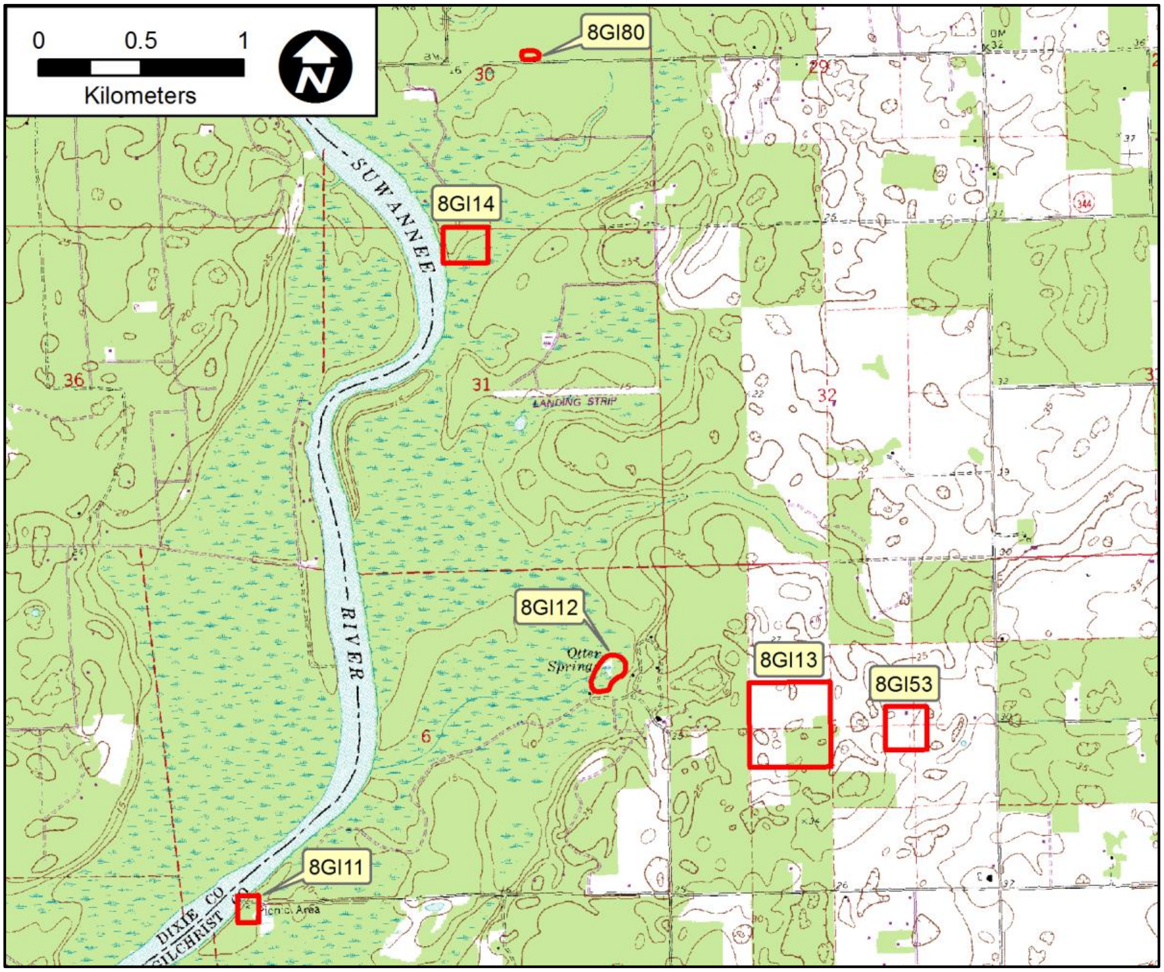

Figure 2-3. Subsection of the USGS 7.5' Wannee (1993) Topographic Quad showing the location of previously recorded archaeological sites within 3 km of the project area.

One previously recorded site, the Otter Springs site (8GI12), lies within the project APE (Figure 2-4). As recorded in the Florida Master Site Files (FMSF), the boundary of the Otter Spring site encompasses both spring pools and the surrounding land, measuring approximately 4.8 acres in extent. This site was originally recorded in 1958 by John Goggin, on the basis of his examination of a private collection of material recovered from the spring. Little detail is given in the FMSF records, but the collection consisted of aboriginal potsherds and lithic tools. In 1974, two divers reported the recovery of potsherds and faunal remains from a cave approximately 91 m (300 ft.) back from the vent at Otter Springs, at a depth of 17 m (55 ft.). The FMSF records do not indicate the recovery of cultural materials from terrestrial deposits surrounding the spring. Prior to the survey reported here no subsurface testing of the area surrounding the spring had been conducted, and thus the site boundary is provisional. A National Register of Historic Places determination has not been made for the site.

Table 2-1. Previously Recorded Archaeological Sites within 3 km of the Project Area

FMSF No.	Name	Type	Component(s)	SHPO NRHP Evaluation
8GI00011	No name	Artifact Scatter	Archaic	Insufficient Information
8GI00012	Otter Springs	Artifact Scatter	Prehistoric	Not Evaluated
8GI00013	Non name	Artifact Scatter; Mound	Prehistoric	Not Evaluated
8GI00014	Sikes Landing	Artifact Scatter; Habitation	Prehistoric	Not Evaluated
8GI00053	Original Springs	Artifact Scatter; Habitation	Alachua, Cades Pond	Not Evaluated
8GI00080	Hart Springs South Line	Campsite	Prehistoric	Ineligible

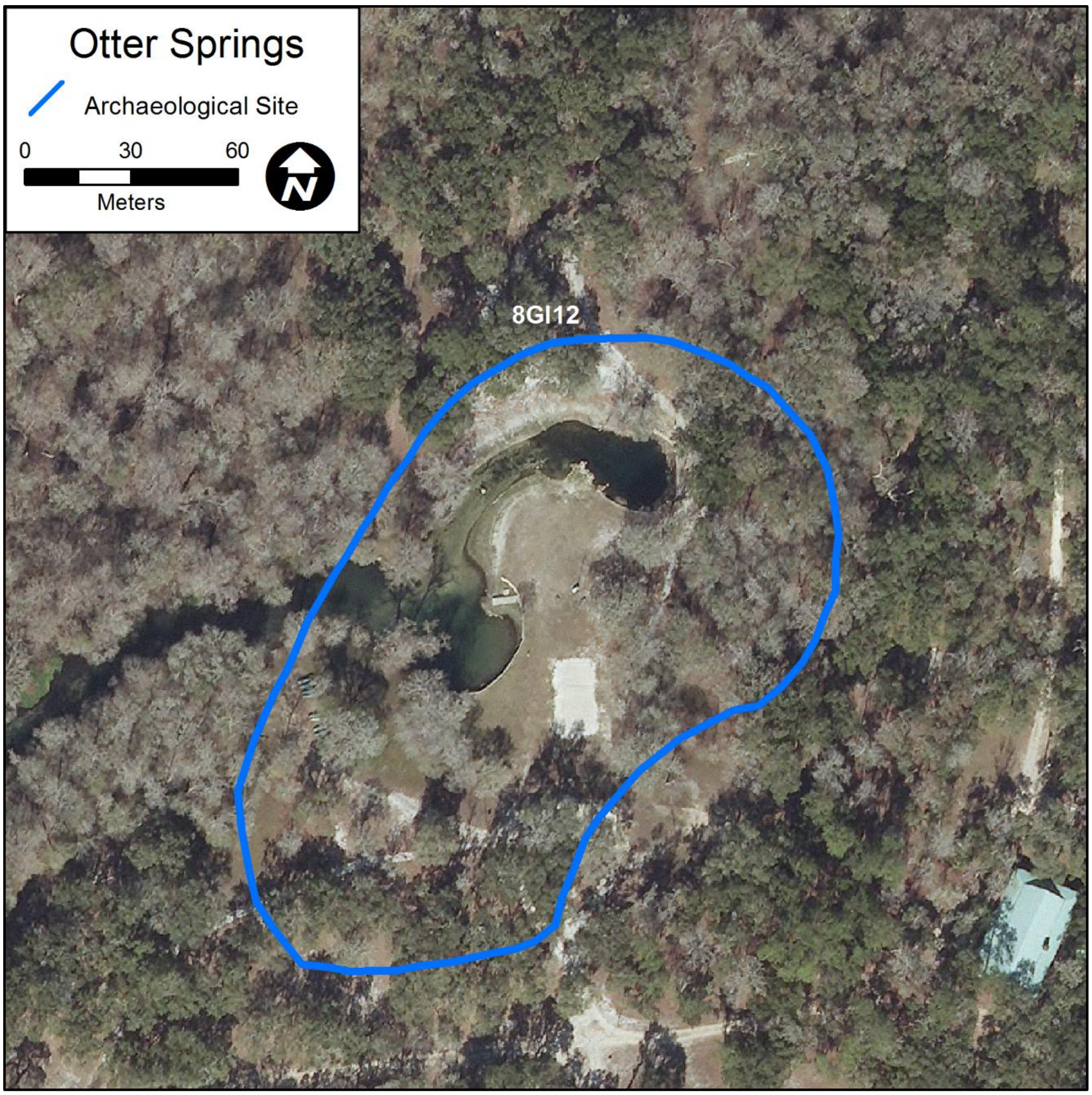

Figure 2-4. Boundary of the previously recorded Otter Springs site (8GI12), located in the project area.

CHAPTER 3
SURVEY METHODS AND RESULTS

This chapter presents the results of the Cultural Resources Assessment Survey (CRAS) for an area within Otter Springs Park that will be impacted as a result of maintenance dredging and infrastructural repair proposed by the Suwannee River Water Management District (SRWMD). Dredging and infrastructural repair will result in limited terrestrial disturbance. The proposed CRAS entailed 30-m-interval shovel testing in the areas of potential effect (APE). The goal of the reconnaissance survey was to (1) determine the character and extent of archaeological deposits; and (2) document the depth and extent of modern, near-surface disturbance. In the following sections we discuss the methods used in conducting the reconnaissance survey. We then provide a discussion of the results of the survey and detail the documented archaeological resources.

SURVEY METHODS

As discussed in Chapter 2, archival research demonstrated that the APE intercepts one previously recorded archaeological site—8GI12, the Otter Springs site. The site was defined on the basis of materials recovered from the spring in the collection of a private citizen. Additional archaeological materials were recovered within the spring itself by divers in 1974. Given the prior recovery of archaeological materials from Otter Springs, there is good potential for the presence of significant cultural resources in the project area. This is mitigated somewhat by mid-20th century land alterations (e.g., excavation of the channel and emplacement of retaining walls) associated with recreational activities.

As discussed in Chapter 1, the SRWMD plans several activities that may impact cultural resources at Otter Springs, including maintenance dredging, the installation of split rail-fencing to prevent physical damage to the springs from small motorized vehicles, and repair of the sand-cement retaining wall around Otter Spring #2. The APE thus encompasses four areas: two linear expanses of split-rail fencing, the perimeter of Otter Springs #2, and the dredge spoil dewatering area.

The CRAS utilized standard Phase I reconnaissance protocols for establishing the presence/absence of archaeological remains and depth of disturbance. Shovel tests pits (STPs) were excavated at 30-m intervals within the spoil dewatering areas and along the proposed expanse of rail fence (except spans where existing fencing will be utilized). All fieldwork followed guidelines established by Florida Division of Historic Resources (DHR). Shovel test pits measured 0.5-m on a side and 1-m deep, unless prevented by environmental conditions. Excavated matrix was passed through ¼-inch-mesh hardware cloth and cultural materials placed in bags labeled with provenience information. Recorded data included the shovel test ID number, description of the stratigraphic profile (including soil/sediment color and texture), the extent of modern fill or disturbance, the depth below surface of intact archaeological deposits, and information about the recovered cultural materials and their general provenience. The location of each shovel test pit was recorded on a paper map and with a Magellan MobileMapper™ CX differential GPS. All shovel test pits were completely backfilled after data recording was completed. All collections and records of the permitted work were prepared following

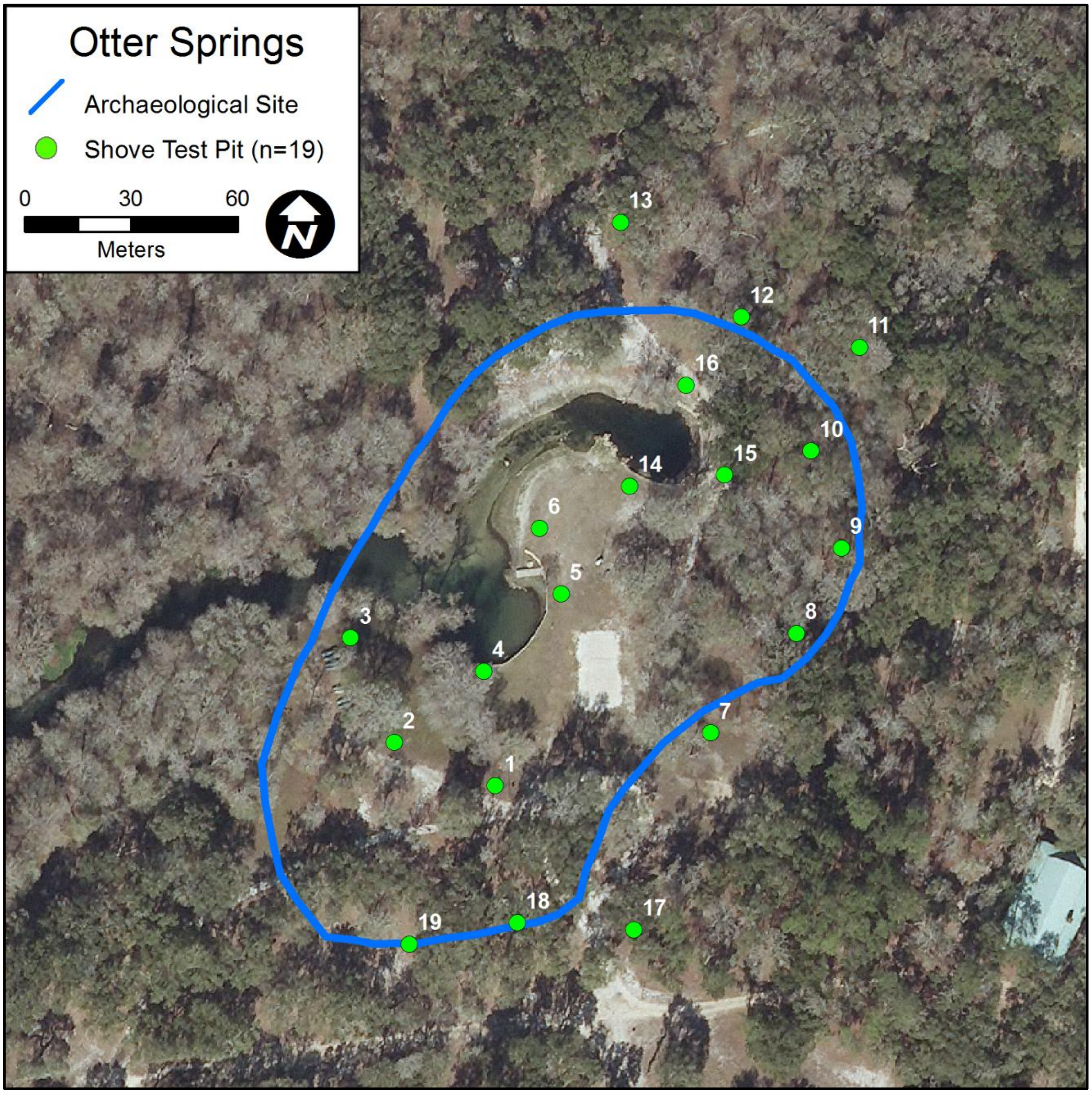

Figure 3-1. Shovel test pits excavated in the project area. All STPS were positive.

guidelines of the Bureau of Archaeological Research (BAR), Division of Historic Resources, Florida Department of State. All materials are curated with BAR.

RESULTS

The CRAS within Otter Springs Park was conducted by the Laboratory of Southeastern Archaeology (LSA), Department of Anthropology, University of Florida from October 20–21, 2014. A total of 19 STPs were excavated, all of which were positive (i.e., contained cultural materials, Figure 3-1). Subsurface testing determined that modern fill is widespread, but of variable depth. Nevertheless, cultural materials were recovered from intact deposits in all but one locale. Shovel test pit 5 contained cultural materials, but all of these were recovered from re-deposited fill. No additional STPs were excavated for bounding as these would have extended outside the project area.

Subsurface Deposit Character and Integrity

Soil profiles were highly variable in the project area (Figure 3-2). As expected, fill sand or modern overburden of varying thickness was typically found overlying natural soil profiles. These soils were well-developed, and evidence of paleosols or archaeological features was not observed. Fill was indicated by mottled deposits or near-surface depositional stratification, coupled with the recovery of modern cultural materials or other inclusions indicative of disturbance or reworking. Indicators of intact deposits varied with landscape position. Intact deposits at higher elevations were generally indicated by a grey to greyish brown (10YR 5/1–10YR 5/2) medium loamy sand overlying grey to light grey fine sand (10YR 6/1–10YR 7/1). This is consistent with the *Mandarin fine sand* soil series mapped in the vicinity (see Chapter 2). At lower elevations, proximate to the spring, fill typically overlay a dark grey to dark brown

Figure 3-2. Representative shovel test pit profiles. Clockwise from top left: STPs 1, 7, 14, 16. Note: photos are not to scale and were taken at an oblique angle.

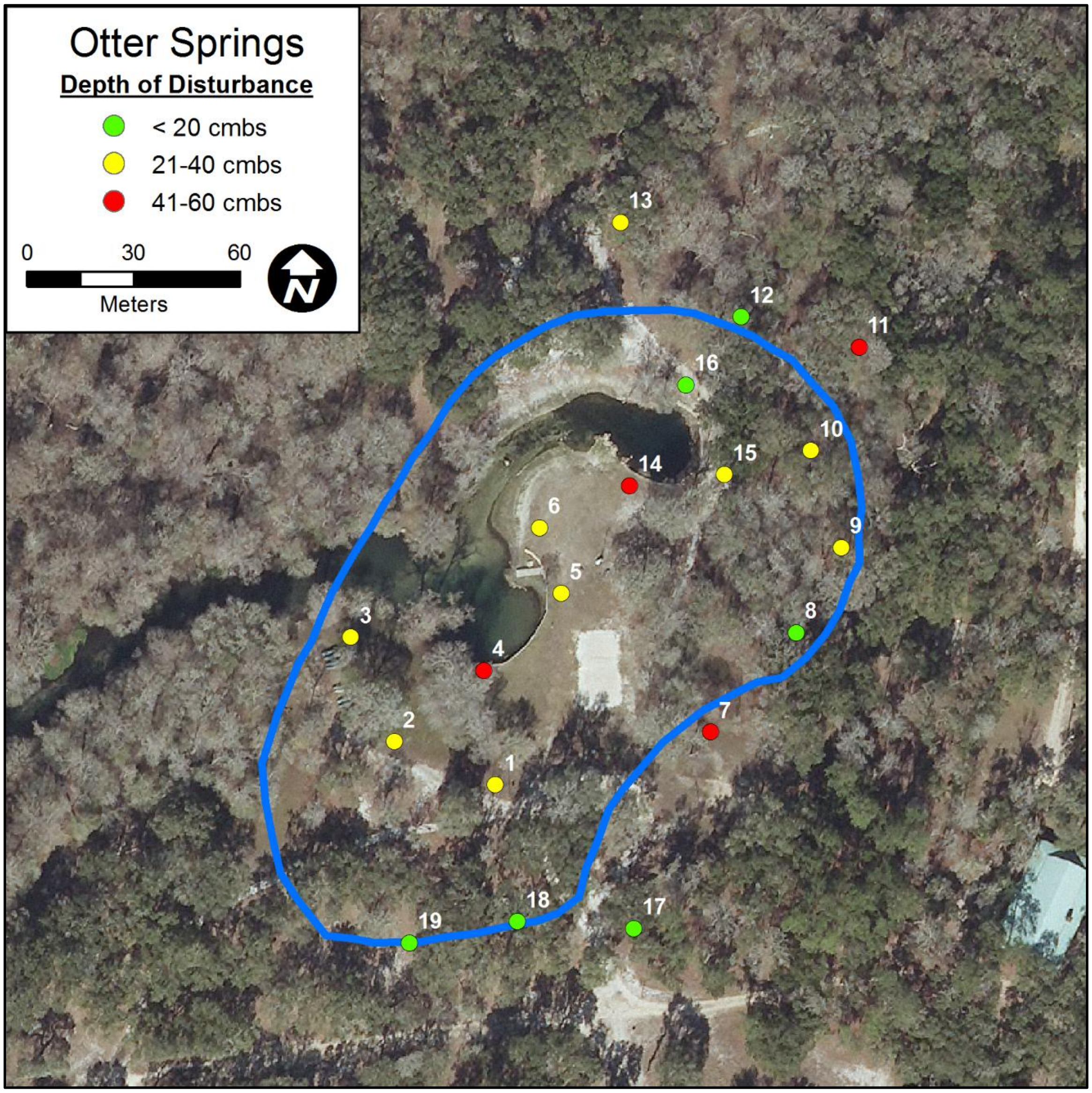

Figure 3-3. Depth of disturbance in the project area.

(10YR 4/1–10YR 2/1) buried surface horizon consisting of fine sand or organically enriched, mucky sands. Light grey fine sands or loamy sands were typically found beneath these surface horizons, again consistent with mapped soil series in the area. The presence of modern overburden atop mucky deposits indicates that sand was used to fill low-lying wetlands marginal to the spring in several locales.

Overall, disturbance in the project area was widespread but of variable depth. Of the 19 shovel test pits excavated in the project area 15 (79%) exhibited evidence of disturbance. Subsurface disturbance ranges from 0 to 60 cm below surface (mean =30.6 cmbs, median = 25 cmbs, sd = 14.4 cmbs). Figure 3-3 displays the depth of disturbance in the STPs. Disturbance was greatest in the vicinity of the spring pools and artificial channel. This is not surprising given that this area has been cleared and used recreationally since at least 1944, and that fill excavated from the channel was likely deposited in the immediate vicinity.

Artifact Assemblage

The artifact inventory (Figure 3-4 and Table 3-1) comprises four broad material categories: lithics, pottery, historic artifacts, and vertebrate faunal remains. Lithic artifacts are by far the most frequent material, comprising 85.4% of the total (n = 474 out of 555 total). Pottery was the second most frequent (6.5%; n = 36). This is followed in abundance by vertebrate fauna (6.1%; n = 34) and historic artifacts (2.0%; n = 11). These materials were spread across the project APE, but artifact density was greatest proximate to and south of the springs (Figure 3-5). Artifact density was lower along the eastern and northern periphery of the project area.

The artifact inventory is dominated by lithic debitage (n = 467). The bulk (73%) of this debitage consists of chert, although silicified coral is also well-represented. The flakes are generally small (mean weight = 0.57 g) and lacking in dorsal cortex. Chert debitage is, on average, larger than silicified coral debitage, with a mean weight of 0.65 g for chert versus 0.33 g for coral. We lack the contextual control to infer the full range of lithic reduction activities occurring here, but the diminutive size of individual specimens in the assemblage is indicative of late-stage production and/or retouch.

Seven lithic tools were recovered, only two of which are diagnostic. The first is the proximal portion of a chert hafted biface. This biface is relatively small (maximum length = 36.4 mm, maximum width = 19.6 mm, maximum thickness = 7.0 mm), and lanceolate in form, with an eared base and basal grinding. This is consistent with the Santa Fe type of the Woodland period, and likely dates to 2500–1250 B.P. (Farr 2006:55-56). A second proximal hafted biface fragment was also recovered, a large, tapered stem. Large stemmed forms were in use for many millennia, and this fragment cannot be definitively assigned to a culture-historical type. It could be coeval with recovered Woodland period artifacts, or it may indicate earlier Archaic period occupation. The reminder of the lithic tool inventory consists of two non-diagnostic biface fragments—one distal and one edge fragment—a small amorphous core, and two flakes with edge modification.

The bulk of the pottery assemblage consists of plain or eroded sand-tempered wares (72.2%). These have a wide spatial and temporal breadth, diminishing their utility as diagnostic artifacts. Diagnostic types recovered include Deptford Check Stamped, St. Johns plain or eroded, and Lochloosa Punctated. Both Deptford Check Stamped and St. Johns plain indicate a Woodland period occupation (ca. 2500–1800 B.P.), while the Lochloosa Punctated pottery indicates post-Woodland utilization of the site.

Bone preservation was poor, with only small (mean weight = 0.4 g), fragmentary specimens recovered. Thirty of the 34 recovered vertebrate faunal specimens came from a single shovel test (STP 15) and appear to be from a large mammal, likely deer. Several of these exhibit evidence of burning. One probable alligator tooth was recovered in STP

4. The remaining specimens are derived from unidentified small mammals.

Figure 3-4. Selected artifacts recovered from Otter Springs Park.

Table 3-1. Inventory of Cultural Materials Recovered from STPs (all weights in grams)

Object Class	n	wt. (g)
Biface, Chert	2	5.5
Hafted Biface, Chert	2	8.5
Core, Chert	1	15.4
Modified flake, Chert	2	20.7
Debitage, Chert	342	223.3
Debitage, Silicified Coral	125	42.1
Deptford Check Stamped sherd	1	29.8
Lochloosa Punctated sherd	6	44.5
St. Johns, eroded sherd	1	2.2
Sand tempered, plain sherd	25	112.8
Sand tempered, stamped sherd	2	8.4
Sand tempered, eroded sherd	1	9.3
Vertebrate fauna	34	13.6
Glass	8	12.0
Bullet	2	4.3
Whiteware	1	1.1
Total	**555**	**553.5**

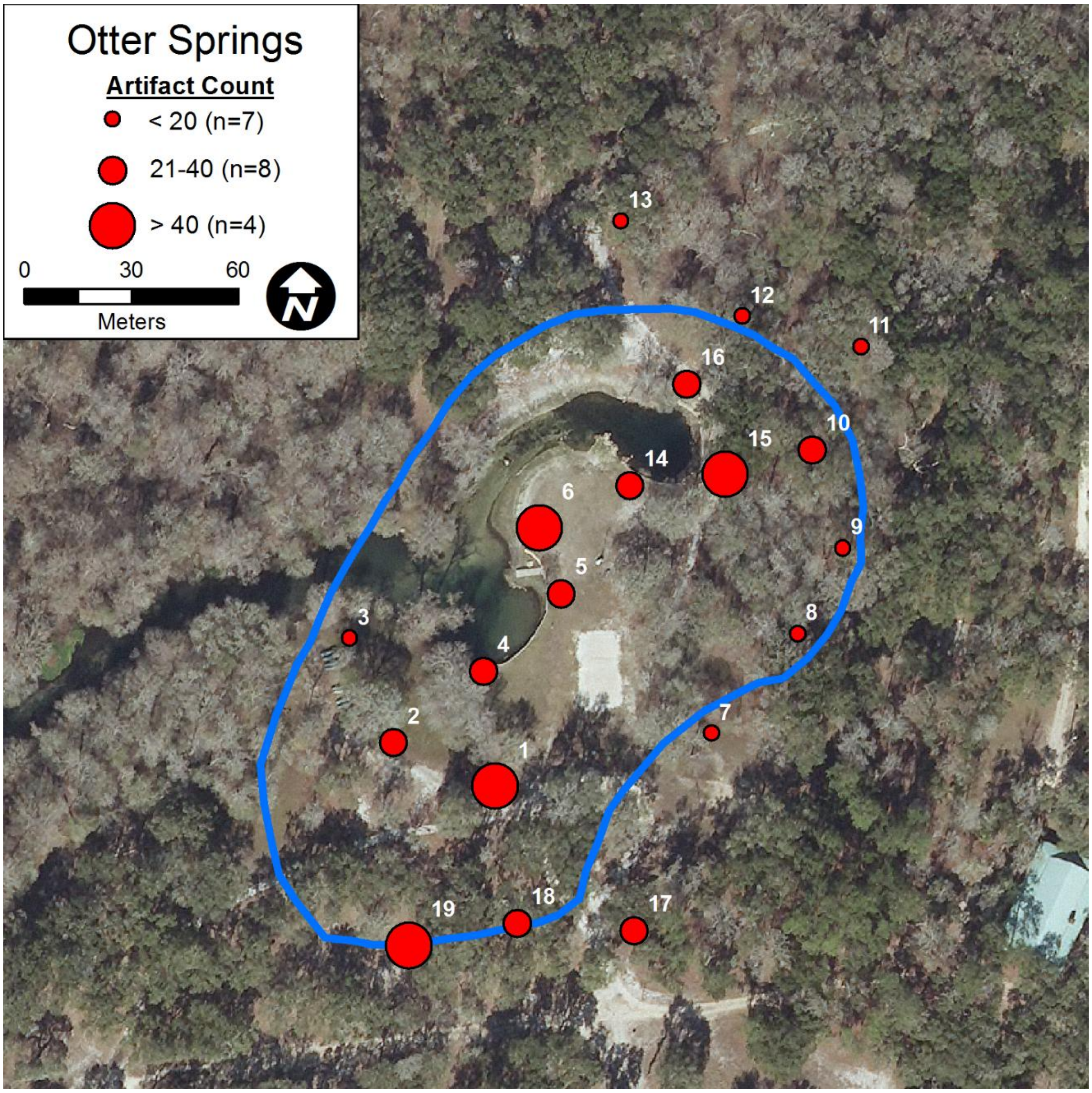

Figure 3-5. Frequency of artifacts recovered in shovel test pits.

The historic assemblage is also small, consisting of two .22 caliber bullets, 8 pieces of bottle glass (clear and brown), and a single fragment of whiteware. These all derived from disturbed contexts, but are indicative of late 19th or early 20th century occupation.

Site Boundary and Evaluation

As a result of this survey, the previously recorded Otter Springs site (8GI12) was relocated. As noted above, this site was defined on the basis of artifacts in personal collections and materials recovered from the spring itself. No cultural materials had been recovered from a terrestrial context prior to this survey. A total of 19 STPs were excavated. Fourteen of these were excavated within the boundary of the Otter Springs site

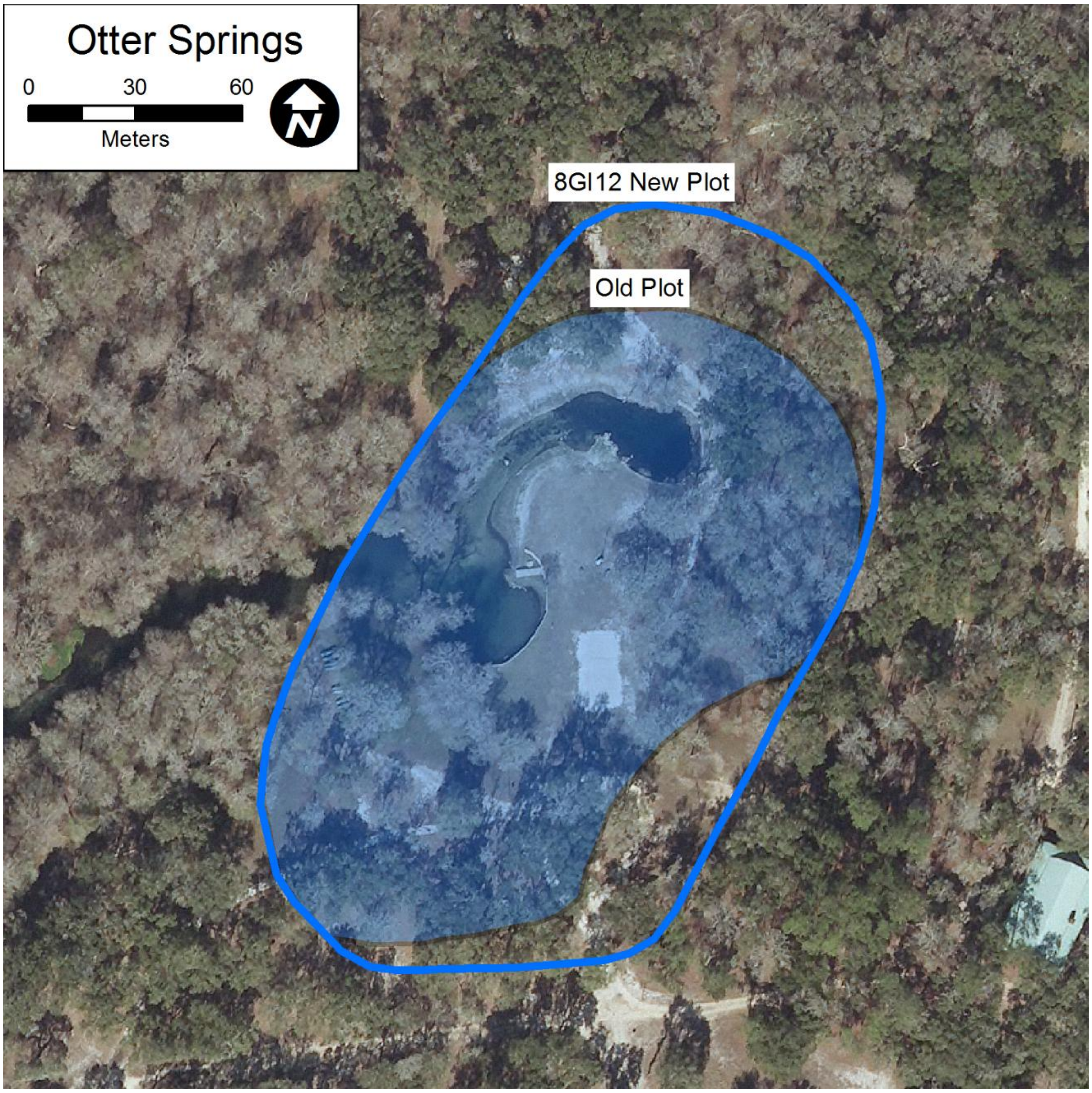

Figure 3-6. Revised boundary of the Otter Springs site (8GI12).

while five were excavated adjacent to it. All of these STPs were positive. As a result, the boundary of the Otter Springs site has been revised to encompass an area of approximately 25,432 m^2 (6.28 acres, Figure 3-6). However, this boundary should be considered provisional since the survey was limited to areas subject to subsurface impact from infrastructural improvements planned by the SRWMD. The site likely extends beyond the project APE.

The Otter Springs site (8GI12) is a moderate density lithic and ceramic scatter dating primarily to the Woodland period (ca. 2500–1250 B.P.). Although near-surface disturbance was widespread, cultural materials were recovered from undisturbed contexts in 18 of the 19 STPs, indicating that the site is largely intact. Previous research in the St. Johns River Valley has demonstrated the importance of springs as ritual gathering places in the Archaic period (Gilmore 2014) and indicates that they may have served as nodes in a lithic exchange network across the Florida peninsula (O'Donoughue 2013). The assemblage at the Otter Springs site is amenable to testing this hypothesis through lithic provenance studies and could shed light on the role of springs during the Woodland period. The Otter Springs site thus has the potential to yield information pertinent to both local and regional archaeological questions. Based on the results of the survey, the LSA considers the Otter Springs site (8GI12) to be eligible for inclusion on the NRHP under Criterion D.

CHAPTER 4
CONCLUSIONS AND RECOMMENDATIONS

The Cultural Resources Assessment Survey conducted within Otter Springs Park consisted of archival research and subsurface testing of the project APE. Archival research indicated that one site, the Otter Springs site (8GI12), lies within the APE and will be impacted by the installation of split-rail fencing. Archival research also indicated that subsurface disturbance was likely to be widespread in the APE, but the depth of disturbance was unknown. Subsurface testing was designed to document the character and extent of archaeological resources in the project APE and determine the depth of modern near-surface disturbance. This chapter summarizes the results of testing within the APE, and provides recommendations for minimizing impacts to the Otter Springs site.

SUMMARY OF RESULTS

Subsurface testing of the proposed APE involved the excavation of shovel tests pits (STPs) at 30-m intervals. The previously recorded Otter Springs site (8GI12) was relocated and its boundaries expanded. The site encompasses an area of approximately 25,432 m^2 (6.28 acres). However, it should be noted that the site extends beyond the project APE, and site boundaries have not firmly delineated. Nineteen STPs were excavated, all of which contained cultural materials.

A total of 555 artifacts were recovered, primarily lithic debitage. Although we lack the contextual control to infer the full range of lithic reduction activities taking place at this site, the small size of the debitage and lack of dorsal cortex suggests late-stage reduction and/or retouch. Lithic tools, pottery, vertebrate faunal remains, and historic artifacts were recovered as well. Diagnostic artifacts— a Santa Fe hafted biface fragment and Deptford Check Stamped pottery—indicate Woodland period use of the site (ca. 2500–1250 B.P.), although there is some indication of earlier and later occupation.

The Otter Springs site (8GI12) is a moderate density lithic and ceramic scatter dating primarily to the Woodland period. Near-surface disturbance is widespread, but intact deposits are present throughout the project APE. Springs are an important but neglected component of Florida’s ancient and recent past. This site has the potential to yield information pertinent to both local and regional archaeological questions, such as hypotheses regarding the role of springs as ritual gathering places and node sin lithic exchange networks. Based on the results of the survey, the LSA considers the Otter Springs site (8GI12) to be eligible for inclusion on the NRHP under Criterion D.

RECOMMENDATIONS

Based on the results of fieldwork we have several recommendations that will aid the SRWMD in minimizing impacts to archaeological resources:

1. The SRWMD plans to install split-rail fence within the site boundaries of the Otter Spring site (8GI12). This fencing will be installed to prevent physical damage to the springs from small motorized vehicles such as golf carts and ATVs.

The SRWMD plans to make use of currently existing fence and natural features in this locale (e.g., sinks and trees) to provide a barrier to motor vehicles while minimizing the number of fence posts that will be installed. Although we consider this site to be eligible for inclusion on the NRHP, the negative impact resulting from fence installation will be relatively limited. Further, the fence may provide ancillary protection to cultural resources along the spring margin that could be exposed and damaged by motor vehicles. We recommend that fence installation proceed but be monitored by a professional archaeologist.

2. The SRWMD plans to repair the sand-cement retaining wall around Otter Spring #2 by encasing it in rubble embedded in concrete. Subsurface impacts for this portion of the project will be limited to 30.5 cm (12 in) in depth. Subsurface disturbance exceeded 30 cm in 2 of the 3 STPs excavated in this vicinity. These activities should be monitored by a professional archaeologist.

3. The SRWMD plans to conduct maintenance dredging in both spring pools and the channel connecting them to remove sediment that has intruded in the past 50 years and is impeding spring flow. Evidence of intact archaeological deposits extending into the spring was not observed. However, cultural materials have been recovered from the spring in the past, so archaeological deposits may be encased beneath recent sediments. Further, previous investigations of near-shore deposits at springs have demonstrated the potential for significant archaeological resources to be preserved in these settings (e.g., O’Donoughue et al. 2011; Randall et al. 2011). We recommend that dredging be monitored by a professional archaeologist to ensure that no potential archaeological resources are negatively impacted.

4. The SRWMD plans to install silt fence to a depth of 20 cm (8 in) around the spoil dewatering areas. Subsurface disturbance ranged from 15–20 cm (6–8 in) in 3 STPs excavated in this vicinity. Silt fence installation can proceed without further intervention.

5. Since the boundaries of the Otter Springs site (8GI12) have not been delineated, future activities taking place outside the project APE should be preceded by archaeological reconnaissance.

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APPENDIX A
SHOVEL TEST DATA

Table Heading Definitions:

STP: Shovel Test Pit Identification

UTM NORTH: Northing in UTM, Zone 17N, NAD1983

UTM EAST: Easting in UTM, Zone 17N, NAD1983

ELEV.: Surface elevation from Hernando County LiDAR (meters NAVD 1988)

MAX: Maximum excavation depth, centimeters below surface

DISTURBED: Depth of disturbed deposits, centimeters below surface

CULTURAL: Depth range of cultural deposits, centimeters below surface

STP	UTM NORTH	UTM EAST	ELEV.	MAX	DISTURBED	CULTURAL
1	3280905.4	311889.8	2.63	115	23	0–100
2	3280918.4	311861.6	2.41	100	29	30–100
3	3280948.2	311850.2	1.70	80	25	20–80
4	3280937.7	311887.4	1.81	78	60	30–70
5	3280958.8	311910.0	2.22	70	40	20–60
6	3280977.5	311904.4	2.07	100	38	35–90
7	3280918.4	311950.9	2.43	100	49	20–100
8	3280945.6	311975.9	2.27	113	15	30–95
9	3280969.3	311989.3	1.97	100	25	0–80
10	3280996.9	311981.6	2.38	100	40	40–100
11	3281025.7	311996.1	2.99	70	50	30–50
12	3281035.3	311963.2	2.15	100	15	0–60
13	3281063.0	311929.8	2.60	105	40	0–50
14	3280988.6	311930.2	2.16	100	50	0–100
15	3280990.9	311957.0	2.10	65	25	40–100
16	3281016.5	311947.0	2.32	55	13	0–55
17	3280863.6	311927.6	3.46	100	15	30–90
18	3280866.6	311894.8	3.52	100	15	0–100
19	3280861.5	311864.1	3.02	100	15	0–100

APPENDIX B
CATALOG

Site ID	Cat #	STP	Level (cmbs)	Description	N	Wt. (g)	Notes
8GI12	1.01	1	0-100	Lithic debitage, chert	32	31.8	
8GI12	1.02	1	0-100	Lithic debitage, silic. coral	3	0.6	
8GI12	1.03	1	0-100	Pottery, sand-tempered, plain	2	8.7	
8GI12	1.04	1	0-100	Historic, bottle glass, aqua	1	4.6	
8GI12	1.05	1	0-100	Historic, bottle glass, clear	4	3.4	
8GI12	2.01	2	30-100	Lithic debitage, chert	11	3.0	
8GI12	2.02	2	30-100	Lithic debitage, silic. coral	7	1.4	
8GI12	2.03	2	30-100	Pottery, sand-tempered, Lochloosa Punctated	6	44.5	
8GI12	2.04	2	30-100	Pottery, sand-tempered, plain	1	3.2	
8GI12	3.01	3	20-80	Lithic debitage, chert	4	0.8	
8GI12	3.02	3	20-80	Unmodified Vert fauna	2	0.8	
8GI12	4.01	4	30-70	Lithic debitage, chert	28	12.4	
8GI12	4.02	4	30-70	Lithic debitage, silic. coral	2	0.2	
8GI12	4.03	4	30-70	Pottery, sand-tempered, plain	1	5.9	
8GI12	4.04	4	30-70	Historic, .22 caliber bullet	2	4.3	
8GI12	4.05	4	30-70	Unmodified Vert fauna	1	0.5	Tooth (alligator?)
8GI12	5.01	5	20-60	Pottery, sand-tempered, UID stamped	1	6.5	
8GI12	5.02	5	20-60	Pottery, sand-tempered, eroded	1	9.3	
8GI12	5.03	5	20-60	Pottery, sand-tempered, plain	4	9.6	
8GI12	5.04	5	20-60	Lithic debitage, chert	11	11.0	
8GI12	5.05	5	20-60	Lithic debitage, silic. coral	15	8.3	
8GI12	6.01	6	35-90	Lithic debitage, chert	35	12.8	
8GI12	6.02	6	35-90	Lithic debitage, silic. coral	6	2.8	
8GI12	7.01	7	20-100	Lithic debitage, chert	17	7.5	
8GI12	7.02	7	20-100	Historic, whiteware, fragment	1	1.1	
8GI12	8.01	8	30-95	Hafted biface, Santa Fe, proximal fragment	1	4.6	
8GI12	8.02	8	30-95	Modified flake, chert	1	2.9	
8GI12	8.03	8	30-95	Lithic debitage, chert	6	5.3	
8GI12	8.04	8	30-95	Lithic debitage, silic. coral	1	0.1	
8GI12	9.01	9	0-80	Lithic debitage, chert	7	8.2	
8GI12	9.02	9	0-80	Lithic debitage, silic. coral	2	0.2	
8GI12	9.03	9	0-80	Historic, bottle glass, brown	1	0.5	
8GI12	9.04	9	0-80	Historic, bottle glass, clear	2	3.5	
8GI12	10.01	10	40-100	Lithic debitage, chert	18	18.9	
8GI12	10.02	10	40-100	Lithic debitage, silic. coral	8	1.1	
8GI12	11.01	11	30-50	Pottery, sand-tempered, plain	3	26.8	
8GI12	11.02	11	30-50	Lithic debitage, chert	3	1.9	
8GI12	11.03	11	30-50	Lithic debitage, silic. coral	2	1.7	
8GI12	12.01	12	0-60	Lithic debitage, chert	7	3.3	
8GI12	12.02	12	0-60	Lithic debitage, silic. coral	8	2.8	
8GI12	12.03	12	0-60	Unmodified Vert fauna	1	0.1	
8GI12	13.01	13	0-50	Pottery, sand-tempered, plain	10	37.5	7 refit (5 rims)
8GI12	13.02	13	0-50	Biface, distal fragment	1	4.2	

Site ID	Cat #	STP	Level (cmbs)	Description	N	Wt. (g)	Notes
8GI12	13.03	13	0-50	Lithic debitage, silic. coral	2	0.5	
8GI12	14.01	14	0-100	Pottery, sand-tempered, plain	1	3.9	
8GI12	14.02	14	0-100	Lithic debitage, chert	23	6.3	
8GI12	14.03	14	0-100	Lithic debitage, silic. coral	8	1.3	
8GI12	15.01	15	40-100	Pottery, sand-tempered, Deptford check-stamped	1	29.8	
8GI12	15.02	15	40-100	Pottery, sand-tempered, plain	2	15.7	1 rim
8GI12	15.03	15	40-100	Modified flake, chert	1	17.8	
8GI12	15.04	15	40-100	Biface, edge fragment	1	1.3	
8GI12	15.05	15	40-100	Lithic debitage, chert	62	51.9	
8GI12	15.06	15	40-100	Lithic debitage, silic. coral	6	0.6	
8GI12	15.07	15	40-100	Unmodified Vert fauna	30	12.2	
8GI12	16.01	16	0-55	Lithic debitage, chert	21	16.3	
8GI12	16.02	16	0-55	Lithic debitage, silic. coral	12	5.6	
8GI12	17.01	17	30-90	Lithic debitage, chert	18	10.2	
8GI12	17.02	17	30-90	Lithic debitage, silic. coral	4	0.3	
8GI12	18.01	18	0-100	Pottery, sand-tempered, UID stamped	1	1.9	
8GI12	18.02	18	0-100	Pottery, sand-tempered, plain	1	1.5	
8GI12	18.03	18	0-100	Pottery, St. Johns, eroded	1	2.2	
8GI12	18.04	18	0-100	Hafted biface, proximal fragment	1	3.9	Stem
8GI12	18.05	18	0-100	Lithic debitage, chert	13	13.0	
8GI12	18.06	18	0-100	Lithic debitage, silic. coral	13	4.5	
8GI12	19.01	19	0-100	Core, multidirectional, chert	1	15.4	
8GI12	19.02	19	0-100	Lithic debitage, chert	26	8.7	
8GI12	19.03	19	0-100	Lithic debitage, silic. coral	26	10.1	

APPENDIX C
1A-32 ARCHAEOLOGICAL RESEARCH PERMIT

FLORIDA DEPARTMENT OF STATE
Ken Detzner
Secretary of State
DIVISION OF HISTORICAL RESOURCES

ARCHAEOLOGICAL RESEARCH PERMIT

Permit No. 1415.017 Field Begin Date: 10/1/2014 Field End Date: 11/30/2014

PERMITTEE/AUTHORIZED ENTITY:
University of Florida Department of Anthropology

c/o Kenneth E. Sassaman
1112 Turlington Hall PO Box 117305
Gainesville, Florida 32611-7305

Report/Artifact Due Date: 1/31/2015
Project: CRAS of Dredging and Infrastructure Redevelopment within Otter Springs Park

This permit is issued under the authority of Chapters 267.031 (1) and 267.12, Florida Statutes (F.S.) and Rule 1A-32, Florida Administrative Code (F.A.C.), and is administered by the Florida Bureau of Archaeological Research (BAR), Florida Division of Historical Resources (DHR).

ACTIVITY DESCRIPTION:
30-m interval shovel testing in areas of ground disturbance, monitoring of dredging

LOCATION DESCRIPTION:
Otter Springs, 8GI12, Gilchrest County
Suwannee River Water Management District

GENERAL CONDITIONS:

1. The Principal Investigator listed above or another qualified archaeologist designated by the applicant shall be responsible for all archaeological investigations, production of a final report, and be on site during all fieldwork.

2. A copy of this permit shall be provided to the land managing agency (when applicable) and field personnel shall carry a copy during fieldwork.

3. The permittee shall (initial each item as indicated):
   a. prepare a final report that meets standards and guidelines required by Rule 1A-46, F.A.C., including the necessary Florida Master Site File forms; ____
   b. inform the BAR permit administrator that a report has been completed and submitted to the Division of Historical Resources; or submit a copy of the final report to the BAR permit administrator; ____
   c. provide proper curation and conservation of recovered artifacts and other recovered site materials until such time as those artifacts and other site materials are conveyed to the BAR for curation; ____
   d. convey all artifacts and related materials obtained from state-owned or controlled land to the BAR permit administrator for permanent curation or processing for loan; ____
   e. convey copies of all notes, maps, photographs, videotapes, and other field records pertaining to

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✓ Archaeological Research (850) 245-6444 • FAX: 245-6452
☐ Historic Preservation (850) 245-6333 • FAX: 245-6437

research conducted under this permit to the BAR permit administrator following completion of the project ___;

f. and not remove from a stable environment artifacts and materials which the permit recipient is unable to properly curate and conserve before conveying to BAR. ___

4. The effective field investigation dates are subject to receipt of permission from the land management agency and, in some instances, State/Federal dredge-and-fill permitting programs. Those agencies may also require work performance conditions relevant to their natural resource management and permitting responsibilities. A representative of the land managing agency (if one exists) will need to sign this permit document prior to BAR executing this permit (see page 3).

5. Unless approved in writing by BAR, no work beyond that described in the "ACTIVITY DESCRIPTION" and attached to your application shall be performed.

6. This permit is valid for up to one year following the requested report due date. Requests for approval for amendments to fieldwork, fieldwork end date and report/artifact due date are required during this time. Such requests may be made and approved by phone, email, or in writing during this time and do not require amendments to this document.

7. In any release of information, including public presentations, media contacts, and the final written report, there shall be acknowledgement that the portion of the project involving state-owned and controlled land was conducted under the terms of an archaeological research permit issued by the Florida Department of State, Division of Historical Resources, Bureau of Archaeological Research.

8. If Unmarked Human Burials are discovered, permit recipient shall comply with the provisions of 872.05, F.S., and when appropriate, Rule 1A-44, F.A.C. Specifically, upon discovery of unmarked human remains, all activities that might further affect those remains shall be halted and the remains protected from further disturbance until an appropriate course of action has been determined by the local medical examiner or by the State Archaeologist, as appropriate.

9. In issuing this permit, the State assumes no liability for the acts, omissions to act or negligence of the permittee, its agents, servants or employees; nor shall this permittee exclude liability for its own acts, omissions to act or negligence to the State.

10. The permittee, unless the permittee is an agency of the State, agrees to assume all responsibility for, indemnify, defend and hold harmless the Division of Historical Resources from and against any and all claims, demands, or liabilities, or suits of any nature whatsoever arising out of, because of, or due to any act or occurrence of omission or commission arising out of the permittee's operations pursuant to this permit and shall investigate all claims at its own expense. In addition, the permittee hereby agrees to be responsible for any injury or property damage resulting from any activities conducted by the permittee.

11. The parties hereto agree that the permittee, its officers, agents and employees, in performance of this permit, shall act in the capacity of an independent contractor and not as an officer, employee, or agent of the State.

The undersigned, as representative of the Permittee/Authorized Entity, understands and accepts the terms of this 1A-32 Archaeological Research Permit.

Date: 9/24/14

Signature

The undersigned, as representative of the land managing agency for the managed area/state property described in the "LOCATION DESCRIPTION" section of this document, hereby permits the activity described above.

Date: 9/24/14

Dave Dickens

Title: Director

This permit will not become effective until it has been executed by the Chief of BAR. Before BAR can execute this permit, the Permittee must have a land management representative (if applicable) sign in the space provided above. Please send the signed permit to the Permit Administrator at the address above.

A copy of the executed permit will be sent to you prior to commencing fieldwork.

Executed in Tallahassee, Florida

STATE OF FLORIDA
DEPARTMENT OF STATE

Mary Glowacki, Ph.D.
Chief, Bureau of Archaeological Research

9/24/14
Date of Issue

Enclosures:
Rule 1A-46, F.A.C.
BAR Collections and Curation Guidelines
How to Package Documents, Florida Master Site File

Copies furnished to:

MG/JCB

APPENDIX D
UNANTICIPATED DISCOVERIES

In the event human remains are encountered, excavation and/or dredging will cease. The Project Archaeologist will determine if the remains represent those of an individual who has been dead more than 75 years. If so, the State Archaeologist will be notified of the unmarked burial. If it is determined that the remains may be from an individual who has been dead for less than 75 years then the district medical examiner (DME) will be notified. These actions are consistent with Chapter 872.05, F.S. and the implementing rule for this law, Rule 1A-44, F.A.C. Either the DME or the State Archaeologist will determine what additional action, if any, needs to be taken.

APPENDIX E
FDHR SURVEY LOG