

**CULTURAL RESOURCES ASSESSMENT SURVEY
OF 55.44 ACRES AT
ST. ANDREWS STATE PARK
BAY COUNTY, FLORIDA**



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OF 55.44 ACRES AT ST. ANDREWS STATE PARK
BAY COUNTY, FLORIDA**

**PREPARED FOR
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**PRENTICE THOMAS & ASSOCIATES, INC.
REPORT OF INVESTIGATIONS NO. 1544
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ABSTRACT

In August of 2019, CPH, Inc., contracted with Prentice Thomas and Associates, Inc., to conduct a cultural resources assessment survey of 55.44 acres located in St. Andrews State Park in Bay County, Florida. Located in the area of the existing campground which has been prone to flooding, CPH, Inc., has been tasked with conducting planned drainage improvements to alleviate or eliminate the flooding in the campground area. The purpose of the cultural resource assessment survey was to determine if the proposed undertaking posed a threat to known or yet undiscovered cultural resources. The area of planned drainage improvements had not been previously surveyed, but the background research revealed the presence of one known prehistoric site, 8BY171. Therefore, relocating this site, if still present, was another objective of the current effort. Fifty-nine 50 cm by 50 cm survey shovel tests were laid out on a systematic grid, however, 15 were no-digs due to disturbance associated with the construction of the campgrounds and/or the presence of standing water. Therefore, the investigations consisted of an intensive pedestrian survey across the entire tract and the excavation of 44 50 cm by 50 cm shovel tests. The plotted location of 8BY171 was carefully examined but that prehistoric site appears to have been lost to erosion. No new sites were encountered, so the proposed drainage improvements pose no threat of impact to any cultural resources and no further work is recommended.

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CHAPTER ONE INTRODUCTION

In August 2019, CPH, Inc. (CPH), contracted with Prentice Thomas and Associates, Inc., (PTA) to conduct a Phase I cultural resources assessment survey (CRAS) of 55.44 acres located in St. Andrews State Park in Bay County, Florida. Located in the area of the existing campground which has been prone to flooding, CPH has been tasked with conducting the planned drainage improvements to alleviate or eliminate the flooding in the campground area. Recommended by the Florida Division of Historical Resources (DHR), the purpose of the CRAS was to determine if the planned improvements posed a threat to known or unknown cultural resources within the boundaries of the proposed undertaking.

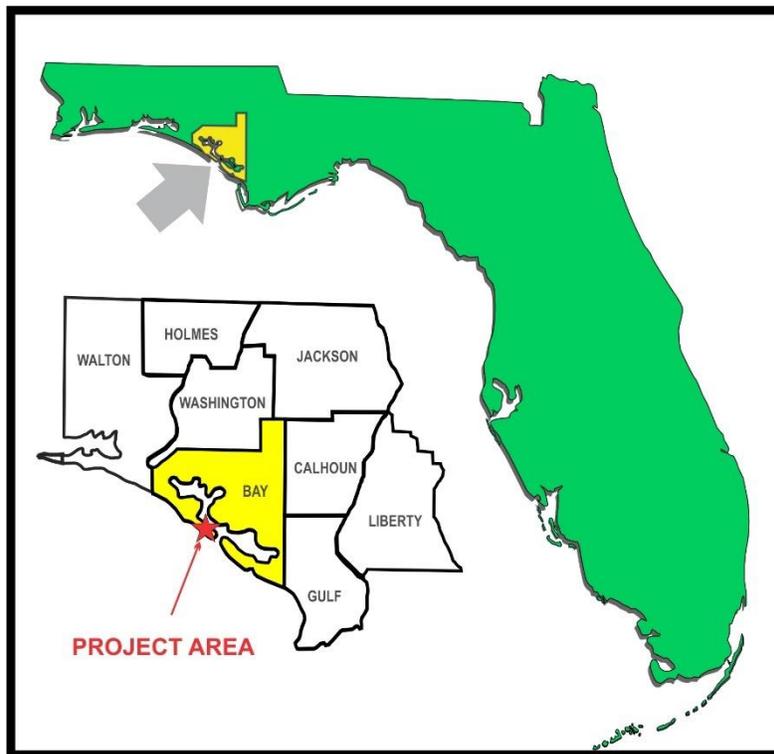


Figure 1. Florida map showing location of St. Andrews State Park in Bay County

The survey and related work was conducted in accordance with legislation and regulations that include, but are not limited to, the National Historic Preservation Act of 1966 as amended (NHPA), 36 Code of Federal Regulations (CFR) Part 800, the Archaeological and Historical Preservation Act of 1974 (AHPA), the Archaeological Resources Protection Act of 1979 (ARPA), the National Environmental Policy Act of 1969 (NEPA), the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), the American Indian Religious Freedom Act (AIRFA), and guidelines established in “Module 3 of the Florida Division of Historical Resources (DHR) Standards and Operations Manual.” The final report has been prepared in accordance with Chapter

1A-46, Florida Administrative Code (“F.A.C.”), titled “Archaeological and Historical Report Standards and Guidelines.”

Location

St. Andrews State Park encompasses approximately 1,260 acres located three miles (5 km) east of Panama City Beach, Florida. The park consists of two noncontiguous properties, a mainland parcel and an island (Shell Island) parcel straddling the pass from the Gulf of Mexico to St. Andrew Bay (Figure 2). It can be accessed via Highway 98, then south onto Thomas Drive (Highway 3031) to Highway 392. The entrance gate is located on the northwestern parcel to which the area of potential effect (APE)¹ is confined. The APE is in Section 15 of Township 4 South-Range 15 West (T4S-R15W) on the Panama City USGS quadrangle map (Figure 2).

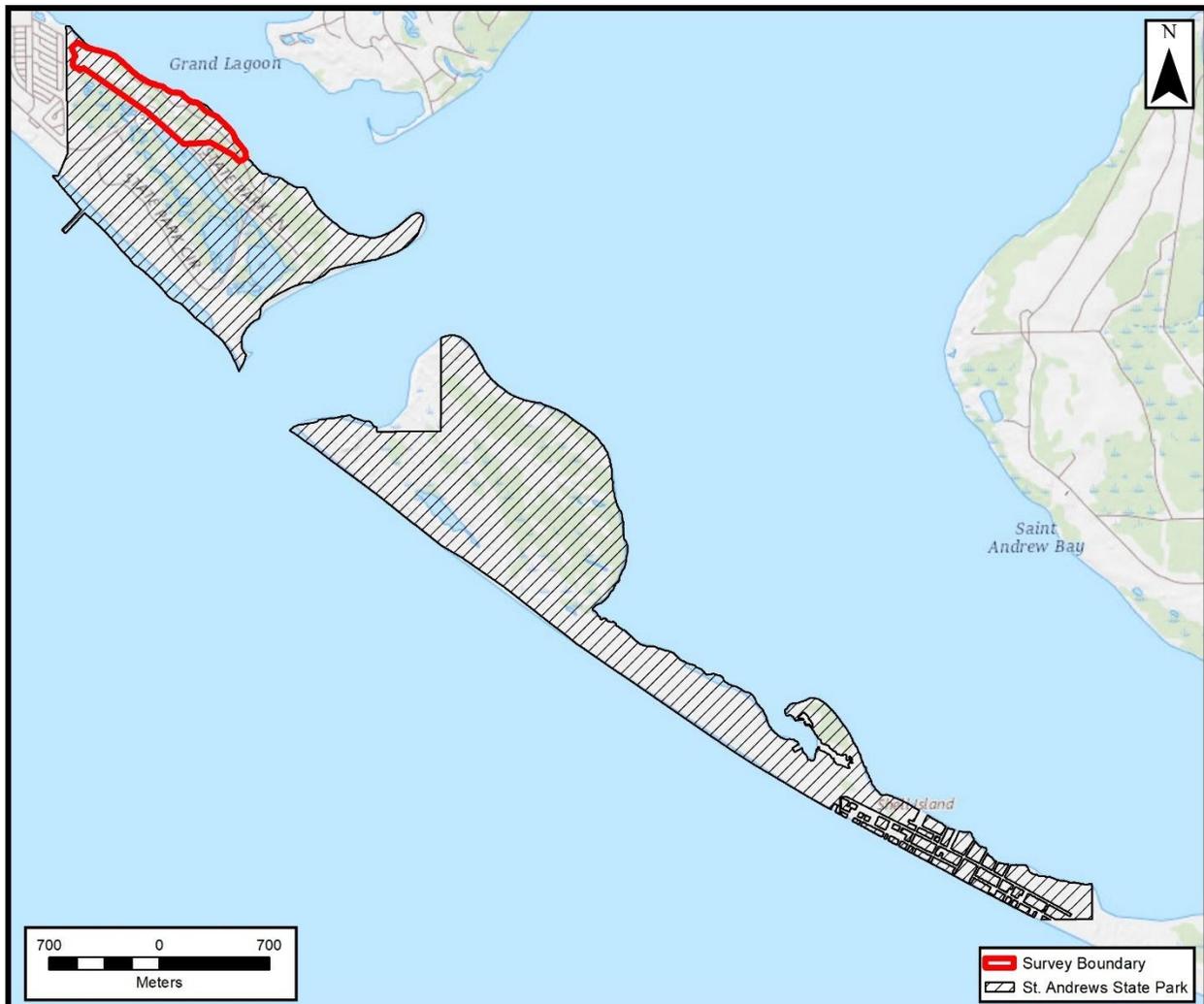


Figure 2. Portion of the Panama City and Beacon Beach 7.5-minute quadrangles, showing St. Andrews State Park outlined in red

¹ APE is defined as the “geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist” (36 CFR 800.169d).

Project Synopsis

The current investigations were undertaken to determine if proposed improvements posed an adverse effect to cultural resources within the APE. According to the scope of work, planned drainage improvements were necessary to alleviate or eliminate the flooding in the campground area. Although the state park has been the subject to multiple surveys for archaeological and historic properties, the APE has not been surveyed for archaeological and historic properties. As a result, DHR recommended a CRAS to determine if the impact, if any, upon cultural resources that might be present within the boundaries of the proposed undertaking.

Prior to fieldwork, PTA conducted a background and literature review, which included examination of relevant literature on the project area and previous work, historic reference materials, information from the Florida Master Site Files (FMSF), and other pertinent sources. The effort revealed the presence of one known prehistoric site, 8BY171. Fieldwork took place from October 17 to October 23, 2019, and included an intensive pedestrian survey of the APE, inspection of the exposed shoreline, and the excavation of 44 50 cm by 50 cm shovel tests to 100 cm below ground surface (bgs) unless water or other impediments were encountered. An additional 15 shovel tests were laid out but could not be excavated due to submerged water and/or disturbances related to paving, foundational materials, and underground utilities. The plotted location of 8BY171 was carefully examined but that prehistoric site appears to have been lost to erosion. No artifacts or cultural deposits were observed on the surface or encountered in the excavations. Based on the negative findings, planned improvements will have no effect upon cultural resources and PTA recommends no further work.

Unexpected Discoveries

If unexpected discoveries, such as Native American graves or lost historic cemeteries, are encountered, guidelines set forth in Chapter 872, Florida Statute (Florida's Unmarked Burial Law) must be followed. If human remains or unexpected discoveries are encountered during ground disturbing activities, work should cease and the Florida State Historic Preservation Officer (SHPO) must be notified within 24 hours at (850) 245-6333 to begin procedures outlined in Chapter 872, Florida Statute.

Report Organization

Following this introduction, environmental and cultural overviews are presented in Chapters Two and Three, respectively. Chapter Four discusses previous work within and near the APE, the research orientation of this project, survey procedures, and findings. Recommendations are tendered in Chapter Five, followed by a list of references cited.

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CHAPTER TWO ENVIRONMENTAL OVERVIEW

Geography and Geology

Florida is perched on the Florida plateau, which formed about 530 million years ago by a combination of volcanic activity and marine sedimentation during the early Ordovician Period, long before the era of human population. The Florida plateau was part of a supercontinent known as Pangaea, which split apart by the movement of tectonic plates, with North America ultimately splitting apart and dragging the Florida plateau with it (Allen and Main 2005).

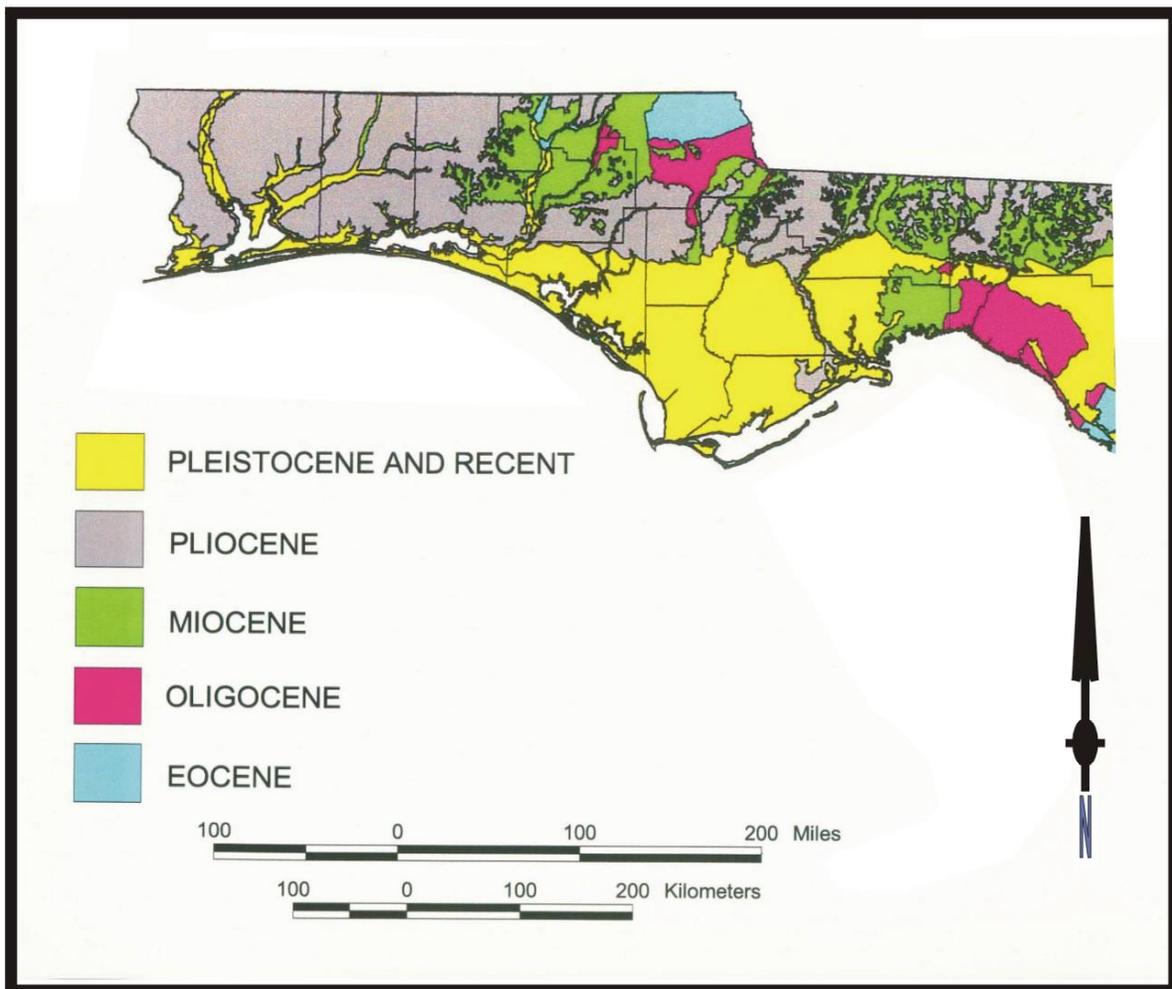
Changes in sea levels have had an effect on Florida's geology and, by extension, the ecology. During the last ice age, Florida was considerably larger than at present, with a shoreline extending Gulfward approximately 100 km from its current position (Figure 3).



Figure 3. Map showing land mass of Pleistocene Florida compared with today's shoreline (From Fernald and Purdum 1992)

Because of the episodic melting of the Late Wisconsinan ice sheets, strandlines or shorelines with attendant landforms were created and immersed by the transgression of the sea. For example, Ballard and Uchupi (1970) hypothesize that strandlines are submerged on the continental shelf at depths ranging from 20 to 60 m. Major geomorphic features of the project area include a barrier complex of islands, spits, lagoons, and bays. Associated geomorphic elements include shoals, marshes, beaches, tidal fans, washover fans, the tidal inlet, and dunes.

The surficial sediments of Bay County in general are coarse siliclastics (quartz sand and gravel) deposited in the Late Tertiary (Pliocene) and Quaternary period (Schmidt and Clark 1980; Scott et al. 2001). The sediments within project area are considered to be exclusively Quaternary (i.e., Pleistocene and Holocene) (Figure 4).



**Figure 4. Age of the surface sediments of the Bay County Area
(From Scott 2000:Figure 3-15)**

Structurally, the entire study area is within the Apalachicola Embayment, a shallow, southwest to northeast oriented basin between the Chattahoochee and Ocala uplifts (Schmidt and Clark 1980:24-25). The Apalachicola Embayment was previously occupied by a channel referred to variously as the Suwannee Straight, Gulf Channel, or Georgia Channel, which separated the

Florida platform from the main body of the North American continent beginning middle Cretaceous to Miocene times (Randazzo and Jones, eds. 1999). The Triassic rift valley between what is now North America and Africa had the same location and orientation, as did the suture where the two were joined in the Paleozoic.

The study area occupies part of the Coastal Lowlands geomorphic province, landforms of which barrier islands, coastal ridges, estuaries, lagoons, relict spits and berms, and sand dune ridges, parallel to the present coast line (Puri and Vernon 1964). The dune ridges along the landward edge of the Gulf beach are the most notable features as well as more interior areas of the beach dune community. Elevations along the established beach dunes can build to well over 25 feet during long periods between major land falling storm events. However, tropical cyclone events, such as Hurricane Opal in 1995, Hurricane Ivan in 2004, and Hurricane Dennis in 2005, caused significant damage and erosion to the primary dunes of the park.

Topography is primarily flat with elevations ranging from zero to 35 ft (9.1 m) above mean sea level (amsl), poorly drained, and mostly covered with Pleistocene to recent quartz sands, much of which is reworked quartz from the various marine terraces created as sea level rose and fell episodically in response to Late Tertiary and Quaternary glacial episodes.

The terraces are depositional, and in some cases, erosional features developed on sandy, fossil-poor, siliclastic sediments. Therefore, they are defined as landscape features rather than as stratigraphic or depositional units with distinctive lithologies. They slope gently seaward and may terminate landward at a shoreline scarp produced by wave erosion. There has been continuing debate regarding the number, exact age, and boundaries of the terraces; as few as four to as many as eight have been proposed (Healy 1975; Schmidt 1999).

The two pertinent to the study area are Silver Bluff and Pamlico terraces. The Pamlico has an elevation range of about 10 to 25 ft (3.1 to 7.6 m) amsl, the Silver Bluff of about one to 10 ft (0.3 to 3.1 m) amsl. Although the Pamlico terrace has been assessed as a Pleistocene surface (e.g. Durst and Wang 1996) the evidence currently favors a Sangamon interglacial age for the Pamlico terrace. Otvos (2005) has reported optically stimulated luminescence (OSL) dates of 124,000 to 116,000 years ago for sediments of the Gulfport Formation barrier complex, which has an elevation of about 24 ft (7.5 m) amsl, essentially the same as the upper limit of the Pamlico (i.e., the Pamlico surface is the surface of the Gulfport Formation). The temporal range of the Sangamon is approximately 130,000 to 111,000 thousand years ago (Cronin 1999:241-243).

There are conflicting views as to the age and origin of the Silver Bluff, as time frames ranging from Sangamon (e.g., Colquhoun 1974) to Middle Holocene (e.g., MacNeil 1950) have been proposed. MacNeil (1950) suggested, as well as Johnson and Fredlund (1993), that the Silver Bluff may be a terrace complex with both Pleistocene and Holocene components. Specifically, they note that although the fill underlying the Silver Bluff surface is likely to be Pleistocene, the surface sediments may be Holocene.

The barrier system may likewise have a complex origin. The elevation of the central part of the peninsula is consistent with the Pamlico terrace. The smaller barrier features, such as Shell Island, are known to be Holocene and likely less than 6,000 years old as the rate of post-glacial

sea-level rise would have precluded their formation before that time, and some may be considerably younger (Stapor 1973; USACE 1995; Davis 1999; Bryan et al. 2008). The barrier islands of the northern Gulf of Mexico are retreating shoreward as sea level continues to rise (Stapor 1973; USACE 1995; Stone and Stapor 1996).

Soils and Associated Natural Vegetation

The soils throughout the park are nearly level to gently sloping, with fairly deep profiles (Florida DEP 2016) and drainage characteristics ranging from excessive to moderate to poor. Soil associations mapped within the park are: Rutledge sand, Osier fine sand, Fripp-Corolla complex, Bayvi loamy sand, and Beaches (Figure 5). The following descriptions are paraphrased from Florida DEP (2016: Addendum 4).

Rutledge sand is very poorly drained soil on nearly level or slightly depressional areas along drainage ways, with smooth to concave slopes (zero to two percent). Small areas of Dorovan, Leon, Allanton, Mandarin, Osier, Pamlico, Pantego, Pickney, Pottsburg, and Rains soils are included in the mapped area of Rutledge sand, but make up less than 20 percent. Natural vegetation is characteristic of mesic flatwoods with slash pine, palmetto, gallberry, and fetterbush dominating the landscape.

Osier fine sand consists of poorly drained soil with slopes of zero to two percent in nearly level or slightly depressional areas and flatwoods. Included with this soil mapping are small areas of Albany, Chipley, Dorovan, Leon, Allanton, Mandarin, Pamlico, Pottsburg, Hurricane, Pelham, Plummer, and Rutledge soils that make up less than 15 percent. The natural vegetation is characterized by sweetbay, oaks, and pines with an understory of inkberry, saw palmetto, wax myrtle, and pineland threawn.

Soils of the Fripp-Crolla association are gently sloping to steep (two to 30 percent). Fripp consists of excessively drained soils so intricately intermixed with Corolla moderately well drained to somewhat poorly drained soils they cannot be mapped separately. They are found on undulating, dune-like areas adjacent to the Gulf of Mexico. Very small patches of Baci, Dirego, Dorocan, Osier, Pamlico, and Rutledge soils are found within this mapping. The natural vegetation is stunted sand pine, sea oats, switchgrass, rosemary, reindeer lichen, scrub live oak, and palmetto.

Bayvi loamy sands are level or nearly level (zero to one percent slopes) and very poorly drained in tidal marshes, which are inundated daily by normal high tides. Salt content is high throughout the profile. These soils are associated with needlegrass rushes and cordgrasses.

Areas mapped as Beaches include narrow strips of white, tide-washed sand along the Gulf of Mexico, about half of which is covered in saltwater from high tide and wave action. Most have a uniformly gentle slope that becomes shorter and stronger at water's edge, but since beaches are highly vulnerable to tropical activity, their configuration can change with every storm. The beaches are devoid of vegetation, although adjacent areas are often sparsely covered in sea oats.



**Figure 5. Soils mapped in the study area
(from Florida DEP 2016:17)**

Hydrology

Water features associated with the park include Grand Lagoon and St. Andrew Bay, which bound it to the north, and the Gulf of Mexico along the south. The Shell Island parcel features a freshwater coastal dune lake. The mainland parcel hosts a freshwater marsh and at the eastern end a freshwater impoundment, Gator Lake, created from spoil deposition from dredging the channel between the mainland and the island (Florida DEP 2016).

Rainfall is absorbed in the very permeable sandy surface of the area until the sediments become saturated and the water must run off. Water may also collect episodically on the surface in depressional areas of the flatwoods and dunefields. Water that does not runoff eventually percolates downward until it encounters the water table, at which level it moves laterally through the near-surface aquifer, discharging into streams and springs (Schmidt and Clark 1980). Some rainwater percolates further downward through an intermediate zone of siliclastics, clay, and shell and thence into the Floridan Aquifer (Schmidt and Clark 1980). The intermediate zone is composed of the Jackson Bluff and Intracoastal Formations, both of which are middle to lower Pliocene units (Scott 1999, 2001; Scott et al. 2001).

The Floridan Aquifer in the general study area includes the lower portion of the Intracoastal Formation and is encountered at depths of 76 to 107 m below ground surface and may be as much as 335 m thick in some places (Schmidt and Clark 1980; Scott 1999). Although groundwater percolation is believed to contribute to the Floridan Aquifer, most of the recharge is thought to be due to swallets, openings through which surface streams descend underground into karst sinkholes and do not resurface (Scott 1999; Bryan et al. 2008).

Climate

Evidence indicates that the Florida panhandle climate was considerably drier and cooler than now during the last glacial maximum about 18,000 years ago (Cronin 1999). Sea level was depressed by as much as 120 m (390 ft), therefore, the project area would have been in an interior location, 50 miles or more from the Gulf of Mexico (Fernald 1981:16).

After a gradual warming period about 18,000 to 14,000 years ago, conditions began to warm rapidly, and sea level rose much faster, at a rate of about 0.45 cm/year, and by about 2.4 cm/year from 14,000 to 11,000 years ago. The warming trend was briefly reversed by a cool spell, usually referred to as the Younger Dryas between 11,000 and 10,000 years ago. There were widespread extinctions of numerous megafauna species 12,000 to 10,000 years ago (Graham and Lundelius 1984; Pielou 1991).

The Pleistocene-Holocene boundary is 10,000 years ago. By that time, humans had arrived in Florida, and sea level would have been about 35 m lower than now (Bradley 1999:Figure 6.50).² Between 9,000 and 5,000 years ago the North American climate became warmer and drier than it currently is, an interval variously referred to as the climatic optimum, Atlantic, or Hypsithermal (Pielou 1991). By about 6,000 years ago sea level is believed to have stood about where it does

² According to Th/U (thorium-uranium) dated corals at Barbados (Bradley 1999).

now (Cronin 1999). Late Holocene sea levels are not without controversy: although there is evidence to suggest that sea level may have been as much as two meters higher than now (Cronin 1999), although Later Holocene sea levels being higher are not universally accepted (Otvos 1996, 2004; cf. D. H. Thomas 2008:42-47). Sea level is currently believed to be rising at a rate of about three millimeters/year—30 cm/century (Intergovernmental Panel on Climate Control [IPCC] 2007).³

Today, climate in the study area is classified as humid subtropical (Cfa) in the Köppen system. The area has a moderate climate characterized by mild, cool winters and long, warm, and humid summers (USDA 1984; Tyndall Air Force Base [AFB] 2006a). Temperatures range largely between 40 and 90°F, being moderated by proximity to the Gulf of Mexico. Precipitation averages about 60 inches a year in Bay County, with the monthly average ranging from 2.18 inches in October to 7.8 inches in July (USDA 1984:Table 2). Precipitation is limited almost exclusively to rainfall, with some hail in association with strong thunderstorms, and virtually no snow.

Winter conditions are determined by the outbreak of cold Arctic air arriving from the north and west. Conditions in other seasons are related to the passage of fronts coming largely from the west. Thunderstorms are common particularly in the summer months, but are usually brief, if intense. Tropical storms and hurricanes normally occur between June and November, and may approach from the west, south, or east. These intense weather systems bring high winds, heavy rain, battering waves, potentially dangerous storm surges, and commonly spin off dangerous tornadoes. Hurricane Opal in October of 1995 resulted in Bay County being declared a disaster area by President Clinton (Barnes 2007). Hurricane Ivan, which made landfall just west of the Alabama-Florida state line in September 2004, caused moderate damage in Bay County and lesser effects on St. George Island (Wang et al. 2006).

Natural Communities

Past

From pollen and paleontological studies, it appears that a mixed, xeric oak-hickory-southern pine forest dominated during the Wisconsinan about 23,000 B.P. to 13,500 B.P. (Willman and Frye 1970; Delcourt and Delcourt 1981) over much of the Southeast. The existence of a xeric oak-hickory forest across the southeastern plain during the Late Wisconsinan is best documented by the pollen data from Sheelar Lake in northern Florida (Watts and Stuiver 1980).

Pollen records from local lakes indicate the Late Pleistocene/Early Holocene climate in northwestern Florida was dry and windy, with active sand dunes and deflation of sand and silt deposits locally (Faught and Waggoner 2012). An open pine forest was the dominant vegetation type, with both xerophytic grasses and ragweed understory common. Data obtained from Camel Lake in Bristol (located just west of the current project area) suggest relatively stable water table levels by the observation of peat with sand and silt couplets in the soil record. Toward the end of the Pleistocene, an oscillation between wet and dry conditions was noted in the climatic record. The later portion of the Pleistocene noted a decline in pine and an increase in oak and hickory, suggesting increasingly drier environmental conditions. During this time, freshwater sources

³ The 2007 IPCC report suggests 2.4 to 3.8 mm/year.

would have been invaluable and any human populations in Florida at that time likely would have congregated around existing water sources, such as karst features with aquifer connections. At around the Terminal Pleistocene, a shift back to pine occurred, suggesting a return to wetter conditions. Around the same time, data from Camel Lake (located just west of the current project area), noted a spike in spruce pollen as well as a sediment shift from peat to silt/sand couplets to an orange peat, suggesting coverage of the area by a shallow and likely fresh water table (Faught and Waggoner 2012:170).

At the close of the Wisconsin Stage, about 13,000 B.P., the vegetation of the Southeast lost much of its diversity. Dense mixed hardwood forests expanded, replacing the stands of northern arboreal taxa which had invaded earlier (Delcourt and Delcourt 1981). More mesic conditions did not occur in the region until about 8300 B.P. at which time deeper lakes scattered along the Coastal Plain realized an initialization or increase in sedimentation, including Mud Lake, in north central Florida, dated at 8160 B.P. (Watts 1969) and Buck Lake, Florida, at 8270 B.P. (Watts and Stuiver 1980). The rise of the pine-dominated Southern Evergreen Forest followed the climatic shift towards more mesic conditions, which began about 8300 B.P. The timing of this vegetational shift is, however, somewhat ambiguous in the fossil record, being at the earliest between 8000 and 7000 B.P., including a date from Lake Sheelar in north Florida (Watts 1971; Watts and Stuiver 1980). Among the later dates for the rise of the Southern Evergreen Forest, one is from Mud Lake, Florida at 5070 B.P. (Watts 1969).

The conditions in Florida that would have coincided with the earliest populations, Paleoindians, also supported diverse Pleistocene megafauna, among them mastodons, saber-toothed cats, and giant armadillos. Another species that may have been present in the study area is bison, comparable evidence for which was a *Bison antiquus* kill site on the Wacissa River in Jefferson County that yielded a radiocarbon date of 9220 B.C. (Webb et al. 1984).

When Europeans arrived, the vegetation was a fire sub-climax community dominated by stands of longleaf pine. A later description was offered by the traveler-naturalist William Bartram during his journey between 1773 and 1776.

We next entered a vast forest of the stateliest Pine trees that can be imagined, planted by nature, at a moderate distance, on a level, grassy plain, enameled with a variety of flowering shrubs, viz. Viola, Ruella infundibuliforma, Amaryllis atamasco, Mimosa sensitiva, Mimosa intsia and many others new to me. This sublime forest continued five or six miles, when we came to dark groves of Oaks, Magnolias, Red bays, Mulberries, &c. through which proceeding near a mile, we entered open fields, and arrived at the town of Talahasochte of the banks of the Little St. Juan [Suwannee River]. (Early 2004:11)

Bartram was describing traveling in a locality he referred to as Capola and the Seminole town of Talahasochte, about 10 miles from the latter. Talahasochte is believed to have been near the location of Tallahassee (Early 2004:10-11).

Present

According to the St. Andrews Management Unit Plan (Florida DEP 2016), the park hosts 14 distinct natural communities as well as altered land-cover types: scrub; wet flatwoods; mesic flatwoods; scrubby flatwoods; beach dune; coastal grassland; maritime hammock; basin marsh; coastal dune lake; coastal interdunal swale; estuarine seagrass bed; estuarine unconsolidated substrate; marine unconsolidated substrate; and salt marsh (Figure 6). These are briefly summarized below, paraphrased from Florida DEP (2016:23ff).

The park contains two variations of scrub: sand pine scrub and rosemary scrub. The latter occurs on the sandy ridges of old dunes adjacent to the beach dunes. The scrub community adjacent to the beach dunes is vital for the survival of the Choctawhatchee beach mouse. The wet flatwoods community is located on both the mainland and Shell Island mixed within and around basin marsh habitat, frequently found in linear strips situated at the ecotone between basin marshes and mesic flatwoods.

Mesic flatwoods occur in the ancient swale areas wedged between scrub ridges. These scrub ridges grade into various flatwoods communities, including mesic flatwoods. The ecotone between these communities is extremely narrow. Scrubby flatwoods are found in several areas of the park, mostly in the western side, and are composed of a scattered slash pine overstory and an understory of mostly scrubby shrubs including myrtle oak, false rosemary, rusty lyonia, and sand live oak.

The beach dune community occupies ridges running parallel and adjacent to the shoreline of the Gulf of Mexico. In 1995, Hurricane Opal caused significant erosion, but the dune system is recovering due to sand accretion and migration. The coastal grassland patches are located in several large areas along the bayshore of Shell Island, and small patches of coastal grassland habitat occur along the bayshore near Sandy Point on the mainland. As sand migrated from the Gulf of Mexico, the grassland habitat formed in low areas periodically overwashed by storm surge. Panic grass and sea oats are some typical grasses found in this community.

Maritime hammocks are found on two isolated locations along the bay side of Shell Island and on the mainland around Gator Lake. Basin marshes are located at the park on the mainland and on Shell Island. The largest is located just west of the main park drive and known as Buttonbush Marsh. Coastal interdunal swale is a variable community that occurs as marshes, moist grasslands, dense shrublands, or damp flats. The swales are located adjacent to the Gulf of Mexico in addition to along the bayshore of Shell Island. The size of the swales vary, but all are linear in shape and are found between dune ridges. The swales closest to the coast are dominated by smooth cordgrass and sedges. The swales further inland are dominated by sawgrass and spikerush.



**Figure 6. Natural communities at St. Andrews State Park
(from Florida DEP 2016:21)**

Salt marsh is a largely herbaceous community that occurs in the portion of the coastal zone affected by tides and seawater and protected from large waves. This community is found along the bay side of Shell Island over much of the length of the island. Needle rush and sawgrass dominate these communities. Coastal dune lakes develop from various coastal processes and occur in the park as a shallow freshwater lake in the coastal community. The coastal dune lake is an important component for nesting, foraging, migrating, and wintering shorebirds.

Marine unconsolidated substrate is a dynamic system consisting of expansive open areas of white sandy beaches with shell and other organic debris, but generally devoid of vegetation. This community extends from the low tide line along the shore of the Gulf of Mexico landward across the sparsely vegetated sediment to the primary dune where it merges with the beach dune community along the entire length of the Gulf-side beach of the mainland and Shell Island. Estuarine unconsolidated substrates are generally characterized as low energy, relatively open areas of subtidal, intertidal, and supratidal zones. Composed of shell, mud, and/or sand, this natural community extends from the low tide line along the bayshore landward across the sparsely vegetated sediment to where it grades into adjacent communities. The vegetation type depends on the adjacent community and the level of salt water overwash. Marine seagrass beds, which are characterized as expansive stands of vascular plants, are among the most productive communities in the world, occurring in clear, coastal waters where wave action is moderate. The three most common species of seagrasses in Florida are turtle grass, (*Thalassia testudinum*), manatee grass, (*Syringodium filiforme*), and shoalweed (*Halodule wrightii*). This community is located along the bay shoreline of the park and is designated as part of the St. Andrews Aquatic Preserve.

The Environment and Cultural Resources

The environment is intrinsically linked with human occupation and survival. Moreover, changes in the environment resulted in human adaptations to their lifeways, including settlement location, diet, tool kits, etc. Understanding the environment and changing conditions through time is an essential component of interpreting and evaluating cultural resources.

Additionally, elements of the environment must be considered in the management responsibilities of cultural resources. Tropical activity has been the most persistent of nature's destructive forces. Cyclones with wind speeds of less than 39 miles per hour (mph) are referred to as tropical depressions. The damage potential of hurricanes is gauged by reference to the Saffir-Simpson scale. Hurricanes of damage potential 3, 4, and 5 are also referred to as major hurricanes, which is roughly equivalent to the older term "Great Hurricane" (Henry et al. 1994).

Tropical storms and hurricanes have the greatest single-event impacts on vulnerable archaeological resources due to the combination of rain, storm surge, high wind speed, and violent waves on top of the storm surge. Hurricanes are not only the most severe form of tropical weather affecting Florida, but also unsettlingly common. Of 85 hurricanes striking Florida between 1886 and 1992, 27 (over 31 percent) made landfall between the Florida-Alabama border and The Big Bend (Henry et al. 1994; Williams and Duedall 2002; Barnes 2007). In the same period, another 12 tropical storms made landfall in the same area.

Thus, just as the environmental factors that influenced past populations within the study area should be taken into consideration in cultural reconstructions, they should also be considered with regard to the potential of adverse effect.

CHAPTER THREE CULTURAL OVERVIEW

Previous Work

This section presents a brief summary of previous work, focusing on the more noteworthy investigations in the general St. Andrew region, relevant nearby work, and studies within the park itself. The earliest documentation of extensive inquiry into the archaeological remains in the study area took place when Clarence B. Moore (1902, 1918) visited the northern Gulf Coast at the turn of the twentieth century. An avocational “archaeologist,” Moore was particularly interested in mound sites and is responsible for excavation of many, including at least six on nearby Tyndall AFB. Although his excavations lacked horizontal and vertical control and Moore has been criticized for lost data, the collections and information he published have been used by modern researchers to gain insight into mortuary patterns.

In 1932, F. M. Setzler of the United States National Museum visited the area and made a collection of Weeden Island ceramics from an extensive deposit at Davis Point (FMSF n.d.). In the 1940s, Willey (1949) conducted intensive investigation of a 500-mile stretch of the Gulf Coast of Florida. In the course of this work, he investigated 32 sites in Bay County. Many of these were previously reported by Moore (1902, 1918) and Willey (1949) included classifications of pottery vessels from the earlier work, which are curated at the R. S. Peabody Foundation and the Heye Foundation Annex.

In the years between Willey’s work and the late 1970s, little professional archaeological research was conducted in the St. Andrew Bay area. No systematic survey of the entirety of St. Andrews State Park has been undertaken, although a couple of previous projects investigated portions of Shell Island. By far, the majority of relevant cultural resources work has been at nearby Tyndall AFB.

In 1979, a Florida State University investigation at Tyndall AFB represented a watershed event in terms of cultural resource management as it included both a large scale archaeological survey and an architectural assessment (Knudsen 1979). The archaeological survey encompassed approximately 100 miles of shoreline, extending landward 200 yards and 2,000 acres in the interior. Survey was accomplished by surface inspection along transects spaced at approximately 50 m intervals and augmented by limited subsurface investigations using a one-inch soil probe.

Knudsen investigated eight previously recorded and 57 new sites, most of which were located along the coastal strip, conforming to a predictive model of site locations that associated archaeological sites with elevated shorelines in coastal areas. Knudsen demonstrated that the area has been occupied continuously from the Late Archaic through the Late Mississippian period and identified three major Weeden Island population centers. Furthermore, he outlined a cultural

resource management program and called for additional interior survey, site testing and evaluation, and site protection. Most importantly, Knudsen documented archaeological richness and diversity, and underscored the need for a systematic program of cultural resource management.

In 1981, Piper Archaeological Research, Inc., undertook test excavations at 8BY138 prior to construction of the Tyndall AFB Marina Services Facility (Piper Archaeological Research 1981). Testing indicated that the site is a severely disturbed and insignificant Weeden Island midden deposit; only a small area of intact deposits remained in the northwest end of the site. Previously described by Knudsen (1979) as a mound, the site was revealed by Piper's study to actually be situated on a natural elevation. Site 8BY138 produced a substantial Weeden Island component and a small amount of Deptford and Swift Creek material.

In 1982, Chung Ho Lee of the University of West Florida recorded 8BY176 with the FMSF. This prehistoric site, brought to Lee's attention by a university student, is located on the shoreline of the Gulf Coast near the mouth of St. Andrew Bay. It has been almost entirely lost to tidal erosion (Durst and Wang 1996:114, inventory volume).

New World Research, Inc., (NWR) was contracted by the National Park Service (NPS) to undertake multi-faceted investigations at Tyndall AFB in 1984 (Thomas and Campbell 1985). This work included a background review aimed at generating a provisional site location model as well as defining avenues of research based on an assessment of previously identified components (Thomas and Campbell 1985:vii, 83). The effort relocated 59 previously recorded sites and identified 29 new sites. The data were used to refine NWR's preliminary site probability model, drawing a correlation between prehistoric site locations and a limited range of environmental variables: bay and bayou shorelines, particularly on elevated shorelines and at the mouths of freshwater streams; elevations near streams and wetlands; and hardwood hammocks. These environmental characteristics were delineated on 7.5' USGS topographic maps (1:24,000) to illustrate areas of high site probability,⁴ with the caveat that some topographic settings appear different in the field than on quadrangle maps, thus advising against *a priori* dismissal of loci outside the high probability zones without ground-truthing the locations.

In 1988, NPS contracted with NWR again to formally record 17 cultural resources discovered in 1984, but for which funding was unavailable to investigate further at that time. Additionally, NWR was required to conduct a program of test and evaluation at 16⁵ potentially eligible sites (Mikell et al. 1989). Ten sites were evaluated as significant as a result of the work. The project data proved useful in addressing research issues and refining issues related to prehistoric and historic use of the land, although the emphasis was clearly upon the former.

In 1993, PTA conducted a survey of a 300-acre tract around Felix Lake, an artificially maintained freshwater wetland in the interior of Tyndall AFB. The survey was required in advance of planned construction of a housing development and adhered to a stringent methodology (Thomas et al. 1993). Up until the Felix Lake project, Phase I surveys followed less rigorous

⁴ The high probability maps applied only to prehistoric sites.

⁵ A 17th site, 8BY137, was located within the Wherry Housing development, which afforded the site some protection. Test and evaluation was recommended only if impacts to the housing development should occur; therefore, it was not tested in 1989 with the other sites identified in 1984.

guidelines, relying heavily on judgmental placement of shovel tests and an overall more limited level of effort, common to all cultural resources work at the time.

In the 1990s, standard operating procedures for cultural resources survey were better defined by DHR and, as a result, the Felix Lake investigations represented the first truly systematic Phase I survey at Tyndall AFB. Utilizing background research and a preliminary walkover, PTA identified areas of high and low probability for archaeological sites (Thomas et al. 1993:36). The high probability areas for archaeological deposits included all elevated areas near Felix Lake and two small tributaries, whereas the low probability areas consisted of dry flat upland far removed from visible water. In high probability areas, transects spaced at 25 m intervals were traversed and shovel tests were excavated every 25 m. In low probability areas, limited judgmental shovel testing was employed. PTA encountered nine archaeological occurrences; four of these were formally recorded, and the remainder was classified as isolated finds. Two of the four recorded archaeological properties, 8BY803 and 8BY804, were evaluated as potentially significant. This work revealed that an interior area of Tyndall AFB, which previously had been an unknown entity in terms of archaeological sensitivity (Thomas and Campbell 1985:106; Mikell et al. 1989:13–15), was rich in archaeological resources, among which were two potentially significant sites.

In 1994, NPS contracted with Southeastern Archaeological Services (SAS) to conduct test excavations at the Morehead site (8BY804). The excavations revealed a rich and undisturbed probable Late Archaic occupation (Gresham et al. 1994). Extensive shovel testing and the excavation of several larger test units indicated that the site is eligible for the NRHP. Although no diagnostic artifacts were recovered, the work produced a rather substantial lithic assemblage that consisted almost entirely of chert tools and late-stage production and tool maintenance debitage. Among the chipped stone tools were a number of perforator-like implements, burins, spokeshaves, and utilized flakes. Gresham et al. (1994:40–41) noted the similarities between the Morehead site and other Bay County sites and suggested that the assemblage represents a Late Archaic microlithic industry. Based on the limited diversity of lithic types, Gresham et al. (1994:51–52) viewed the site as the location of specialized activities.

In 2003, Brockington and Associates, Inc., conducted archaeological surveys of a three-acre tract encompassing 8BY24 (Pearl Bayou Midden) and an 18-acre dredged material disposal site (Weaver 2003). No sites were found in the dredge material disposal area. However, shell midden was observed eroding from the bluff along the shore of St. Andrew Bay at 8BY24. Shovel tests placed 10 to 15 m inland from the bluff edge were negative, leading the investigators to conclude the site lacked research value and, thus, it was evaluated as ineligible for NRHP nomination.

Also in that year, Florida Archaeological Consulting completed three studies in advance of construction of wireless telecommunications towers near the Silver Flag training area (Parker 2003a), and the Beacon Beach (Parker 2003b) and Wood Manor (Parker 2003c) housing areas. The proposed cell tower locus within each survey area was examined by pedestrian survey and the excavation of 50 cm² shovel tests, all of which were sterile. Additionally, a “windshield” survey was carried out to examine standing structures within a half-mile radius in the case of the Wood Manor tower and within one-mile radius of the Silver Flag and Beacon Beach towers. One site, 8BY922, was identified during the Silver Flag tower investigation (Parker 2003a). It was a circa

1942 gunnery range and deemed potentially eligible for the NRHP; however, it was determined this site would not be adversely affected by the presence of a tower in its view-shed. The Wood Manor tower findings determined that no significant structures were located within the tower view-shed, so the report concluded the proposed undertaking would have no adverse effect on cultural resources (Parker 2003c).

In 2003, the Air Force Center for Environmental Excellence (AFCEE) issued a task order to Geo-Marine, Inc. (GMI) to conduct archaeological site delineation at 8BY9, 8BY78, 8BY128, 8BY149, 8BY150, 8BY157, 8BY158, 8BY691, 8BY699, 8BY700, and 8BY804 (GMI 2006a). Ten sites were to be tested for NRHP eligibility, during which GMI combined the Hare Hammock mounds, 8BY30 and 8BY31, as 8BY30/31, and 8BY78 and 8BY164 as 8BY78/164. The other sites tested included 8BY29, 8BY138, 8BY159, 8BY176, 8BY692, and 8BY693. The sites represented a broad temporal range of components, some of which had rich cultural deposits reflecting intense use, often by more than one culture group.

In their report of findings, GMI (2006a) reviewed the previous investigations at all sites and presented their findings with interpretations relevant to the culture history of Tyndall AFB. For the tested sites, GMI evaluated 8BY29, 8BY30/31, 8BY159, and 8BY78/164 as eligible for NRHP nomination. The other tested sites, 8BY138, 8BY176, 8BY692, and 8BY693, were evaluated as ineligible.

Beginning in 2004, and under an agreement with the Southeastern Archaeological Center (SEAC) of NPS, Tyndall AFB tasked the agency for various archaeological investigations on base. Among these was a survey of the Bayview site, 8BY137, in advance of planned demolition of Wherry housing suspected to overlie the site. The systematic survey included the excavation of 146 shovel tests and three test units that revealed the site to be a large, circular Weeden Island village (Russo et al. 2006). 8BY137 was evaluated as NRHP-eligible, and Russo et al. (2006) recommended procedures to minimize adverse effect to include demolition monitoring, minimal use of heavy equipment, and archaeological investigations in areas where adverse effect could not be avoided.

Subsequent to the above work at 8BY137, Tyndall AFB contracted with SEAC to undertake further boundary delimitation and site evaluation. The effort involved the excavation of a series of 30 cm by 30 cm and 50 cm by 50 cm shovel tests. Based on the results, Russo et al. (2006) evaluated 8BY137 as eligible for nomination to the NRHP.

In September of 2005, Tyndall AFB retained GMI to conduct a survey of 148 acres in the Redfish Extension and Saddle Club Area (GMI 2006b). The former covered 102.5 acres and the latter 44.6 acres. GMI conducted a pedestrian survey over the whole area and excavated 457 50 cm² shovel tests (399 high probability, 58 low probability) in the Redfish area, an effort that produced four sites and eight isolated finds. They excavated 158 shovel tests in the Saddle area and identified one site and five isolated finds. Also, a previously known site in the Redfish area, 8BY804, was revisited and the boundary revised. All of the sites produced prehistoric remains. Four were indeterminate lithic scatters, but 8BY1294 produced Weeden Island diagnostics, and the previously known 8BY804 retained the Late Archaic designation. Two sites,

8BY804 and 8BY1294, were evaluated as eligible for nomination to the NRHP; the remaining four sites and all isolated finds were evaluated as ineligible.

In 2005, SEAC conducted a survey of an area about one-half mile west of Strange's Bayou where oyster shell was exposed on the surface. The purpose of the survey was to determine if the deposits were remnants of the mound reported as 8BY26 (Russo and Yates 2006). The effort suggested the shell could be related to a prehistoric site but was not the remains of a mound.

During a follow-up investigation of the area, SEAC archaeologists conducted systematic interval shovel testing across a 20-m grid placed over exposed oyster shell. The subsurface units revealed a circular deposit of shell, midden soils, and artifacts extending nearly 200 m in diameter, although topographically, these rings were evident only in the eastern part. Russo et al. (2009) stated that the mound (8BY26) that Moore dug in 1902 near Strange's Landing stood 50 m west of this ring, four ft tall and 38 ft in diameter; its appearance at the time of the SEAC work was three ft in height and spread out in a 49-ft diameter. In conjunction with the Strange's Bayou work, SEAC investigated the area of 8BY29, Baker's Bayou mound and midden (Russo et al. 2010).

In 2007, Victor Thompson of the University of West Florida conducted a portion of his planned field school near this same area west of Strange's Bayou. While a sand burial mound similar to the one Moore described in 1902 was not located, the authors stated they observed several low rises with lenses of dark soil and Weeden Island ceramics and shellfish remains on the surface (Thompson and Laracuate 2007). No subsurface excavation was conducted during the field school, but the area topography was mapped, showing three rises. Although they were labeled "Mound A," "Mound B," and "Mound C," the elevated areas are more likely to be mounded shell middens than ceremonial mounds. In addition to the surface inspection and contour mapping, a ground penetrating radar (GPR) survey was conducted, but found no evidence of cultural features, such as burials (Thompson and Laracuate 2007).

In the summer of 2007, archaeologists from SEAC placed a systematic grid over the archaeological site area known as Hare Hammock, where 8BY30/31 is located. Hare Hammock is the location of mound and midden sites that had been the source of conflicting interpretation; consequently, SEAC's work was designed to sort out the conflicts and present a coherent description of the cultural resources (Russo and Lawson 2007; Russo et al. 2009).

The first step was to separate 8BY30/31 as separate sites 8BY30 and 8BY31 because their combination in previous investigations was both culturally misleading and erroneous. SEAC archaeologists discovered a large Weeden Island village ring midden to which DHR assigned the site number, 8BY1347. Known as the Hare Hammock Ring Midden, 8BY1347 was shown to be associated with the mound at 8BY30. Both sites were recommended as eligible for NRHP nomination.

In addition, SEAC investigated the area around the smaller mound at 8BY31 and found an associated ring midden village that was given the number 8BY1359. From the diagnostics, it appeared to be Swift Creek. Thus, the Hare Hammock investigations uncovered evidence of two mound and ring midden village sites at Hare Hammock, more than justifying the reasons for keeping 8BY30 and 8BY31 as separate sites. Human remains found previously at 8BY30 were

determined to be prehistoric and protection was mandated under NAGPRA and other federal laws. However, during the course of their work, SEAC also found that 8BY30 has been disturbed by use as a historic cemetery (8BY1346) that must be protected under the Florida State Burial Law, Chapter 872.05, F. S.

Russo et al. (2009) made a series of management recommendations as a result of the work at Hare Hammock. To summarize, they recommended a plan be developed to preserve and protect the sites from natural and accidental impacts. Additionally, they recommended a sign be placed at Hare Hammock identifying 8BY1346 as a historic cemetery, a suggestion based on experience that such cemeteries are less prone to looting than prehistoric sites. Russo et al. (2009) concluded their recommendations by stating that the two ring sites (8BY1347 and 8BY1359) are among the most significant archaeological resources on Tyndall AFB. The authors also emphasized the need for an intensive survey to be undertaken around the archaeological resources at Hare Hammock to determine if other significant sites are present.

In 2007, Brockington and Associates was contracted by CH2M Hill, Inc. to conduct a Phase I survey of the proposed location for an alternate drone launch site at Tyndall AFB. Thirty 50 cm by 50 cm shovel tests were excavated over the four-acre tract at systematic intervals, resulting in the identification of one new site, 8BY1350. 8BY1350 is an early twentieth century homestead, tentatively identified by RabbySmith (2008) as that of local fisherman, Eliga (or Elija) M. Williams, built sometime after 1914. The site extended into the project area, but that portion was determined to be largely disturbed as opposed to the remaining site area which continued beyond the survey boundary. No further work within the drone area was necessary, but testing was recommended for that portion beyond the impact zone (RabbySmith 2008).

A 2010 survey conducted by PTA over a 387-acre tract on Pearl Bayou consisted of the excavation of 709 shovel tests at systematic intervals. Fourteen sites (8BY1497, 8BY1498, 8BY1499, 8BY1500, 8BY1501, 8BY1502, 8BY1503, 8BY1504, 8BY1505, 8BY1506, 8BY1507, 8BY1508, 8BY1509, 8BY1510) and two archaeological occurrences were identified (Campbell et al. 2012). With the exception of 8BY1502 and 8BY1504, all the sites were evaluated as potentially eligible and recommended for Phase II testing.

SEAC has sponsored excavations at 8BY1359, the Swift Creek affiliated occupation at the Hare Hammock site (Craig Dengel, personal communication 2013). The investigations have not been mission-driven, but rather involved a field school at the site, the efforts of which have produced a rich collection and occupational data that are still being studied. That site and others were revisited for a field school in the summer of 2014.

From 2014 to the present, a large amount of cultural resources work has been tasked to contractors, examples of which are provided below. PTA conducted a number of surveys around Davis Point (e.g., TY-102, TY-106, TY-107 and TY-108), where one of the Weeden Island mound sites on Tyndall AFB, 8BY7, was prominently located. The work expanded the boundaries of 8BY9, a Weeden Island village occupation near the mound⁶ (Morehead et al. 2014), and identified an array of new sites, including one in TY-108 that exhibited stratigraphy that could reflect extant

⁶ There was confusion regarding the locations of 8BY9 and the related mound site, 8BY7. It was started during a survey in the 1980s and perpetuated as a result. More detail on this is found later in this chapter.

subsurface deposits of a newly discovered mound (Campbell et al. 2015a, 2015b, 2015c). TY-106 covered Redfish Point, directly north of Davis Point (Campbell et al. 2015d). In general, the findings underscored the widespread Late Archaic, Swift Creek, and Weeden Island land use, with a lower incidence of Deptford and Fort Walton for the prehistoric eras. Historic activity was predominantly late nineteenth century and early twentieth century homesteads and communities (e.g., Farmdale, Cromanton, and Belle Isle), some industrial activity and evidence of military use.

Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler) conducted Phase II investigations, one of which focused on the testing of 8BY132, 8BY165, 8BY1531, and 8BY1721. 8BY132 was found to be a late nineteenth century habitation (Simpson et al. 2016). 8BY165 produced evidence of possible Archaic through Weeden Island activity as well as nineteenth century occupation. 8BY1531 was reported as an Early Archaic site based on a Kirk Stemmed point found by PTA surveyors, but testing produced no additional diagnostics. Finally, 8BY1721 has yielded evidence of prehistoric activity possibly as early as Late Paleoindian/Early Archaic and Weeden Island, along with late nineteenth to early twentieth century historic occupation. 8BY132 and 8BY165 were evaluated as eligible for NRHP nomination; the other two sites were evaluated as ineligible.

Another example of a Phase II project undertaken by Amec Foster Wheeler involved testing at 8BY1813, 8BY1814, and 8BY1913 (Simpson et al. 2017), all on the southwestern side of Tyndall AFB, along St. Andrew Bay. The Phase II investigations confirmed the presence of cultural components identified during Phase I and in some cases recovered diagnostics of previously unrecorded occupations. 8BY1813 was reported by surveyors as having a Weeden Island component and the potential for additional earlier components. Testing determined that portions of the surface deposits had been disturbed and soil from an unknown area had been redeposited at 8BY1813; undisturbed deposits were few and this site was evaluated as ineligible for NRHP nomination. AT 8BY1814, Amec Foster Wheeler verified the original findings with regard to Weeden Island and Deptford, recovered a few Swift Creek artifacts indicated possible brief activity during the Middle Woodland, and documented the historic component as remains of a late nineteenth century homestead occupied into the early twentieth century. The Phase II investigations at 8BY1913 confirmed the presence of a Weeden Island occupation that included midden and a cultural feature and a minor Swift Creek component. The testing also found a Late Archaic projectile point at the base of cultural deposits and identified Deptford remains that were partially separated from other components, the latter allowing for a look at an uncommon culture complex on Tyndall AFB (Simpson et al. 2017).

A review of scanned records at FMSF, most of the work within the park proper has targeted specific areas and been conducted mostly by personnel with federal and/or state agencies. For example, Louis Tesar, an archaeologist with DHR, has examined several loci of reported sites, such as 8BY798 on Shell Island. Park Services Specialists Debra L. Walker and Richard Wiles have documented and updated information on sites and structures within the park. Ellen Andrew, with the Florida Park Service, documented historic structures. James Haisten, representing Gulf State College, documented archaeological sites, such as 8BY170.

The Alliance for Integrated Spatial Technologies (AIST) at the University of South Florida conducted an archaeological modeling at St. Andrews State Park as part of a larger project for District 1 sponsored by a grant from the Florida State Parks, Bureau of Natural and Cultural

Resources (Collins et al. 2012). The resultant report, *Archaeological Resource Sensitivity Modeling in Florida State Parks District 1: Northwest Region*, authored by Collins et al. (2012) presented a model based on a review of known archaeological site locations coupled with a lengthy set of environmental factors. The researchers used GIS technology to delineate zones of different levels of cultural sensitivity with District 1 parks, including St. Andrews.

The above represent only a sample of projects conducted in and around St. Andrews State Park. Each project is important in terms of contributions to the interpretive database and expansion of knowledge regarding prehistoric and historic settlement dynamics.

Prehistoric Culture Sequence

The chronological ranges given in the following discussion of the prehistoric culture sequence reflect approximations generally accepted by researchers in northwest Florida. The age brackets given in this discussion derive from an ever-increasing body of absolute dates (e.g., C-14, OSL) in archaeology and related fields of study, but still represent a generally accepted time frame subject to overlap and ongoing revision.

Paleoindian (± 12,000–8000 B.C.)

Topics of ongoing study and debate regarding the earliest people in the New World include the route(s) by which they arrived and when, the temporal context for cultural development, and the dynamics of subsistence/settlement patterns. Two discoveries in the early twentieth century provided Paleoindian researchers with solid data for addressing aspects of these basic issues. The first was the discovery of *Bison antiquus* remains associated with Folsom⁷ points at Lindenmeier in New Mexico (Cook 1927; Figgins 1927). The second came later, but was just as important, the association of Clovis points with *Mammot columbi* remains at Blackwater Draw, also in New Mexico (Cotter 1937; Howard 1936).

The New Mexico finds dispelled an earlier argument that human populations never coexisted with Pleistocene fauna in the New World. Humans not only coexisted with late Pleistocene fauna, they hunted the animals, and according to the Clovis First paradigm, Clovis overkill led to their extinction. Prominent Paleoindian scholar, James S. Dunbar (2012:13) gives a succinct explanation of Clovis First.

Clovis First included notions about the timing of New World origins based on ice-sheet melting and corridor opening, human terrestrial entry via the Bering Land Bridge, established artifact types and geographic occurrence as benchmarks, big game hunting to the exclusion of smaller game, and blitzkrieg stalking that resulted in overkill extinction. [Dunbar 2012:23]

Proponents believed the Clovis emerged in the west and southwest around 11,500 radiocarbon years before present (rcybp). Over a short, 500-year period, these hunter-gatherers spread the fluted point tradition and associated Clovis tool kit throughout North America

⁷ The Folsom point was named for proximity of the site to Folsom, New Mexico, and the same for Clovis, which was discovered near Clovis, New Mexico.

and portions of Central America (Haynes 1964; Leonhardy and Anderson 1966). The “Clovis First” position advanced in the 1960s held sway over other theories regarding early man in the New World despite findings of a possible pre-Clovis manifestation, discussed later below.

Research over the last 15 or so years has produced data resurrecting the pre-Clovis challenge to the Clovis First paradigm. The theory of a pre-Clovis horizon was originally fostered in the 1970s based on J. M. Adovasio’s excavations at Meadowcroft Rockshelter in Pennsylvania (Adovasio et al. 1978, 1980). At the time, harsh rebukes from critics who questioned his findings—and by association, the competency of his work—pitted Adovasio and his supporters against the Clovis First proponents. The latter, led by Vance Haynes, dismissed pre-Clovis horizon for two decades until excavation in South America at the well-preserved Monte Verde II site produced a pre-Clovis component dated at 14.6 ka cal BP (Dillehay 1997; Dillehay et al. 2008). Not to belabor this argument, which continues in the archaeological community, but it has relevance to peninsular Florida because of sites yielding similar finds.

Investigation at the Page-Ladson site in the Aucilla River revealed five Paleoindian artifact-bearing levels spanning pre-Clovis to late Paleoindian (Dunbar 2006). Hemmings (1999, 2004) reported a pre-Clovis and a Clovis level at the Sloth Hole, also in the Aucilla River. Rink et al. (2012) report optically stimulated luminescence (OSL) taken at the Wakulla Springs Lodge site are consistent with pre-Clovis dates. Pre-Clovis deposits have produced small points manufactured on thin flakes, and evidence of a small, uniface blade making technology (Lowery et al. 2010).

While absolute dating provides the optimal tool for refining phases of Paleoindian, interpretations at Florida sites have relied on relative stratigraphic positioning, with good results and others that are more problematic. The chronology and relative point traditions continue to be the subjects of scholarly debate and refinement. Dunbar cites five contexts important to understanding these early populations.

Past research assumptions and site investigations are important and provide the context and background upon which new avenues of research follow. There are however, five other areas of contextual data that are important to archaeological site interpretation. These are the contexts of: 1) stratigraphy; 2) chronology; 3) paleoclimate; 4) the combined consideration of habitat, resource availability, and subsistence; and 5) artifacts and technology. [Dunbar 2012:2]

Consideration of habitat, resource availability, and subsistence all relate to settlement dynamics. In 1977, Waller and Dunbar undertook an examination of the factors that may have influenced Paleoindian site location by plotting the distribution of sites throughout Florida. An inspection of the data led Waller and Dunbar (1977:80) to draw three conclusions regarding the distribution of Paleoindian sites: 1) the main habitation areas were located along waterways in central, north and northwest Florida; 2) the east coast of Florida seems to have been shunned as a place of habitation; and 3) there were areas of concentrated Paleoindian remains that suggested the aggregation of large populations. Specifically, the authors identified these aggregations as concentrations, most of which are found in the peninsular Gulf Coast area and the inland areas of north-central Florida (Waller and Dunbar 1977).

Expanding upon their analysis, Dunbar and Waller (1983:18-30) re-examined the data on Paleoindian site distribution, this time correlating the occurrence of finds with locations in and around Tertiary-age karst outcrops. Throughout the karst regions of Florida are deep sinks and spring caverns that penetrate through other sediments to expose the Tertiary limestone below, and Dunbar and Waller (1983:28) identified these stable surfaces with access to reliable water sources as favored locations of Paleoindians and animals, as well. Goodyear et al. (1983) identify this settlement pattern of close proximity to fresh water and cryptocrystalline lithic sources among other Paleoindian groups in eastern North America (Goodyear 1979; Goodyear et al. 1983).

The karst factor relates to the basic need of Paleoindians for potable water, which at that time, was available only at relatively impermanent rain-fed depressions and ponds and the rare permanent spring fed sinkholes (Milanich 1994:39). These resources were located primarily in the karstic limestone topography, much of which now lies beneath the risen waters of the Gulf of Mexico. Although karstic areas are located in north Bay County and to the northeast in Jackson County, the major karst features are well to the east and further south in peninsular Florida.

There are other considerations related to the vastly different environment of the late Pleistocene were so different at this time, raising other considerations. For one, sea levels were 60 to 100 m (197 to 328 ft) lower than at present, exposing large expanses of the present continental shelf (Balsillie and Donoghue 2004; Faught 2004; Randazzo and Jones 1999). This means the Paleoindians roamed a land mass roughly twice the present size of Florida, extending nearly 450 km (280 miles) at its widest point (Lane 1994). The combined data on the distributions of early isolated fluted points and fluted point-related sites have led to hypotheses that the people responsible for manufacture and use of these points gathered near major drainage systems out on the continental shelves. Thus, a large body of data to help reconstruct Paleoindian lifeways in Florida lie in archaeological deposits off-shore. The expansion of their study by underwater archaeologists promises to yield significant data on the issue of time as well as settlement dynamics.

Climatic fluctuations that interrupted deglaciation during the Younger Dryas may have caused the movement of these groups inland around 11,000 rcybp. How these fluctuations affected the early populations is a matter of ongoing discussion.

The prevailing theory of Paleoindian subsistence/settlement dynamics has been one of nomadic hunters and gatherers. Though subsistence data are limited, it is apparent that these early occupants of Florida targeted now-extinct Pleistocene megafauna, although the hypothesis that Paleoindian “overkilling” resulted in the extinction of their prey oversimplifies what was likely a drawn-out demise. Dunbar (2012:204) defers, stating that a “sudden, catastrophic, doomsday event is not required to explain Pleistocene extinction. More likely answers are to be found in a protracted extinction event beginning around the beginning, or prior to, the LGM and identified during these climate-affected and human-involved circumstances.”

On the issue of subsistence, there have been two opposing thoughts: one that focused heavily on megafauna and the second that weighed hunting of small animals more heavily. Bense (1994:44) cites Pleistocene megafauna, such as mammoth, mastodon, giant sloth, and bison. Data from the Ryan-Harley and Norden sites in north Florida provide evidence of a wide range of faunal

remains from both megafauna and smaller animals, and it is hypothesized they exploited fish, birds, reptiles, and amphibians as well as large and small mammals (Dunbar 2012).

The hallmark tool of the Early and Middle Paleoindian periods is the lanceolate-shaped projectile point with a concave or straight haft element and base (Bense 1994:41–42). These artifacts are long, thin, bifacially worked blades, sometimes with a shallow flake scar on each side of the face and usually made of fine-grained chert. Besides the point types, what is known of the earliest Paleoindian tool kit derives from a limited data base since so many diagnostics have been identified as isolated finds or accompanied by a few meager remains. Identified characteristics include unifacial scrapers, adzes, blades, spokeshaves, and flake knives. Ground stone implements are also associated with the Paleoindian tool kit (Milanich 1994:48–51).

Settlement consisted of small families or bands, which moved frequently to take advantage of seasonal abundances in food resources. Researchers believe human population densities were low and interaction with other groups was relatively infrequent. However, that interpretation could be skewed by sample error considering that much evidence of Early and Middle Paleoindians may lie on lands now submerged in the Gulf. Cultural remains associated with these populations are reported to the east on the Chipola River (Daniel and Wisenbaker 1987; Dunbar 1981; Dunbar and Waller 1983; Dunbar et al. 1989; Hoffman 1983:83–87; Milanich 1994:46; Waller and Dunbar 1977).

The Late Paleoindian Period represented a transitional era between the Paleoindian and Archaic stages, marked by the widespread adoption of Dalton projectile points. Dalton points possess morphological and technological characteristics intermediate between earlier Paleoindian points and those of later Archaic groups. Characterized by an increased number of sites, the Late Paleoindian Period is thought to be a time of growing populations when climatic changes triggered shifts in settlement and subsistence. With the Pleistocene megafauna extinct, the Late Paleoindians practiced gathering and hunting, the latter focused on smaller prey. Cultural shifts were reflected in the tool kit, which included small serrated projectile points and the addition of woodworking implements (Bense 1994:55).

Late Paleoindian sites occur in the general study area in upland settings near lower-order drainages (Penton 1991; Phillips 1989, 1992; Phillips and Bense 1990; Phillips and McKenzie 1992). A diagnostic projectile point dating to the Late Paleoindian timeframe has been identified on nearby Tyndall AFB at 8BY1721 (Campbell et al. 2015e). The associated remains included a Dalton point with a biface fragment and three biface trimming flakes between 40 and 60 cm below ground surface (cmbgs). The assemblage suggests site function to be a hunting station or hunting-related activity area.

The later tool assemblages are generally characterized as an assortment of unifacial scrapers, spurred graters, and drills (Purdy 1981). Goodyear (1999:441) contended adzes and other tools for wood working and heavy chopping were part of the tool kit and current findings prove they were correct (Bradley et al. 2010). Also, bone pins and other tools as well as tools made from ivory have been found (Dunbar 2012).

Archaic (ca. 8,000 – 600-500 B.C.)

The Archaic Stage was an era of major cultural developments that included changes in stone tools, the first construction of mounds, ceramic manufacture, establishment of long distance trade, and the development of large settlements (Bense 1994). The Archaic stage began at the outset of the Holocene climatic epoch and ended with the beginning of modern climatic conditions. Temperatures peaked midway through the Archaic, and the climate has exhibited a long-term cooling trend since, a trend some refer to as the Neoglaciation (cf. Pielou 1991:Figure 1.6). Concomitant with the changes in climatic conditions was a relatively steady rise in sea level and a regional change from deciduous hardwood forest communities to fire sub-climax pine forest communities.

At the beginning of the Archaic, the environmental conditions were about the same as the preceding Paleoindian (Bense 1994). Early Archaic peoples continued their reliance on traditional hunting and gathering but began specializing in the kinds of plants and animals they exploited as reflected in their more diverse tool assemblages (Milanich 1994). The assemblage includes chipped stone knives, scrapers, and adzes, a variety of cutting and scraping implements produced on blades struck from prepared cores, the use of the spear thrower (also known as an atlatl), and production of small side and corner-notched projectile points, the most common of which were Bolen, Santa Fe, Nuckolls, Dalton, Kirk Serrated, Suwannee, and Wacissa. Technological developments in the tool kit enabled hunters to more efficiently kill the small, fast moving game, such as deer, that inhabited the post-Pleistocene environment.

Early Archaic settlement patterns probably involved the seasonal movement of family groups, who occupied small short-term camps for a portion of the year. When food was more abundant, in the fall, the small groups may have gathered at larger base camps (Bense 1994:72).

One Kirk Stemmed point has been recovered from 60 to 70 cmbgs at 8BY1531, a site investigated by PTA in TY-6 (Morehead et al. 2013). The Kirk Stemmed points at Dust Cave have an average age of 8492 rcybp (Driskell 1996). Located on East Bay, there were three springs in proximity to 8BY1531, factors that may have influenced settlement. Morehead et al. (2013) noted that if the point from 8BY1531 represented an *in situ* component, the site had to be viewed from a perspective of environmental change to understand its presence. The environment at the time of occupation would have been very different than that of today.

The most recent sea level curve for the northern Gulf indicates that sea level at 8000 B.P. was at -10 m (*circa* -30 ft) below where it is now but rising at a rate of about 4.2 mm per year until 7000 B.P. at which time it slowed to approximately 1.4 mm per year (Milliken et al. 2008). At the time of the average Dust Cave dates, sea level was still more than nine meters lower than present, reaching -5.8 m (*circa* -18 ft) at approximately 7000 B.P. During this period, the East Peninsula was a dry upland ridge with scarce water resources, an environment not conducive to human settlement. East Bay would not have been an estuary, although there was likely to have been a stream channel out in the middle of it to carry the waters of the streams, which currently discharge into the bay. Oyster gathering would have been out of the question at 8BY1531.⁸

⁸The -18 ft offshore contour does show up in the southwestern corner of the Long Point 7.5 minute quadrangle—but that is about 11,000 m south.

Pollen studies carried out at Lake Louise near Valdosta Georgia revealed that the vegetation there in the 8500 to 5000 B.P. interval had an overstory dominated by oak with some pine, while grasses, ragweed, wormwood, and other herbs were common (Watts 1971; Watts and Hansen 1980). Hickory, chenopods, and grasses were relatively more abundant at Lake Louise between 8510 and 6710 B.P. than in later periods. Camel Lake near Tallahassee, Florida, exhibits a sedimentation hiatus between circa 10,000 and 7000 B.P., believed to be due to aridity (Watts et al. 1992). These pollen records provide local context for the warm, dry Hypsithermal climatic episode, which began before Kirk Stemmed, and continues somewhat beyond its last use. Hence, the springs located approximately near the site may have been an important resource, and partly explain the presence of Kirk people at 8BY1531 as well as other loci in the study area.

Although evidence of these early diagnostics is rare⁹ on base, a Kirk Stemmed point was recovered from 8BY1508, which is approximately 1150 m south-southeast of 8BY1531 on the south side of Pearl Bayou (Campbell et al. 2012). No spring was present near this site, but there was a seep that provided fresh water. The point was found in a context with Late Archaic Elliotts Point materials between 50 and 100 cmbgs, which led Campbell et al. (2012) to observe it might represent recycling of earlier tools by Late Archaic people.

The same conclusion might be drawn for the Kirk Serrated point at 8BY1531, but neither should be dismissed as such at the survey level of investigation. Just as the coastal stretch including the park was dismissed as a locus of Late Archaic use, a now debunked theory (see below), the extent to which the area was the scene of even earlier land use/settlement looms large as an open-ended issue.

The Middle Archaic Period signals the beginning of a shift from the dispersed settlement pattern of the preceding period to a system of more nucleated floodplain base camps with numerous smaller satellite camps (Bense 1989). These changes in settlement maximized the resources of the forest and coincided with the climatic episode known as the Hypsithermal when post-glacial temperatures peaked and rainfall diminished. Longleaf pine forest seems to have become dominant in the Southeast forests during the Hypsithermal (Johnson and Fredlund 1993).

Economic adaptations involved hunting, fishing, and gathering technologies that exploited a few primary resources within the interior forest (Caldwell 1958; Dye 1980). Artifacts associated with this period include broad-bladed, stemmed projectile points, and specialized tools, such as microliths, burins, large chopping implements, and an array of expedient tools. Middle Archaic settlement patterns consisted of macrobands of extended families that occupied part or all of a watershed. These groups separated into smaller family groups who moved from campsite to campsite in search of game and seasonally abundant plant foods. At certain times of the year these groups coalesced at larger base camps.

During most of the Middle Archaic, the region may have been unattractive for settlement due to a scarcity of water. However, as noted above, springs would have provided a source of water. Where these are located on base, there is a potential for sites of this age to exist as well.

⁹ This excludes finds in dredged contexts (cf. Campbell et al. 2012).

The Late Archaic was a time of innovations that included the use of containers carved out of soft stone, such as steatite, as well as baskets made from plant materials. Pottery was introduced at some point, as discussed later. During this period, trade and mound construction increased (Bense 1994:85). The environment also changed, with climatic conditions becoming similar to those of today. The “great warmth” of the Hypsithermal was nearly over by Late Archaic times, although sea level is believed to have fluctuated somewhat in the Late Holocene (Fairbridge 1992; Thomas and Campbell 1993; Johnson and Fredlund 1993) and may have been as much as two meters higher than now between 5,000 and 3,500 B.P. (Cronin 1999; Balsillie and Donoghue 2004; but see Otvos 1996, 2004 for a contrary position). Hence, it is likely that sea level in this region was at least one meter higher than now and perhaps as much as two meters higher at the beginning of the Late Archaic (Morehead et al. 2008).

Large coastal shell middens occur along portions of the northwest Florida coast during the Late Archaic (Curren 1987; Thomas and Campbell 1993; Russo 2009). In general, populations grew with the exploitation of sustainable fisheries resources, and with the sustainability and growth more sedentary settlements were possible and necessary as territories became more defined. In places, large base camps that were strategically located near water resources and wetlands to facilitate marine resource exploitation appear with greater frequency in the Late Archaic.

The projectile styles that mark the beginning of this time include broad-bladed, stemmed points similar to some of those from the preceding Middle Archaic period. The cultural dynamics that set the Late Archaic apart from the preceding period in northwest Florida are associated with a complex called Elliotts Point, which was a local cultural manifestation associated with the Poverty Point sphere of influence (Webb 1982).

Data on this complex have accumulated substantially since the original recognition, most of the information derived from counties immediately west of Bay where radiocarbon dates roughly bracket the Elliotts Point complex between about 2,500 B.C. and 600 to 500 B.C. (Morehead et al. 2008). The earliest dates for Elliotts Point are based on a series of radiocarbon assays from 8OK898, the oldest of which was obtained from shell and yielded a 2σ calibrated range (cal) of B.C. 2,535 to 2,140 (Beta-129298), while the most recent is another shell date with a 2σ range of cal B.C. 2,205 to 1,860 (Beta-129297) (Morehead et al. 2008). In Santa Rosa County, 8SR17 also has an early date of cal B.C. 2,470 to 2,210 on charcoal (2σ , Beta-191432), but the most recent date (on shell) at that site nearly mirrors that from 8OK898, cal B.C. 2,230 to 1,870 (Beta-203566).

Sometime after its initial appearance, the Elliotts Point complex fluoresced into its classic form, marked by a distinctive artifact inventory that included well-formed baked clay objects (known as Elliotts Point objects [EPOs] for their similarity to Poverty Point objects), microliths, and extra-local materials indicative of participation in the Poverty Point trade network (Webb 1982; Campbell et al. 2004). Points are of the Florida Archaic Stemmed group, examples of which include Marion, Putnam, Destin, and Savannah River types.

Steatite, once believed to occur in low quantity, appears now to be quite common throughout the temporal spectrum of Elliotts Point assemblages, represented as bowls, pipes,

boatstones, and ornaments. A corrected 2σ radiocarbon date range on carbon residue (soot) from two bowls at 8WL1005 is cal B.C. 2,290 to 1,975 (Beta-81709).

The Elliotts Point people appear to have had accretional mounds, the result of episodes of feasting and redistribution (Thomas and Campbell 1993). One such redistribution center is located at 8WL37, the Horseshoe Bayou site at Sandestin Resorts in adjacent Walton County. Specialized lithic workshops and other loci of Elliotts Point activity also occur around the accretional mound.

At some point, ceramic manufacture was introduced, although when is debatable. Charcoal from the Alligator Lake site (8WL29) in adjacent Walton County returned a date of 1,675 to 1,025 B.C. (AC-32). Campbell et al. (2004) suggested pottery was a late addition to the Elliotts Point assemblage, which would seem to support Sassaman's (1993) posture on the slow and erratic movement of pottery after its introduction on the Atlantic Coast. Sassaman (1993) argues that pottery did not spread fast because of economics. Simply put, the people who controlled the Late Archaic trade networks probably enjoyed prestige and power and were likely also influential in shaping the direction and pace of technological change in a given region. For example, pottery vessels presented a threat to the value of steatite, which had heretofore been used for the manufacture of containers.

The West Bay Site (8BY45) in Bay County, just west of Botheration Bayou, had an extensive microlithic inventory, which was interpreted as likely Late Archaic (Watson 1974). Furthermore, although primarily Weeden Island, the Palm Bay Site (8BY43), which faced Grand Lagoon on the south in Bay County, had an aceramic area (Area B) characterized as the locus of a Jaketown microlithic industry and explicitly assigned to the terminal Archaic (Morse and Tesar 1974). Finally, a pair of aceramic, microlithic sites (8BY75 and 8BY76) were reported on the north shore of West Bay some 300 m west of the mouth of Crooked Creek (Haisten 1974). All of these sites were investigated in the 1970s when data on the Elliotts Point Complex was limited. Items like Jaketown perforators and microliths would today be sufficient to at least suggest an Elliotts Point affiliation.

Sites with the trappings of Elliotts Point seen immediately to the west in Walton County have not been duplicated in Bay County. It remains to be seen whether contemporaneous sites in the study area share cultural affiliation with Elliotts Point or are basically Late Archaic with perhaps some cultural exchange and interchange. What is clear is that Late Archaic occupation of the area, once thought nonexistent, is extensive across East Peninsula. Besides the lithic assemblage markers, fiber-tempered pottery had been recovered from a number of sites, including 8BY9, 8BY30, 8BY31, 8BY128, 8BY157, and 8BY158 (Thomas and Campbell 1985; Mikell et al. 1989). These sites are all multi-component coastal properties and the quantity of early pottery is albeit minimal, but the ceramic characteristics were generally consistent with the Norwood series. In addition, 8BY157 and 8BY158 yielded Orange series ceramics, which are popular in the Indian River area on the Atlantic Coast, suggesting some kind of contact well to the east.

In the early 1990s, a survey near Felix Lake produced the best evidence attributed to probable Late Archaic activity at Tyndall AFB up to that time when a shovel test excavated on a barely perceptible rise in otherwise flat interior terrain discovered 8BY804, the Morehead site

(Thomas et al. 1993). Although lacking diagnostics, Thomas et al. (1993) believed it might be the first solid evidence of occupation on Tyndall AFB pre-dating Deptford. Testing was recommended.

The Phase II investigations were conducted by Southeastern Archaeological Services and resulted in the recovery of chipped stone tools, small flake tools, utilized flakes, and late stage and maintenance debitage. Tertiary flakes dominated the debitage category and flake tools far outnumbered formal chipped stone tools (Gresham et al. 1994). The distribution of these materials hinted at spatial variation in activity at the site (Gresham et al. 1994). Use-wear analysis indicated tasks associated with hide, bone, meat, and possibly plant materials. The survey and testing phase findings suggested the site was used repeatedly for a wide range of animal and plant processing. Although diagnostics were not recovered, Gresham et al. (1994:58) believed 8BY804 was a preceramic Late Archaic occupation, and suggested an affinity with the Elliotts Point Complex, possibly as a precursor. Later work by GMI (2006a, 2006b) reached the same conclusion.

Further support for a Late Archaic presence in the area came from a radiocarbon assay GMI (2006a) obtained on carbon residue from a fiber-tempered sherd at 8BY9. The sample yielded a measured radiocarbon age of 2,550±40 B.P., with a conventional age of cal B.C. 840 to 790. This date was consistent with assays thought to represent the latter stage of the Late Archaic, which rules out a precursor to the Elliotts Point Complex to the west.

Prior to around 2009, remains identified as Late Archaic were occasionally found during delineation or testing of known sites on base. However, a 2010 survey conducted by PTA over a 387-acre tract on Pearl Bayou proved there was not only a viable Late Archaic presence in the study area, but also one that was considerably more widespread than imagined (Campbell et al. 2012). The project identified 14 sites (8BY1497, 8BY1498, 8BY1499, 8BY1500, 8BY1501, 8BY1502, 8BY1503, 8BY1504, 8BY1505, 8BY1506, 8BY1507, 8BY1508, 8BY1509, 8BY1510) and two archaeological occurrences (AO-10 and AO-15). Excluding 8BY1502, all of the sites had diagnostics indicative of Late Archaic components and/or exhibited characteristics of artifact deposition and composition that strongly suggested contemporaneity. Three of the sites, 8BY1497, 8BY1498, and 8BY1508, had functionally varied inventories interpreted as probable base camps. The other 10 sites seemed to be activity stations, with a myriad of tasks related to resource collection, hunting, tool maintenance, reduction, food preparation, and/or possibly equipment caching. Together, these base camps and activity stations presented a sense of community, an archaeological footprint of a microcosm of Late Archaic settlement/subsistence dynamics (Campbell et al. 2012).

Many more such components continue to be found, clearly resolving the question of whether Late Archaic people utilized the region. It still remains to ascertain whether these people were part of the Elliotts Point Complex.

Woodland (500 B.C. – A.D. 1000)

The Woodland is the third major stage of cultural development in eastern North America. The major forest zones and climate during the Woodland Stage were much as they are today, although the sea levels fluctuated slightly until 400 B.C. (Bense 1994:110). The stage is marked by population increases in the river valleys and along the coast, an increased use and diversification

of pottery, and more elaborate ceremonial and mortuary sites (Bense 1994). While evidence for increased dependence on cultivated plants (e.g., corn, beans) occurred elsewhere in the Southeast, in northwest Florida direct evidence is limited.

Early Woodland Deptford culture developed along the Gulf Coast of Florida, northeast Florida, and the Atlantic Coast of South Carolina and Georgia. Milanich (1973) identified two favored locales for Deptford settlements: 1) coastal live oak stands either on off-shore islands or on the mainland, but always near salt marshes or near lagoons; and 2) smaller, inland sites in river valleys adjacent to rivers. Milanich (1973:56) fostered the idea that Deptford groups basically represented a coastal adaptation, and inland movement was for the purpose of harvesting specific river valley resources. Although he observed whole groups might have moved inland, Milanich (1973) felt it more likely that only parties went inland for brief periods. Later, Milanich and Fairbanks (1980) still considered Deptford a coastal adaptation with occasional movements inland, possibly for fall and winter hunting. NWR (Mikell et al. 1989) concluded that the Deptford cultures inhabiting the St. Andrew Bay area had a strong coastal orientation.

In broad perspective, base camps are marked by the presence of shell middens and are located almost exclusively along the coast within maritime hammocks near brackish or fresh water (Bense 1985; Milanich 1994:116), with small, special activity sites often located within interior stream valleys near major drainages. This settlement pattern is characterized by ecotonal settings containing both forest and brackish marshes, the combined resources of which provided a stable subsistence base from which resulted long-term settlement.

Deptford occupations are identified through a series of paddle-stamped, sand-tempered ceramics. Common types include Deptford Bold Check Stamped, Deptford Simple Stamped, and Deptford Linear Check Stamped. Minority types include Deptford Complicated Stamped (also referred to as Brewton Hill Complicated Stamped), Deptford Cross Stamped, and minority net, dowel or fabric-impressed types. The origin of this particular ceramic complex has been long debated with some researchers (Sears 1964) linking the design complex, and by association the culture, to the Adena and Hopewell cultures of Ohio and Illinois. Others (Tesar 1980) have argued that Deptford represents in situ development even though influence from the spread of eastern pottery traditions stimulated changes in ceramic technology. Still, other researchers (cf. Willey 1949) suggest that Deptford ceramics on the northwest Florida Gulf Coast reflect influences from areas to the northeast along the Atlantic Coast (e.g., Georgia) where the gradual replacement of fiber-tempered ceramics by Deptford pottery suggest some continuity between Late Archaic and Early Woodland culture, which may be supported by the occurrence of fiber-tempered pottery in Early Deptford contexts.

Associated lithics may include large stemmed points, medium-sized triangular points, bifacially worked tools, small blades, and expedient flake tools, as well as ground and polished celts, limestone and sandstone grinding implements, hammerstones, and whetstones (Thomas and Campbell 1993). Bone tools, including points, awls, pins, and gouges, are occasionally found at Deptford sites along with oyster and clam shells which were used as ladles, spoons, cups, and dippers, and whelk shells utilized as picks or axes.

Deptford is present in the area, with most components and sites identified in coastal/bayou settings. One interior site, 8BY691, was found at the head of St. Andrew Sound on a terrace adjacent to a large freshwater wetland. At 8BY691, GMI (2006a) noted the recovery of Deptford types, such as Deptford Linear Check Stamped and Deptford Check Stamped. GMI (2006a) also identified Deptford Opposed Check Stamped sherds, which they state resemble ceramics identified at the Hawkshaw site (Bense 1985) and suggest these might reflect a Late Deptford component. To date, it has not been possible to separate Deptford into phases within the study region.

The Middle Woodland period in northwest Florida developed out of the Deptford culture (Bense 1994:158). The period is recognized by ceramic changes and an increased number of sites. Settlement and subsistence patterns remained fairly consistent with that of the Deptford culture. In the interior areas, base camps are found in the stream valleys and temporary camps are found in the uplands. An analogous pattern is found along the coast. Large shell middens, representing lowland base camps, sometimes made in the shape of horseshoes and rings, are found in the lowlands. Surrounding the base camps are several satellite sites found along the coast as well as away from the coast in the interior, upland settings (Bense 1994:159). In the study area, the larger site is commonly a ring or horseshoe-shaped shell midden with an associated burial mound (Bense 1994:159; Russo et al. 2009)

The Middle Woodland has typically been affiliated with Swift Creek pottery and culture, which developed to the east, instead of the Santa Rosa, which appears to have been influenced by Marksville culture in the Lower Mississippi Valley. However, researchers from as early as Willey (1949) have identified minor quantities of Santa Rosa series pottery and referred to these, along with the Swift Creek series, as reflecting Santa Rosa/Swift Creek (or Swift Creek) culture. Thomas and Campbell (1993) studied the frequencies of Santa Rosa versus Swift Creek pottery in northwest Florida from Escambia through Walton counties. They found the incidence of the Santa Rosa ceramics dramatically decreases from west to east.

GMI (2006a) identified a sample of ceramics from Tyndall AFB as “Santa Rosa/Swift Creek phase” types and specifically identified New River Complicated Stamped, a Swift Creek series type. A radiocarbon date on carbon residue from one sherd from test unit 1, 27 to 37 cmbgs, at 8BY29 yielded a date of $1,580 \pm 40$ B.P. (Beta-197294) with date ranges of cal A.D. 260 to 290 and cal A.D. 320 to 450. It is unclear exactly which sherd out of 11 was dated, but whichever of the Swift Creek or “Santa Rosa/Swift Creek phase” sherds was the subject of dating, the assay it produced is a solid Middle Woodland range.

In addressing the issue, Russo et al. (2009) reiterate that Santa Rosa series sherds are not as common in Bay County as Swift Creek types. They go on to suggest the boundary for the Santa Rosa/Swift Creek culture should be to the west around the Choctawhatchee Bay area (e.g., somewhere perhaps in Walton County) and the Middle Woodland in the St. Andrew Bay area known specifically as Swift Creek.

The Swift Creek ceramic series is a complicated stamped pottery that apparently developed out of the Southern Appalachian tradition (Bense 1994:158), although it is clear that there are strong links between the curvilinear stamped ceramics characteristic of Late Deptford components and Swift Creek Complicated Stamped. Swift Creek ceramic designs consist of curvilinear

elements, such as scrolls, concentric circles, teardrops, and spirals, and first arose in Georgia. Vessel shapes include open jars and bowls with podal supports and notched and scalloped rims.

The tool kit includes expanded stemmed projectile points, bifacial knives, spokeshaves, flake scrapers, pitted anvils, and limestone, sandstone, and chert abraders. Although shell tools are rare, whelk ladles and cups, picks, hammers, and pounders have been found (Russo et al. 2009). Also, Bense and Watson (1979) reported the recovery of bone awls.

Population continued to increase with moderate evidence of Swift Creek components. Study area data provide support for Bense's base camp-satellite site model of Middle Woodland settlement in which most of the components are large coastal shell middens on elevated shorelines near saltwater marshes or bayous. Among these are 8BY29, a ring midden and burial mound near Baker's Bayou. Russo et al. (2009) introduced 8BY1359, a Swift Creek ring midden adjacent to 8BY31, the smaller of two mounds reported by Moore (1902, 1918) within the Hare Hammock complex, using the data to model mounds and ring middens. Currently, a number of scholars are studying the settlement patterns of Swift Creek populations as they relate to later Weeden Island dynamics, particularly mounds and ring middens.

Cultures of the Late Woodland period in northwest Florida have been traditionally called Weeden Island, a civilization known for elaborate burial traditions (Willey 1949; Russo et al. 2009). The construct has been redefined so that Weeden Island now refers to several distinct regional cultures that exhibit similarities in ceremonial contexts, but differ to varying degrees in other aspects, such as ceramics, subsistence strategies, settlement patterns, and social complexities (Milanich 1994). Russo et al. (2009) suggest it might be better to conceptualize Weeden Island as "related" cultures.

Weeden Island pottery types include Weeden Island Punctated, Weeden Island Incised, Carrabelle Punctated, Carrabelle Incised, Keith Incised, Weeden Island Plain, late variety of Swift Creek Complicated Stamped, and Wakulla Check Stamped, along with other minor and specialized goods (e.g., mortuary pottery). Red-filmed pottery occurs in Weeden Island and has been thought associated with mounds or mortuary settings rather than residential loci; however, a study by Brinkley (2006) on selected sites in Florida found just the opposite. Brinkley's (2006) study represents the beginning of an avenue that can be tested by ongoing research since one question not answered is whether the red-filmed pottery in residential loci reflects a higher status of the occupants or not. Moreover, the relationship of red filming to changes in the material culture is a question of interest. Temporal differences within Weeden Island have been traditionally based on the frequency of ceramic types, examined by a number of researchers.

The Weeden Island culture was originally divided into two chronological periods based on village midden ceramic assemblages (Willey and Woodbury 1942; Willey 1949). Weeden Island I was marked by late variety, Swift Creek Complicated Stamped ceramics and the Weeden Island series incised and punctated types. Weeden Island II was identified by a lack of complicated stamping, a reduction in the frequencies of the Weeden Island series incised and punctated, and the appearance of check stamped ceramics.

Mikell et al. (1989) used seriations to define three phases within the St. Andrew Bay area (Mikell et al. 1989). Weeden Island I pottery assemblages are characterized by late varieties of Swift Creek Complicated Stamped and St. Andrews Complicated Stamped ceramics, small quantities of Weeden Island Incised and Punctated types, and 50 to 80 percent plain sand-tempered wares. Weeden Island II pottery assemblages consist of up to 43 percent of Wakulla Check Stamped ceramics, less than 50 percent plain sand-tempered ceramics, and an increase in the frequencies of Weeden Island wares with incisions, punctations, and other surface treatments; complicated stamped varieties occur in low numbers. Terminal Weeden Island is dominated by Wakulla Check Stamped, decreased frequencies of plain sand-tempered wares, and very limited numbers of Weeden Island Incised and Punctated types.

Weeden Island village middens and mound sites are often found in different settings than earlier Middle Woodland sites, although the burial mound tradition continued. Mounds consisted of flat-topped or conical structures, frequently adjacent to larger village settlements. There are a number of configurations that characterize Weeden Island village middens. The most common in the study region are linear deposits that actually represent a number of overlapping small, circular shell heaps. There is also some evidence of prepared living surfaces at these linear Weeden Island middens (Mikell 1992; Thomas and Campbell 1993). Horseshoe-shaped shell middens are also found in the area, some of which may appear so in the archaeological record because of erosion but were originally ring middens. Russo et al. (2009) has identified ring middens on Tyndall AFB, including some situated by mounds (e.g., 8BY1347).

There is increased evidence of settlement on the interior by Weeden Island people. These sites include station and short-term camps, but some, particularly those around springheads, appear to be small villages (Thomas and Campbell 1993). The springhead location is a pattern, suggested by Milanich and Fairbanks (1980) as distinctive of the culture.

Besides the importance ceramics have played in temporal configuration, they have also been the subject of sacred-secular dichotomy (Sears 1963). In the 1920s, Fewkes (1924) recognized “special” pottery in burial contexts at the type site, Weeden Island. He noted certain decorated types were associated with burial mounds, whereas plainwares were found in villages. Milanich (1994) discusses a tripartite division of pottery: 1) stylized mortuary pottery in burials; 2) utilitarian plain and decorated wares in villages; and 3) elite or prestige pottery in high status contexts. The tripartite distribution was seen at the inland McKeithen site, but has not been widely applied to northwest Florida, reasons for which may be the low incidence of modern excavation in burial mounds, prior total excavation of mounds, particularly in the early twentieth century (e.g., Moore), and/or lack of opportunities to investigate mound sites.

Regional Weeden Island subsistence was based on fishing, shellfish collection, hunting, and gathering. Fish remains represented in Weeden Island collections include herring, saltwater catfish, sea catfish, jack, porgies, sheepshead, mullet, flounder, bowfin, drum, gar, and other boney fish, whereas oyster is the predominant shellfish. Collection of nuts and hunting deer and small mammal, turtle, and fowl also composed the well-rounded subsistence regime. Absent, however, is evidence that maize agriculture played an important part in the Weeden Island diet in the study area.

Prehistoric occupation was at its apex during Weeden Island, represented by a diversity of types, including both coastal and interior occupations in an array of microenvironments. Two sites within the Hare Hammock complex, 8BY30 and 8BY1347, represent a burial mound and village ring midden recently investigated by Russo et al. (2009), which were examined in terms of Weeden Island settlement and social organization. As mentioned above, these sites lie next to a Swift Creek ring midden at 8BY1359 and the smaller of Moore's (1902, 1918) Hare Hammock mounds, 8BY31. Moore (1902, 1918) recovered Weeden Island and Swift Creek pottery from 8BY31. Willey (1949) dated 8BY31 as Weeden Island based on Moore's collections despite the fact that definitive Weeden Island types were recovered only from around the mound and not from the mound fill. Moore (1918:550) reported recovering 13 burials from 8BY31, along with "fragments of earthenware, some undecorated, some bearing a complicated stamp faintly impressed."

On the west side of Tyndall AFB, Davis Point hosts a Weeden Island mound, 8BY7, and village midden, 8BY9. Moore excavated 8BY7, which was later revisited by Willey (1949) who noted the extensive shell midden. Knudsen (1979) reported relocating 8BY7 on the golf course, but when NWR surveyed Tyndall AFB in the 1980s, they mistakenly referred to that site as 8BY9. The confusion resulted from NWR relying on where a DHR map had the mound marked (as a "G.V." or general vicinity) to the west on the shoreline further north of Davis Point. Consequently, Thomas and Campbell referred to Knudsen's 8BY7 as 8BY9, believing the former was incorrect. That initiated reference to the golf course site as 8BY9.

Russo and Dengel (2010) undertook extensive research into the plotting of these sites as well as 8BY8, the latter of which was determined to be off Tyndall AFB. Using informant information and a 1942 aerial, these authors believe they have located the former mound where Knudsen (1979) conducted his work and reported it as 8BY7. This clarifies the confusion created by NWR, although the location and expansion of 8BY9 remain at the Davis Point location, now encompassing the mound.

Russo and Dengel (2010) point out that no clear evidence of the mound has been detected since Moore's excavations and leaves open the question as to whether the two sites are related. The reason for this position is that Willey compared the ceramics recovered by Moore with those from the midden he investigated, concluding the mound and midden were not contemporaneous within the Weeden Island cultural span. Russo and Dengel (2010) recommend that both sites be considered eligible for the NRHP, additionally noting a need for further investigation of the Davis Point area on Tyndall AFB.

Weeden Island remains have been documented at St. Andrews State Park, including shell middens and a reported shell mound (Collins et al. 2012; FMSF n.d.). Of the five archaeological sites with Weeden Island remains in the park, only one, 8BY171, was on the mainland parcel; the rest were on Shell Island. Moreover, 8BY171 has been reported as destroyed. However, the potential for more evidence of these Late Woodland populations exists.

Mississippian (A.D. 1000 – 1500)

The Mississippian was an era of sweeping cultural change in the Southeast, partially manifested by ritual and symbolism of the Southeastern Ceremonial Complex and the rise of fortified villages. Sometime around A.D. 1,000, the Apalachicola-Fort Walton culture, stimulated

by cultural connections with emerging Mississippian groups upriver, evolved in place out of the preceding Weeden Island culture (Scarry 1980). These contacts brought new ideas to the indigenous population for organizing increasingly larger numbers of people, in part, through the production of more intensive and efficient agriculture.

Mississippian peoples developed complex chiefdoms supported by maize agriculture and a tribute/redistribution system. Towns at politico-religious centers were hierarchically organized and marked by mounds associated with a ruling class (Russo et al. 2009).

The regional manifestation of Fort Walton culture appears to have been less influenced by the events taking place to the east. In contrast to the interior, agriculturally-based societies, such as the Lake Jackson mound complex near modern-day Tallahassee (Jones 1982), there was continuity in the former Woodland subsistence system, and settlement was characterized by large villages in coastal hammocks, surrounded by smaller satellite camps, often in a variety of coastal and upland environments. Poorer soils may have contributed to the fact agriculture was not adopted with such fervor as it was elsewhere in Mississippian times, which, in turn, may have been reflected in the absence of the social hierarchy with powerful ruling classes (Mikell 1990).

Ceramics of the Fort Walton culture are typically dominated by sand- and grit-tempered types, reminiscent of cultures centered to the east, while the Pensacola series of shell-tempered pottery, whose center lies west of the study area, is sometimes a minor element in the assemblage. The predominant types of Fort Walton culture are Fort Walton Incised, Point Washington Incised, Lake Jackson Incised, and Lake Jackson Plain.

The St. Andrews State Park Management Unit Plan reports that Fort Walton remains at three of the archaeological sites, though diagnostics of this period are not mentioned by Collins et al. (2012). That said, the overall incidence of Fort Walton components in the St. Andrew Bay area is less than that of the preceding Weeden Island period. The reasons for the decrease are unknown but seem to be accompanied by a near exclusive preference for coastal locations. Three village middens have Fort Walton remains that appear to represent the dominant component, and others with Mississippian artifacts occur with shell midden as well as at sites that probably represent specialized activity loci.

Historic Sequence

Exploration and Colonial Eras (A.D. 1500 – 1821)

The first documented Europeans to see present-day northwest Florida were members of the ill-fated Narváez expedition of 1528 (Hodges 1907:37–40). Cabeza de Vaca, treasurer and one of only four survivors from the expedition, wrote a narrative of this expedition providing the first description of northwest Florida Native Americans (Covey 1961).

The next Spanish visitor to the region was Diego Maldonado, the pilot of the Desoto expedition,¹⁰ who sailed into Pensacola Bay during the winters of 1539 and 1540 to resupply the

¹⁰ The correct reference to Hernando de Soto is "Soto", but the common vernacular is "Desoto"; the common vernacular is utilized in this publication.

expedition. Desoto himself never arrived in the region, choosing instead to remain inland. Unfortunately, Maldonado left no documents describing his visit. During his sojourn, he probably explored the rivers and bayous of the Pensacola Bay region (Lewis 1907:193).

There is no definitive information, either historical or archaeological, about the Protohistoric period in the study area. Chattahoochee Brushed ceramics have been identified (e.g., 8BY78 and 8BY112) as have Leon-Jefferson wares (e.g., 8BY150 and 8BY155) (Mikell et al. 1989:232–233), but their incidence is low. While the occurrence of such ceramics, the latter in particular, indirectly suggests Spanish influence, the nearest historically and archaeologically confirmed sites with direct evidence of Spanish presence are the Narváez Cemetery Refuge Site (A.D. 1528) near St. Marks, the Desoto winter encampment (A.D. 1539 to 1540) at Anhaica in Tallahassee, and the Maldonado visit (A.D. 1539 to 1540) to Pensacola (Bense 1989:34; 1994:264–265). The entry of Spanish into the region resulted in the death of many Native Americans in the Florida panhandle, mostly due to epidemic European diseases, but also from confrontations and enslavement.

With the study area, 8BY717 dates roughly to the first half of the eighteenth century based on recovered ceramic artifacts. Although this dates the site to a timeframe when European explorers were in the area, no evidence of European contact (e.g., beads, trade goods, metal items) was identified. Researchers hypothesized that the area was a sacred square ground used for American Indian rituals, and as such, European items may have been prohibited (Penton 1991).

First Spanish Period (A.D. 1559 – 1763)

Europeans returned to northwest Florida in 1559. Under pressure to establish a foothold in the New World north of Mexico, the Spanish sent Luna with a large contingent of colonists to establish a settlement at Pensacola. Luna was also under orders to move into Coosa (northern Georgia) and St. Helena (Parris Island, South Carolina). But within weeks of landing near present day Pensacola, the 13-vessel fleet was struck by a hurricane, and eight of his 13 ships were destroyed before they were completely unloaded. This setback, combined with diseases and dissension that beset the settlement, doomed the Luna colony. It was abandoned in 1561 (Priestley 1928).

Florida's first permanent settlement was established at St. Augustine in 1565 by Menéndez de Avilés. Over the next century, the Spanish efforts to expand their settlements along the Atlantic were thwarted by the English, and Spanish settlement was concentrated to the west. During the early sixteenth century, they established missions in the Tallahassee area among the Apalachee. The mission system continued throughout most of the century and by the 1670s, more than 30 missions had been established between St. Augustine and the Apalachicola River near Tallahassee (Tebeau 1971).

In 1698, fearful of French expansion, the Spanish founded the fort of Santa Maria de Galve on Pensacola Bay. The construction of this fort marked the beginning of the First Spanish colonial period (A.D. 1698 to 1763) in West Florida's history. The fort did not, however, deter the French. In 1717, along St. Joseph's Bay in the vicinity of Port St. Joe and Mexico Beach, the French erected Fort Crevecoeur, an outpost that was manned by some 50 men until it was finally abandoned in 1718. In response, the Spanish built a garrison of their own in the same location, but it too was

eventually abandoned (Carswell 1991:17–18; Hutchison 1972:7, 154–155; Porter 1975). These were the nearest European settlements to the St. Andrew Bay area during the First Spanish Period.

British Period (A.D. 1776 – 1781)

The British gained control of Florida from the Spanish in 1763 following the signing of the Treaty of Paris, and Pensacola became the capital of the Province of West Florida. Under English control, the small Spanish settlement became a busy port city and a center of colonial commerce (Parks 1986). Timber, indigo, deerskins, cattle, corn, tallow, bear’s oil, rice, tobacco, salted fish, pecans, sassafras, and oranges were all exported during this period.

During the British colonial occupation of Florida (A.D. 1763 to 1781), the seaport settlement known as Wells was established in 1780 on the east side of St. Andrew Bay at “30.25 North Latitude and 83.50 West Longitude.” But the settlement was short-lived. John Lee Williams wrote in the 1820s that the town of Wells fell into decay after the Spanish regained control of the area from England in the 1780s (Bell 1961:211; Carswell 1991:2, 18; and Hutchison 1972:8, 32, 170).

Second Spanish Period (1781 – 1821)

By the late 1770s, England and Spain were at war once again. Spanish forces under Bernardo de Gálvez ousted the British from Pensacola in 1781. When the Spanish regained control of West Florida, they established Fort San Carlos de Barrancas at the mouth of Pensacola Bay to protect the harbor.

West Florida’s Second Spanish period saw a dramatic rise in the market for deerskins. The Industrial Revolution of the late 1700s had created a strong demand for leather in England for belts and bands. The Panton-Leslie trading company, which traded blankets, guns, and other articles with the southeastern Indians in exchange for their deerskins, became a thriving business. Begun in 1783, with its main office in Pensacola, Panton-Leslie came to dominate the Indian trade of the region. The company maintained trading connections with the Indians who occupied the region around St. Andrew Bay—trading posts may have been established by the company at Wells and on Cedar Creek where warehouses were likely built.

During the Second Spanish Period, evidence of Spanish activity in the study area is rare. Legends of pirate treasure from this period exist in the local folklore of south Bay County. A few Spanish fishermen may have lived along the shores of St. Andrew Bay (Surber 1950:20). There is some evidence that Smack Bayou was used during the Second Spanish Period as a place to repair ships and boats (Hutchison 1972:23, 150).

By 1800, international developments translated into severe economic and political difficulties for West Florida. Pensacola was a poor, under-supported military outpost, and Spain’s slipping political, economic, and military strengths meant that it could not provide support for the colony. Napoleon’s rise to power, French imperialistic designs on the New World, and the sale of Louisiana to the United States all spelled trouble for Spain. In this setting, there grew an increasing population of aggressive Anglo-Americans on the Spanish Florida borderlands. Spain dreaded the inevitable Anglo-American and Indian skirmishes and the growing conflicts between Great Britain

and the United States. As feared, with the War of 1812, the Creek War, and the accompanying British and Indian intrigues along the American border, West Florida became a target for American military predation. Twice, in 1814 and again in 1818, General Andrew Jackson led U. S. forces into Spanish West Florida to restore order along the frontier. These maneuvers convinced the Spanish government that Florida was indeed a liability, and a treaty was signed in February of 1821, which allowed the United States to purchase Florida for five million dollars. By July of 1821, Spain officially transferred the colony to the United States (Parks 1986:43–48; Rucker 1990:6–35).

Only the small community of Wells has been suggested as being located on St Andrew Bay during this period. Thomas Hutchins' (1784:84) mid-1770 account and Bernard Romans' 1774 map make no mention of settlements in the project area. Romans' map does include the words "Fresh Wells" which may be the source of the confusion over this settlement (Romans 1774). However, John Williams (1827:80), one of the commissioners traveled extensively in West Florida, reported in 1827 that the community of Wells had been located on the east side of St. Andrew Bay. One local historian suggests that the community of Wells was abandoned at the end of the British Period in 1783 (West 1960:22).

The Early American Era (A.D. 1821 – 1861)

With the acquisition of Florida, Americans began a slow migration into West Florida. The St. Andrew Bay region, however, initially remained relatively unpopulated, with more wandering Creek Indians in the area than whites. One of the first American attempts at settlement in the area was the short-lived community of La Fayetteville on St. Andrew Bay. Report of a settlement was made by a local newspaper: "La Fayetteville has also been projected on St. Andrew Bay. A few log cabins have been erected, but its progress is doubtful" (*Pensacola Gazette* 1824; Surber 1950:20). These predictions proved accurate, for nothing more was ever heard of La Fayetteville.

During this period, more successful settlement in the area began and the Bay soon became a port of call for regional trade. In 1825, the government began surveying to prepare the first public land plats within the project area (Williams 1827). By 1828, the Pensacola Customs District found it necessary to station a surveyor on St. Andrew Bay. A few settlers established home sites on St. Andrew Bay in an area that became known as Old Town St. Andrew in the area of present-day Panama City. John Clark (former governor of Georgia), William Loftin, Peter Parker, Daniel H. Horne, and John W. Gainer were prominent members of this early community. In 1827, President Andrew Jackson appointed John Clark "Keeper of the Trees," a position that required him to relocate to Old Town St. Andrew. The position was an important one since pine and oak trees were a critical material for construction of United States naval ships. The then bountiful timber led to the establishment of numerous sawmills and turpentine stills in the region. Settlers also raised cattle (driving them to market in Pensacola), with other area commodities including beeswax, candles, honey, and cotton (Hutchison 1972:5–6, 8–9). With few bridges or roads, most settlers lived along the water. Ships would remain the most common way to travel and transport goods until 1908 with the establishment of the Bay Line Railroad (Haupt 1973).

Through the 1840s Indians continued to skirmish with settlers. Some settlers were killed near Phillips Inlet in 1844 (Hutchison 1972:20–21; Rucker 1990:254, 256–58). One of the earliest

settlers near St. Andrews State Park was José Massalina, a free black man who came to the St. Andrew Bay region in the early 1830s and raised a large family at Red Fish Point.

The Civil War and Local Impact (A.D. 1861 – 1865)

With the secession of the Southern states from the Union in 1861 and the subsequent initiation of hostilities, Florida was subjected to a blockade for the duration of the Civil War. The St. Andrew Bay area became a major center of salt production which, together with beef and bacon, made up Florida's largest contribution to the Confederate cause. The majority of salt works established on St. Andrew Bay were located along the northern shoreline which afforded the best protection from Union ships and the shortest inland transportation routes to the Confederate troops. The St. Andrew Bay area during the Civil War produced as many as 4,000 bushels of salt a day.

The coastal waterways along the Gulf of Mexico from St. Andrew Bay to Alligator Bay became the area of major focus for the Union blockade in Florida during the War. Union Naval troops constantly raided and bombarded salt works and blockade runners throughout the area (Tebeau 1971:235). During these attacks, the soldiers would ruin the freshly made salt by mixing it with sand, also destroying the pumps, tubs, and other equipment used in salt manufacture. Cattle and mules belonging to the salt makers were often killed or driven off as well. In addition to land-based harassment, the Union navy maintained a patrol off St. Andrew Bay in search of blockade runners and established a prison camp on Redfish Point (Womack 1998). On March 29 of 1863, a small skirmish between Union forces and locals occurred at Old Town St. Andrew. Five people were killed (Bell 1961:35–36, 38–41; Carswell 1991:95–98, 119–24; Hutchison 1972:5, 35).

With the destruction of the town of St. Andrew in 1863, the political, economic and community developments of the project area were disrupted for years. In 1860, prior to the Civil War, the federal census listed Washington County (which included Bay County until 1913) as having a population of 2,154. In the census of 1870, Washington County was listed as having a population of 2,302, only 148 more residents than in the previous 10 years. However, the dispersed communities of West Bay and Anderson (Southport), along St. Andrew Bay, developed during the 1870s and became the largest salt fish markets in the area. Although the St. Andrew Bay area became a popular summer resort, residential settlement remained isolated. As late as 1890, the census for all of Washington County was only 6,426.

The Late Nineteenth and Early Twentieth Centuries (A.D. 1865 – 1940)

The resurgence of political stability and economic investment following Reconstruction led to the expansion of transportation facilities and the emergence of a diversified economy throughout the state of Florida. Railroad construction stimulated the expansion of isolated, rural industries such as lumber, naval stores, fishing, mining and meat processing as well as the emergent tourist business. During this period the Panhandle counties experienced a population influx that dramatically realigned the local political, economic and social institutions that had existed prior to the era of the railroad. Economic expansion continued until the financial collapse of the Florida real estate market in 1926 and the devastating hurricane that followed.

During the emergence of this "New South," the area experienced a rejuvenated period of economic and community development. Evidence of late nineteenth to early twentieth century

structural remains has been documented in the park at 8BY798, and historic remains that may be of the same time frame are reported at 8BY86 and 8BY87, the latter of which also has remnants of an early twentieth century zoo with animal pens.

The lumber industry, which James Watson began in Bay County in 1836, expanded rapidly and was supplemented with new sawmills such as the Callaway Mill on Callaway Bayou; the St Andrew Mill operated by Willet and Moates in 1888 at St. Andrew; the Thompkins Mill on North Bay; the Enterprise Lumber Company Mill at Fountain; the John Bovis Mill on Watson's Bayou, established in 1898 and later acquired by the German American Lumber Company; the Southport Lumber Company Mill at Southport established by T. D. Sale; and the West Bay Lumber Company Mill at the east end of Hathaway Bridge (Hutchison 1951:14).

Since all of these events took place in what is now known as Panama City, Florida, an explanation of the establishment of the city serves to preface the overview of the late nineteenth and early twentieth century local history. The city of “Panama City” has an almost anecdotal beginning in 1905 when the United Fruit Company of New Orleans went on strike. In response to the strike, the Vice President of United Fruit decided to relocate the company to a port that was easily accessible to his most important Central American connection, which just happened to be Panama City, Panama (TripSmarter 2014).

Local business leaders took the opportunity to become United Fruit’s port of choice by naming the unincorporated area “Panama City.” Unfortunately, United Fruit established its port at Tampa, Florida instead, but the name “Panama City” remained. By 1906, Panama City was booming. The founder of Coca Cola, Asa Candler, donated funds to complete the Atlanta & St. Andrew Bay Railway, or the Bay Line, in 1908.

Around 1885, northern real estate developers started a boom in the St. Andrew Bay area. Organized by Cincinnati businessmen, the St. Andrew Bay Railroad, Land, and Mining Company began platting town sites in the vicinity of present-day Panama City, including the affluent St. Andrew community. The platting attracted a great number of people, and early settlements began to be established in the surrounding area, many on East Peninsula across the pass from St. Andrews State Park (Bell 1961:41–43, 45–55; Hutchison 1972:9–10, 23). Among these communities were Cromanton, Farndale, San Blas, Auburn, Santa Cruz, Palmland, Florida Pearls, Beacon Beach, Allanton, and Wetappo.

The Wetappo community, located on Wetappo Creek, near the eastern boundary of Tyndall AFB, was surveyed and platted in 1888, with a post office established on 27 October 1888. Wetappo was originally known as Keyes Beach, named after Dr. D. J. Keyes, who actually lived at Wewahitchka, but built a summer home in the Wetappo Creek area. Dr. Keyes maintained his house until his death in 1892. When the community attempted to establish a post office under the name of Keyes Beach, the government rejected the name because Florida was already full of town names with the word *Keys* in them and suggested the name Wetappo instead (West 1960).

Wetappo served as a stopping point between the East Bay and Apalachicola River. Among its early settlers were Joseph Dyer and the Kronmillers. The first brickyard in the St. Andrew Bay area, the South Prong Brickyard, was also established at Wetappo. Operated by Kronmiller and

Dyer, it supplied much of the brick for early construction in the region (Bell 1961:48–50; Hutchison 1972:10, 23).

Established in the late 1880s, San Blas was located between the DuPont Bridge and Shoal Point Bayou. Three spinster school teachers, Amanda Birch, Evelyn Young, and Fredericka Payne, were the original settlers to the area. Each acquired 160-acre homesteads and became experienced farmers and mariners. Fredericka Payne was known as the sailing school teacher because she sailed her own boat across the bay to teach school every day. In 1911, J. J. Powers, a later settler, subdivided some of his land and promoted the area as the *Naples of Tropical America* (Womack 1998). Today, the former San Blas community is located under the flight line and Wherry I Housing areas.

Auburn, one of the smaller communities in the region, was initially visited in the 1880s by Charles Jackson Raffield and his family while on their way to Wetappo from Eastman, Georgia. In 1900, he established a large homestead along the bay. Raffield trapped alligators and dealt in naval stores. By 1915, Auburn's population fluctuated between 30 and 40 people (Womack 1998).

The community of Belle Isle was named after a small, bell-shaped piece of land in East Bay at the entrance to Blind Alligator and Strange Bayous. A large turpentine still was established by Mack Edwin Rogerson in 1910, and a small community with a general store began to develop around it soon after. At one time Belle Isle was home to the largest turpentine works on the East Peninsula. The area had two churches, the Salem AME Church formed in 1906 and the St. John's Missionary Church formed in 1920 (Womack 1998). A post office operated from 1911 until 1918, as did one of the largest bootleg establishments on the peninsula, run by Aunt Della Stephens (Womack 1998).

Farmdale, located on East Bay, was another small farming community that developed in the late 1800s. The first settlement was established in 1886 by W. F. Woodford, a Civil War veteran from Ohio. It appears that Woodford platted the community with a vision of the town becoming an important trade center along the East Bay Canal. Farmdale received its own post office on 16 December 1889, and at one point also supplied mail to residents of Allanton across the bay (Bell 1961:43, 49; Hutchison 1972:10). The first school/church was established in 1895, and Joseph B. Taylor built a large turpentine still in Farmdale in 1908. Taylor transported his rosin and other products by barge up East Bay from Farmdale to Panama City. The naval stores still was eventually sold by the Taylors around 1932. Though it actually supported several turpentering operations, the community never grew to the importance envisioned by Woodward (Womack 1998).

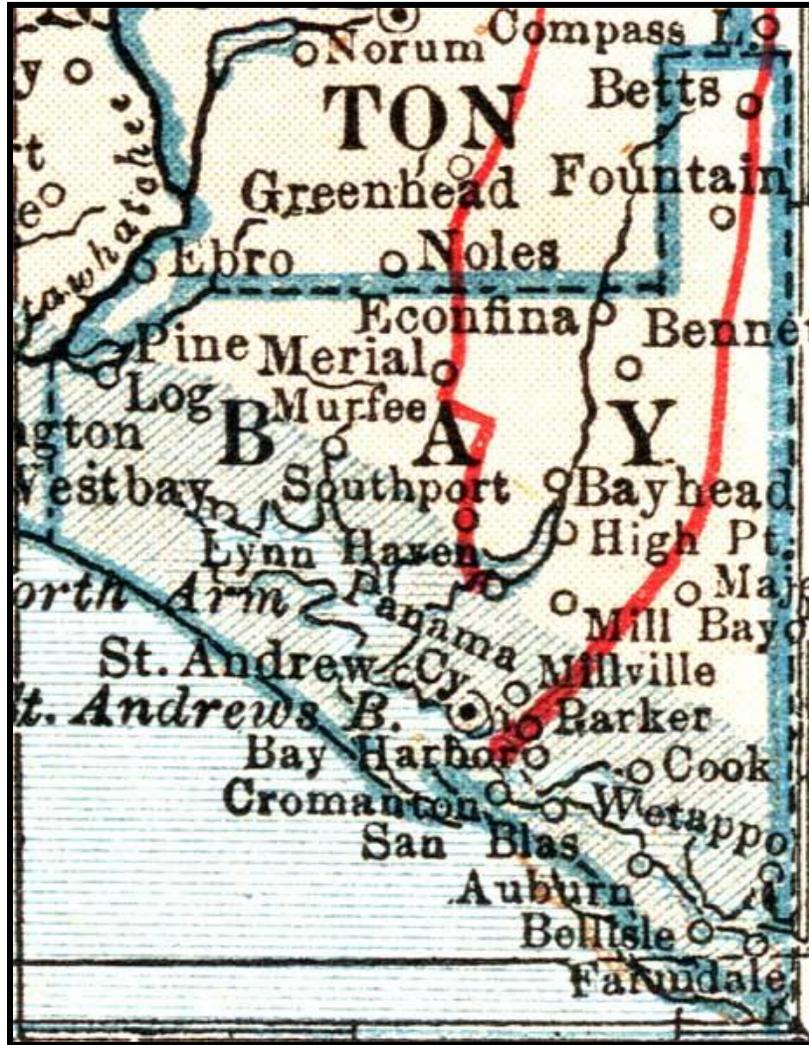
In the early 1900s, the Allanton community formed across from Tyndall AFB lands at the head of East Bay. The Beadnells, Kerseys, and others had settled this area originally in the late 1800s, and the Andrew Allan family came to the site in 1901, journeying from Michigan to Georgia, then down the Chattahoochee River and over to East Bay. By 30 December 1902, the Allanton post office had been established; the Allan family eventually operated the Allan Produce Company, A. A. Allan and Sons, and (along with Joseph Dyer from Wetappo) the Allanton Lumber Company out of Allanton as well. The Allanton Lumber Company served primarily local

trade, with its sawmill having a capacity of 15,000 ft of lumber per day (Bell 1961:48–50; Hutchison 1972:10; Surber 1950:125–26).

Davis Beach was platted in 1926 by Mood Davis, a turpentine operator. Like several other former communities located on the peninsula, Davis Beach was founded during Florida's boom years. Davis' vision was to build a tourist attraction with a five-story hotel and recreation center. Prior to government acquisition, Davis Beach held weekend parties and entertained camping youth groups from out of state (Womack 1998).

Cromanton (Figure 7), another important historic was platted in 1888. It was founded by Rev. W. M. Croman, a Methodist minister from Maryland, who visited the St. Andrew Bay region in 1885. He returned to stay the next year and became active in the development of the area. Croman organized the Methodist Church in Cromanton, served as pastor of the St. Andrew Methodist Episcopal Church, and in 1888 established a combination general store and post office. Croman also owned and operated a three-story hotel, the Hotel Cromanton from 1888 until 1900 (Bell 1961:51).

Another prominent family, the Hoskins, settled in Cromanton around 1888 during the Cincinnati Land Boom. Their homestead was situated near the Cromanton Cemetery (also known as Marywood Cemetery), which was established around 1890. Frank W. Hoskins operated the combination store and post office in Cromanton for several years (Bell 1961:52). Transportation was a problem for the early town, and Cromanton's leaders sought ways to link their community more effectively with the other St. Andrew Bay communities. In 1914 to 1915, a small ferry connected the Cromanton settlement to present-day Panama City. In 1925, a new, larger ferry was introduced. The ferry operated from "near today's Tarpon Dock Bridge to the Cromanton Pier near the east end of the part of the peninsula commonly known as Red Fish Point" (Bell 1961:53–55).



**Figure 7. 1921 L. L. Poates Co. Map with Cromanton and other communities
(Courtesy of the private collection of Roy Winkelman Bay)**

Cromanton officially expanded in February of 1912 when T. E. Crawford platted East Cromanton. The streets running east and west were 40 ft wide, except for Front Street, which was 50 ft wide (it was then referred to as Beach Drive). Most of the avenues ran north and south, being laid out in 50-foot widths. The names of the avenues included Railsback, Live Oak, Myrtle, Palmetto, Washington, Florida, Penn, Orange, Leconte, and Magnolia; the last six of which were longer than the others. Day Avenue ran to the point of the peninsula (Bell 1961:53).

Red Fish Point became a turpentine community in the late nineteenth and early twentieth centuries, where barges of naval stores were shipped out (Bell 1961:181). Red Fish Point eventually became home to numerous black families; a school was established there served 75 students. The community had a Baptist church, New Jetson Church, and a cemetery with 75 interments (Bell 1961:55, 189–90, 198–201; Hutchison 1972:1–3). The free black man, José Massalina, one of the earlier residents of the Point, is also buried at the point in a large family cemetery on his homestead.

A community known as Smack Bayou was platted by Thomas Freeman in 1887. The plat showed an old field of about 10 acres (Bell 1961:181). Earlier, Smack Bayou may have been used by Spanish fishermen to repair and clean their ships. Although the information is limited, there were apparently several other small communities that developed in the late nineteenth and early twentieth centuries. Santa Cruz was surveyed and platted in 1887 by Thomas Freeman, Palmland was surveyed and platted in 1913 by J. F. Ellis, and Florida Pearls was surveyed and platted in 1924. Beacon Beach was a popular swimming area for locals. Most of these real estate developments were either sparsely settled or never occupied (Bell 1961:188–89; Hutchison 1972:23).

Bay County was created on 24 April 1913 from land transferred from Washington County to the new Bay County by act of Florida State legislation. Panama City, the largest community within the Bay County boundaries, was officially designated as the county seat (Haupt 1973). By 1920, the county had some 11,407 inhabitants (Forstall 1995).

The unincorporated area named after the Central American capital, “Panama City” was formally incorporated on 23 February 1909 (Haupt 1973). Originally known as Park Resort, it was founded by a man named G. M. Wes. The driving force behind the incorporation and establishment of Bay County was the Panama City Chamber of Commerce. The Chamber of Commerce petitioned the state of Florida to establish a new county so that local businesses did not have to travel all of the way to Mt. Vernon, the seat of Washington County, in order to conduct government affairs.

With the establishment of the new county and the development of the Bay Line Railroad, more industry began to move into the region. Soon after, the 1910 Federal Census showed Panama City to be the second fastest growing city in Florida, second only to Miami Beach.

Other businesses included a crab and scallop factory, two fish camps, two hotels, an industrial camp for employees’ summer vacations, a lodge with cabins, and several small commercial fishing operations. Turpentine became the major industry in the St. Andrew Bay area, reaching its zenith around 1910 (Figure 8). At least three turpentine stills are known to have operated in the area. After the stands of timber had been exhausted for naval stores, trees were harvested for saw timber. Subsequently, clear-cut areas were burned and used as pasturage for low-grade beef cattle.

An important location in the area became Lynn Haven, which was the vision of W. H. Lynn, a New York Senator and publisher of the *Grand Army of the Republic National Tribune*. He started an initiative to help veterans relocate to retirement communities for Union Army Civil War veterans (City of Lynn Haven n.d.). His efforts were encouraged by New York shipping tycoon Minor C. Keith, who had recently purchased considerable acreage in the Panama City area. His support led to the planned community of Lynn Haven, which earned a national reputation as a retirement area for Civil War veterans.



**Figure 8. Southern Turpentine Still on St. Andrew Bay
(University of South Florida – Tampa Campus Library,
Hampton Dunn Postcard Collection)**

Highway 98, also known as the Gulf Coast Highway, was completed in the 1930s. During that same period, the Hathaway, DuPont, and Bailey bridges connecting the beaches to the cities of Panama City and Lynn Haven were also completed. Although travel along the coast was more convenient as a result of these constructions, there was little real estate interest in the beaches.

Construction of the new pass between the Gulf and St. Andrew Bay was initiated by the U.S. Army Corps of Engineers in 1933 (TripSmarter 2014). The deeper water access led to increased shipping in and out of the area, another stimulus for local economic growth.

Military Era (A.D. 1940 – Present)

Increasing worldwide tensions during the 1930s gave America cause to look into their own defenses. The destruction wrought from undeclared wars in China, Finland, and Spain shattered any remaining illusions that America's defense was sufficient when compared to the war machines of Germany, Japan, and the Soviet Union. The War Department realized the need for increased military strength. Due to the favorable weather and abundant land, Florida was one of the primary locations selected for military construction during World War II.

With the approach of and entry into World War II (WWII), changes came to the St. Andrew Bay region, particularly on East Peninsula. One such change was the establishment of the Wainwright Shipyard in Panama City. The shipyard was constructed to build Liberty Ships. It contained approximately 112 acres and at its peak in 1943 employed 15,256 workers. All active production stopped in October of 1945, however, but not before 66 Liberty Ships had been constructed (Bell 1961:228–229; Surber 1950:131).

In 1942, a Naval Section Base was also established as an inspection site for Landing Ship Tanks (LST). Amphibious forces used the base for shake-down training of LSTs from 1944 to 1945. The station was deactivated and placed on caretaker status for a short time after the war.

Later it was commissioned as a U. S. Navy Countermeasures Station; by 1960 it was known as the U. S. Mine Defense Laboratory (Bell 1961:229).

The park proper was part of the St. Andrews Military Reservation in Bay County during WWII. In 1943, guns were mounted at two positions built atop dunes overlooking the sound as part of a temporary harbor defense on the mainland and archaeological represented by 8BY1341 and BY1342 (Collins et al. 2012). In addition, the military complex included temporary structures to house the platoon staffing the guns and several temporary support buildings. The two coastal gun positions were staffed by a platoon of Battery C of the 13th Coast Artillery as part of the Temporary Harbor Defense of Panama City until it was inactivated in 1944. One of gun mounts is now covered by a pavilion on the mainland parcel of the park and used as observation point; another one is buried under sand dunes, occasionally exposed by hurricanes.

The most enduring construction related to WW II was acquisition of East Peninsula by the military for what would eventually become Tyndall AFB. The construction of Tyndall AFB dramatically altered East Peninsula and the communities on it. The need for increased military strength for the coming war resulted in the establishment of training bases throughout the country. One such training need was for a Gunnery School, which required a location with good flying weather and plenty of room for aeronautical maneuvers (Edenfield 1947:34). The area around St. Andrew and East bays fulfilled both prerequisites, and when U.S. national defense preparations were stepped up during 1937 to 1938, an inspection team composed of Brigadier General Walter R. Weaver, Major Luke Smith, and Florida Senator Claude Pepper selected the area as one of two sites for military bases along the West Florida coast. War Department plans called for the new base to be a flexible gunnery school with 103 officers, 800 cadets, and approximately 1,610 enlisted men to be assigned as the initial group (USAF HRA 1941a). At the start, however, only a token force of 100 men lived at Beacon Beach in twelve cabins (Bell 1961:187).

The proposed air installation and gunnery school was named for Lieutenant Francis B. Tyndall, a Sewell Point, Florida native and World War I fighter pilot. Prior to being named Tyndall Field, the project was known as Flexible Gunnery School No. 9. Lieutenant Tyndall was credited with having shot down four German planes between September and October of 1918. Not officially an ace, he did receive the Silver Star for pressing an attack far behind enemy lines. On 15 July 1930, while inspecting Army flying fields, he became lost in fog over Mooresville, North Carolina, and his plane ran out of gas, crashing and killing him. Congressman Bob Sikes of the Third Congressional District suggested naming the installation in memory of Lieutenant Tyndall. On 13 June 1941, the War Department approved the suggestion, and the base formally became the Tyndall Army Air Field (Underwood 1991a:3, 5–6; USAF HRA 1941b).

The preliminary plans for the air field called for it to be located at the Panama City airport. At the time, Panama City officials were hoping to use Works Project Administration (WPA) funds to finance an expansion of the city's existing airport. Original plans called for only additional support structures, a runway, and a cantonment area that upon completion would have been leased back to the federal government. But General Weaver and other federal officials did not support this idea. They felt that the flexibility on how the federal funds were to be allocated for the project was very limited. More importantly, the site lacked sufficient space to expand (USAF HRA 1942a). Weaver wanted a site that would be large enough to accommodate almost any conceivable

program. By September of 1940, General Weaver and the Panama City Chamber of Commerce had decided to locate the new airfield in a different location, at its present-day site on East Peninsula (USAF HRA 1941a).

There were several advantages to the East Peninsula site—the relatively sparse population, the establishment of the railroad, the willingness of the local business community to turn over the land, and the good year-round flying weather. The main advantage, however, was its over-water aircraft approach, since there was and still is a much greater chance of survival and recovery of aircraft for emergency landings over water rather than on dry land (USAF HRA 1942a). Being surrounded by water also meant that less additional land would have to be purchased for the *clear zones* that were required around an air field. Clear zones functioned as a buffer to minimize the chances of civilian casualties in the event of an accident. Placing these zones on land created areas that could not be developed, resulting in maintenance of lands that were otherwise useless to the installation. The close proximity of the Gulf of Mexico at the East Peninsula site provided nearly unlimited space to perform aerial gunnery exercises without high maintenance costs of extensive terrestrial clear zones.

The initial land tract included 28,517.65 acres on the peninsula southeast of Panama City, lying between St. Andrew Bay and the Gulf of Mexico. On 15 April 1941, the Adjutant General authorized the construction of a flexible gunnery school with an initial estimated cost of \$3,723,567. The directive stated that the construction of the installation would be of permanent design and detail in such way that each building could be adapted from its general plan to suit the specific needs for which it would be utilized. This practice would lead to the use of hollow tile and masonry material for all original buildings (USAF HRA 1942a).

On 5 May 1941, condemnation proceedings against lands on the installation were started in the U. S. District Court in Pensacola. A Judgment of Title in favor of the government was issued on May 8 of that year, effectively removing serious legal obstacles for construction of the school (USAF HRA 1941a). More than 1,200 parcels of land were included in the land transfer, and residents on the East Peninsula were given notice on May 9 that they had to vacate their houses and land by 7 July 1941. Bitter arguments between the residents and government ensued, and some claims would take nearly two more years to settle (USAF HRA 1941b). As Bell describes in his account of the founding of Tyndall AFB, “families which lived in this area were required to leave their houses and outside houses and furnishings intact.” They were advised to officially notify the proper military authorities when they moved away and to turn over such things as keys, etc. (Bell 1961:187–90).

The news of the government’s plan to purchase the East Peninsula led to some local land speculation in an attempt to raise the price the government would have to pay. Palmdale and Florida Pearls were two examples of communities established for just that purpose. Both were surveyed, but never inhabited. The government demolished all of the existing structures on the newly acquired site except for two houses built by Frank Wood. One of the houses was still located in the Capehart Housing area as late as 2003, but it was torn down at the end of that year to build a new house for the commander. The other house was located further up the coast to the northwest and converted into the Pelican Point Golf Course Clubhouse (Underwood 1991a:4).

With all legal obstacles cleared, the U.S. Army Corps of Engineers and the Southern Engineering and Architectural Company of Jacksonville, Florida agreed to a cost-plus-fixed-fee contract for engineering design and inspection services, which was signed on May 7, 1941 (USAF HRA 1941b). Construction contracts were awarded to the C. C. Moore Construction Company of Panama City and the Paul Smith Construction Company of Tampa, Florida on the same date. These contracts called for the construction of the airfield and a cantonment area. The airfield consisted of three runways (with a fourth to be added at a later date), taxi strips, a parking apron, and a technical area that would include the hangar, warehouse, sub-depot, and ordnance facilities. The cantonment area would include 71 barracks (each able to accommodate 64 men), schools, offices, and utility buildings (Underwood 1991a:4–5). Construction began on the technical facilities on May 26, the administration buildings and barracks on June 16, and the Medical Corps installation on October 8 (USAF HRA 1941b).

On 16 June 1941, General Weaver assumed jurisdiction of the Air Corps Gunnery School at Panama City and Lieutenant Colonel Warren A. Maxwell assumed command of Tyndall Field. Prior to arriving at Tyndall AFB, the first units and squadrons were organized at Maxwell Field, Alabama in March 1941 (Edenfield 1947:34).

There were numerous problems encountered in the construction of the airfield. Buildings were often planned for areas that proved to be too swampy, and plans had to be altered for drier locations. Dog-flies, mosquitoes, skunks, and snakes were also a constant hindrance to the workers. By 1 December 1941, 168 buildings were under construction, but only five percent were ready for occupancy. Moreover, the grading of the airfield was only 91 percent complete. As a result, the original cost estimated for the construction of the airfield had nearly doubled to \$7,199,254, with a projected final cost at \$8,729,924.46. Neither figure proved correct, however, as the final bill came in at \$10,113,741.92, and the initial goal to station troops at the field by late 1941 was delayed until early 1942 (USAF HRA 1941a).

The new base also lacked sufficient housing to accommodate incoming troops. As a result, the first housing project was undertaken at Cove Gardens. Unlike future housing developments, which would actually be located on Tyndall AFB, Cove Gardens was built near Watson Bayou, south of Fourth Street in Panama City. The housing units were built for enlisted personnel and were procured through a competitive bidding process. Bids were opened in Washington, D.C., on 14 August 1941, which at this time was a deviation from the typical cost-plus-fee contract (*Panama City Pilot* 1941). The houses were ready for occupancy by November 1943 (Tyndall AFB 1956). Initially, 150 units were procured, though only 130 were built. These consisted of single houses, duplexes, and quadplexes, which were one and two-story structures made of concrete block covered in stucco (the housing complex was transferred to the state of Florida in late 2002).

The base was officially opened on 7 December 1941, just in time for America's entry into World War II. The start of actual gunnery training began on 23 February 1942 (USAF HRA 1942a). When it was activated, it was the largest of three aerial gunnery schools in the United States (USAF HRA 1942b). The initial complement consisted of 20 officers and 1,450 enlisted personnel. The planned training activities included academic education, gun turret operation, and ground operations.

Over time, the instructional methods at the base gained a reputation in the military establishment for its high caliber of graduates. One notable training aid was the use of a jeep, guided by a rail that ran around a circular track. This jeep had a target airplane attached and afforded realistic turret training for the future gunners. Other unique improvisations included the modification of shotguns to be fired from turrets, thus saving ammunition. B-24 Liberators were used to train both gunners and copilots at the same time. Tyndall Field won national recognition when its five-man instructional team won the championship of the National Gunnery Meet. Within only a few months of opening, both the Eastern Flying Training Command and the Field Air Inspector of the Army Air Force Headquarters rated the field's training program as "excellent" (Edenfield 1947:34–35).

In 1942, enrollment doubled what was originally projected for the base. In all, there were 293 officers, 4,000 enlisted men, and 1,904 students working and studying on the installation. By 1943, there were approximately 10,000 personnel on the base (USAF HRA 1941b). Not surprisingly, the overcrowding led to additional construction projects.

Activity accelerated at the base as the war began, and at its peak in 1944 U. S. Army personnel and trainees consisted of more than 1,500 officers and from 10,000 to 12,000 enlisted men. In 1944, the base also employed some 1,500 civilian workers (Bell 1961:186, 188–89; Surber 1950:131). By war's end, 45,000 gunners would be trained at Tyndall Field, with the gunnery school on the base producing approximately 400 graduates each week (Underwood 1991a:57).

During World War II, the Women's Auxiliary Army Corps (WAAC) was organized by the War Department to serve with the Army. On 3 June 1943, the first WAAC arrived at Tyndall Field and became the 785th WAAC Post Headquarters Company. But on 3 July 1943 Congress dissolved the WAAC and replaced it with the Women's Army Corps (WAC), in which enlistees were actual members, rather than auxiliary members, of the U. S. Army (Underwood 1991b). At its peak in January 1944, the group had six officers and 151 enrolled members. The WAC enlistee received training in close order drill, use of gas masks, judo, military courtesy, proper uniform, and physical conditioning (Underwood 1991a:49).

During this time, there was a shortage of male pilots, so women also flew planes on Tyndall Field to help alleviate the shortage. The war effort meant that every available pilot was needed in the front line, which left shortages for training and ferrying operations. In response, the Women's Airforce Service Pilots (WASP) program trained qualified women to serve as service pilots (Figure 9). The first WASP arrived at the base in August 1944. But the WASP program was short-lived, lasting only four months at the field before the shortage of male pilots subsided. During the four months that the WASPs were active at Tyndall Field, they flew administrative and tow target missions (Underwood 1991a:51).



Figure 9. Deannie Parish in front of P-47 Thunderbolt on the flight line at Tyndall AFB, Florida (From Maxwell AFB)

During the 1940s, many former property owners attempted to regain their land on East Peninsula. The East Point Peninsula Property Owners Association was formed to pursue this goal. In 1944, their first victory came when the Surplus Property Act was passed, allowing the government to make surplus property available to former owners. But the victory was short-lived. By 1949, the law had been repealed and any surplus land was made available to other federal and local government agencies instead of former owners. The Owners Association continued to press the issue into the 1950s with no success. Little remains now of the civilian communities and settlements that existed on East Peninsula before WWII (Bell 1961:190–192).

The end of the war brought swift changes to the program. All gunnery training ceased except for foreign nationals such as French and Chinese trainees. In January 1945, 11,420 officers and enlisted men had been assigned to the installation, but by December of the same year there were only 2,816 assignees. By March 1946 there were even fewer, with only 985 people still stationed on the base (Underwood 1991a:57). With the end of the war, nonmilitary operations were giving way to more base-recreational activities.

A 40-hour work week was resumed on 26 August 1945 (USAF HRA 1945), and the base was used to help military personnel make the transition back to civilian life. In 1946, the base was transferred to the Tactical Air Command (TAC), but for only three months before it was changed from stand-by status with the reactivation of the Air Tactical School (ATS). ATS was transferred to Tyndall Field from Maxwell Field (Edenfield 1947:35; Underwood 1991a:65), giving the base a much-needed boost in self-esteem—since the end of the war, the base had been operating without a defined mission.

The ATS provided students with the academic instruction necessary for future duties as squadron commanders and officers, with field exercise supplementing the academic training (Underwood 1991a:66). In January of 1947 ATS began instruction of its first class, which

consisted of 430 students. Students were taught military management, operational services, tactical operations, and maintenance procedures (Underwood 1991c:14). The ATS survived as the basic school of the Air University.

During this time period, on the national level the military was undergoing major changes that are still in effect today. On 18 September 1947 under the provisions of the National Security Act of 1947, the Army Air Forces became the USAF. As a result, the installation became known as Tyndall AFB, and the Air Force became a separate branch of the Department of Defense.

With the outbreak of the Korean Conflict on 25 June 1950, the United States immediately reactivated its military. The majority of the students attending ATS were recalled to their home units and sent to Korea. By August 22, 1950, due to the lack of students, the Air University commanders decided to discontinue all but one ATS course at Tyndall AFB. This course, the Aircraft Controllers Course, became the USAF Aircraft Controller School, which was assigned 60 pilots and 60 F-51 aircraft for training the controllers. However, this limited assignment was only temporary. In less than two months, Tyndall AFB would receive two additional training programs (Underwood 1991a:67).

On 5 September of that year, with the Air Force fearing that “subversive elements” of the American population would sabotage military aircraft, a Special Security Police School was formed on the base. The Police School was initially conceived as a temporary operation. However, by December, the ATC commanders decided that the school should be permanent and renamed it the Air Police School. The second training program set up was the Interceptor Aircrew School (IAC). Its mission was to make the USAF an all-weather air force.

After the Korean War, Tyndall AFB continued to receive various training schools, including the USAF Interceptor Weapons Instructor School in 1954. This school remained in operation until 1983, having trained 5,213 students by the time it closed. Since 1958, the base has also been home to the biennial William Tell air-to-air weapons combat competition. In 1964, a Personal Equipment/Survival Training School was established to teach pilots how to eject safely from their damaged aircraft, survive in the wilderness, and land in water.

Through all the changes in training programs, Tyndall AFB still lacked enough quality housing for its personnel. In conjunction with Public Law 211, Title VIII, National (Wherry) Housing Act, Tyndall AFB broke ground for a new housing complex that would become known as Wherry Housing in November 1950 (*Panama City Pilot* 1950). The housing units were built by W. D. Jamison and Sons, a private contractor (Tyndall AFB 1951), with the units being operated by Tyndall AFB Military Housing, Incorporated. The housing was located on land leased from the government for 75 years.

The start of the U.S. involvement in Vietnam had two major effects on Tyndall AFB's operation. From 1966 to 1970 the William Tell competition was cancelled. As with WWII and the Korean War, the Vietnam conflict required nearly all available personnel, resulting in the contracting of civilian companies to run many operations. One example of this was the contracting of the Ryan Aeronautical Corporation of San Diego to operate Tyndall AFB's remote-controlled drones that were used for firing practices.

The end of the Vietnam conflict brought a drastic reduction in the size of personnel and operations. Even in its reduced capacity, however, Tyndall AFB remained an important training base. In 1979, Tyndall AFB was once again transferred to the USAF TAC. This change was significant for Tyndall AFB because it gave the base an additional mission. The base was now required to help defend the southeastern portion of the United States. Since during the 1980s it was not unusual for the Soviet Union to probe American coastal defenses with aircraft stationed in Caribbean and Central American locations. One such incident occurred on 6 April 1988, when Tyndall AFB's alert aircraft scrambled to intercept an unknown aircraft off the coastal waters of the United States. The unknown aircraft turned out to be a Soviet TU-142 Bear F on an antisubmarine patrol. The aircraft was "escorted" for thirty minutes away from the American coast and never allowed to enter United States airspace (Underwood 1991a:116).

On 1 July 1981, TAC reactivated the 325th Fighter Weapons Wing at Tyndall AFB where it was assigned to the Air Defense Weapons Center, and five units attached to the weapons center were reassigned to the 325th: 2nd Fighter Interceptor Squadron; 82nd Tactical Aerial Target Squadron; 95th Fighter Interceptor Squadron; 4756th Air Defense Squadron; and 475th Test Squadron. TAC also assigned four new squadrons to the wing: 325th Aircraft Generation; 325th Component Repair; 325th Equipment Maintenance; and 325th Technical Training. The 325th accomplished the operations, test and evaluation, and maintenance portions of the weapons center's mission, which was directly related to combat readiness training for air defense (Tyndall AFB 2006b).

In 1983, Tyndall AFB became the home for TAC's Copper Flag exercise, held three times a year to test air defense teams through simulated aerial combat situations. By August 1984, Tyndall AFB received its first F-15 Eagles, the most advanced fighters in the world. (Through continuous upgrading, the F-15 is still the Air Force's main air superiority fighter.) Although this was not the first time that F-15s were stationed on the base prior to their permanent assignment, they were now part of an alert detachment that was being kept ready as part of TAC's defensive operations at the east end of the flight operation area. The F-15s were dedicated to hands-on training.

During the 1980s, Tyndall AFB continued to transfer various operations to civilians and private companies. Two significant transfers occurred during this decade. The drone recovery operation, which occurred in the Gulf, had always been handled by what had been affectionately known as Tyndall AFB's Navy. But in December 1986, the base turned this operation over to civilian contractors. In 1987, the base also replaced its 35-year old T-33 Shooting Star training aircraft with civilian owned and operated Mitsubishi MU-2 aircraft. This contract was awarded to Flight International, Incorporated. Tyndall AFB was assigned to AETC in 1993. Plans were announced to beddown the new F/A-22 fighter, also known as the Raptor and preparations for the conversion began. In March of 1999, "scoping meetings" were initiated with local area residents to discuss concerns and answer questions about the scheduled beddown.

On 11 September 2001 terrorists attacked the United States and Tyndall AFB responded. The 325th Fighter Wing swiftly implemented increased security controls throughout the base, providing a safe and secure environment from which First Air Force and Continental United States

North American Aerospace Defense (NORAD) Command Region (CONR) could maintain air sovereignty over the United States in the aftermath of the attacks. The 325th also generated Combat Air Patrols over key U. S. cities in support of the CONR/NORAD mission at the same time carrying out its mission of training the world's premier air superiority team (Tyndall AFB 2006b).

In September 2003, Lieutenant Colonel Jeffery Harrigan, 43 FS Commander, piloted the first F-22 from the factory to Tyndall AFB (Tyndall AFB 2006b). The Raptor combined stealth, super cruise, maneuverability, and integrated avionics features with improved supportability, giving it exceptional war fighting capabilities. The arrival of the Raptor changed the 325th Fighter Wing from an objective type wing to a combat organization.

St. Andrews State Park: Historical Sketch

St. Andrews State Park comprised only 302.87 ac along the Gulf of Mexico when purchased from the government at \$2.50 per ac in 1947. Additional land was acquired over the next 40 years, bringing the total today to near 1,200 ac in two noncontiguous parcels, a mainland parcel and an island parcel, the latter specifically Shell Island. This brief history is taken largely from information available in park brochures, the park management unit plan (Florida DEP 2016), the official web site (<https://www.floridastateparks.org/park/St-Andrews>), and other park reports (Collins et al. 2012).

The first full-time resident documented on what is now the mainland parcel was reportedly Theodore Tollofsen, a Norwegian-born sailor, nicknamed "Teddy the Hermit." According to local lore, Tollofsen "landed" in the area in 1929 at about the age of 49 when a hurricane cast ashore his 26-foot boat on the bank of Grand Lagoon. With his boat wrecked from the storm the Norwegian decided to settle down and established a homestead he occupied for 25 years until his death in 1954 at age 74.

Although turpentine stills were located in the general area, including at least one across the pass at what is now Tyndall AFB, there is no documentation of a naval stores facility on park land. However, the Cracker Turpentine Still, a replica of an operational still was donated by the Lewis family in 1963 and moved to the mainland park parcel where it remains as a piece of living history for visitors today.

As noted in the discussion of the Military Era above, the War Department selected the eastern end of the mainland parcel of St. Andrews park for a temporary Harbor Defense installation in 1942. Two 155 mm guns were mounted among the dunes just west of the jetties.

The island parcel today is known as Shell Island. However, historically, it was a peninsula known as Lands End Peninsula. It became an island when a shipping channel was dredged to create a more direct shipping lane between Port Panama City and the Gulf of Mexico in the 1930s. The state park occupies the western end of Shell Island and the eastern end is part of Tyndall AFB.

St. Andrews State Park is a popular recreation spot for locals and tourists alike. It features sugar white sands and emerald green waters enjoyed by water enthusiasts, and also offers plenty of nature trails through rich coastal plant communities, splendid opportunities for bird-watching, picnic areas, camping facilities, and concessions. Park personnel are stewards of the archaeological

and historical resources, and they take these responsibilities very seriously so that visitors to the park can also learn about the prehistory and history of the area.

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CHAPTER FOUR PROJECT METHODS AND FINDINGS

Background and Literature Review

The project commenced with a background and literature search during which PTA personnel reviewed pertinent literature, reports, and documents available through the FMSF for information on the following: 1) previous work in and near the APE; 2) site probability assessments based on relevant modeling; and 3) known sites in or near the APE. Table 1 lists descriptive details on known archaeological sites within the park compiled from the literature and records review. The three right-hand columns were taken from tabular data presented in the St. Andrews State Park Management Unit Plan (Florida DEP 2016:Table 4).

Table 1. Known Archaeological Sites in St. Andrews State Park

Site	Chronology	NRHP Evaluation	Condition	Treatment
8BY87 Spanish Ante Point	Prehistoric: Weeden Island; shell midden Historic: 18 th & 20 th centuries; Spanish; tabby structure; historic refuse	Not Evaluated	Good	Preserve
8BY86 Spanish Ante Cove West Midden	Prehistoric: Weeden Island, Fort Walton; village site; shell midden Historic: Unknown; historic refuse	Not Evaluated	Fair	Preserve
8BY170 west of jetties on the bayside	Prehistoric: Weeden Island, Fort Walton; shell midden	Not Evaluated	Poor	To be determined
8BY171 Wiles Clark site	Prehistoric: Fort Walton; shell midden	Destroyed	Destroyed	None
8BY798 Shell Island Mound	Prehistoric: Weeden Island II; shell midden Historic: late 19 th & early 20 th centuries; historic refuse	Not Evaluated	Fair	Preserve
8BY1341 1942 WWII Gun Mount 01	Historic: 20 th century WWII 155 mm gun mount	Not Evaluated	Good	Preserve
8BY1342 1942 WWII Gun Mount 02	Historic: 20 th century WWII 155 mm gun mount	Not Evaluated	Good	Preserve

Figure 10 depicts the known sites, only one of which was a concern to the current CRAS, 8BY171. Identified as a prehistoric shell midden site of Fort Walton age, 8BY171 had been the subject of multiple site visits. During the most recent visit in 2006, it was reported to have been inaccessible, being submerged underwater and the former terrestrial location destroyed (Walker and Wiles 2006). According to the St. Andrews State Park Management Unit Plan (Florida DEP 2016), 8BY171 was destroyed and required no treatment by park personnel.

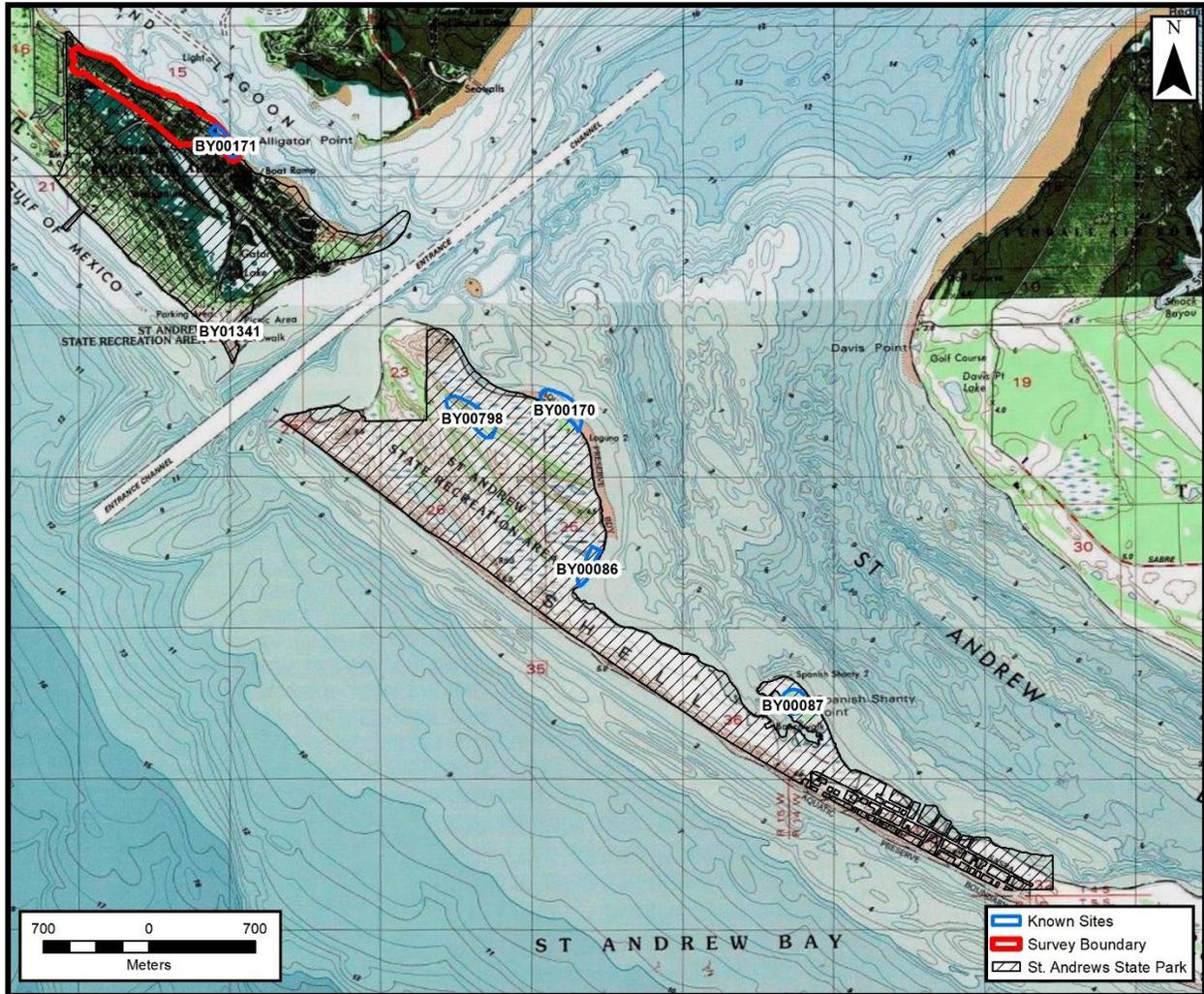


Figure 10. Location of survey area in relation to archaeological sites documented at St. Andrews State Park (adapted from Collins et al. 2012:Figure 258)

The St. Andrews State Park Management Unit Plan (Florida DEP 2016) also lists 18 historic structures within the park’s boundaries. The structures, which are recorded through the FMSF, were constructed between 1952 and 1969. They are included in the 10-year planning document because they will become 50 years old during that period. Table 2 lists the structures and pertinent data. None are within the APE, and therefore, will not be impacted by planned improvements.

Table 2. Historic Structures within St. Andrews State Park

Historic Structure	Date	NRHP Evaluation	Condition	Treatment
8BY1654 Combo Bldg. 2	20 th Century (1962)	Not Evaluated	Fair	Rehabilitation
8BY1655 Picnic Shelter #2	20 th Century (1956)	Not Evaluated	Poor	Rehabilitation
8BY1656 Picnic Shelter #3	20 th Century (1956)	Not Evaluated	Poor	Rehabilitation

Table 2. Historic Structures within St. Andrews State Park (Continued)

Historic Structure	Date	NRHP Evaluation	Condition	Treatment
BL067017 Assistant Manager Residence	20 th Century (1956)	Not Evaluated	Good	Rehabilitation
BL067021 Lagoon Bath	20 th Century (1961)	Not Evaluated	Fair	Rehabilitation
BL067003 Dining/Storage D1 Training Office	20 th Century (1962)	Not Evaluated	Good	Rehabilitation
BL067004 Office- Admin/DA	20 th Century (1962)	Not Evaluated	Good	Rehabilitation
BL067006 Storage/ Construction Center	20 th Century (1962)	Not Evaluated	Fair	Rehabilitation
BL067011 Combo Bldg. 1	20 th Century (1962)	Not Evaluated	Fair	Rehabilitation
BL067029 General Store	20 th Century (1964)	Not Evaluated	Good	Rehabilitation
BL067027 Pavilion 1- Picnic	20 th Century (1965)	Not Evaluated	Fair	Rehabilitation
BL067028 Pavilion 2- Picnic	20 th Century (1965)	Not Evaluated	Fair	Rehabilitation
BL067030 Pumphouse- Lagoon	20 th Century (1966)	Not Evaluated	Poor	Rehabilitation
BL067032 Turpentine Still	20 th Century (1966)	Not Evaluated	Poor	Restoration
BL067034 Shop/Equip. Shed	20 th Century (1966)	Not Evaluated	Fair	Rehabilitation
BL067031 Grease House	20 th Century (1967)	Not Evaluated	Fair	Rehabilitation
BL067037 Shelter- Equip.	20 th Century (1969)	Not Evaluated	Fair	Rehabilitation
BL067039 Subcenter- Lagoon	20 th Century (1969)	Not Evaluated	Fair	Rehabilitation

Setting

The environmental setting of the park is typical of Florida gulf coastal regions, comprising marine terraces, tidal marshes, dunes, dune lakes and beaches. The APE is more generally consistent with tidal marsh environments, featuring a heavy growth of saw grass (Figure 11). South of the RV parking campground, the land was dominated by large dunes of beach sand, intermittently broken-up by tidal ponds/dune lakes. Some of the tidal ponds/dune lakes were seasonal and others appear to hold water year-round based upon hydric vegetation and depth of water present at the time of the survey.

According to Florida DEP (2016:Addendum 4), the natural soil matrices of the area include Fripp-Corolla complex, Bayvi loamy sand, Osier fine sand, and Beach sand; refer to Chapter Two for soil descriptions. Vegetation characterizing the campground area features a fairly open canopy of sand pine, slash pine, loblolly pine, and live oak. The understory consists of scrub oak, saw palmetto, beauty berry, Florida rosemary, woody goldenrod, sable palm, royal palm, wax myrtle, and American beech. The ground cover is made up of prickly pear, greenbrier, and various grasses. Portions of the area are heavily landscaped.

Fieldwork

Assessing Cultural Sensitivity

Crucial to the field methodology was the report entitled *Archaeological Resource Sensitivity Modeling in Florida State Parks District 1: Northwest Region* authored by Collins et

al. (2012) from the AIST at the University of South Florida. The authors cite two past cultural resources studies that overlap St. Andrews State Park, the earliest of which was a 1979 report on a cultural resource inventory of Tyndall AFB documented by Gary Knudson and James Stoutamire (Knudsen 1979). The second report cited documented cultural investigations conducted in the 1980s by NWR personnel to support cultural resources needs at Tyndall AFB (Thomas and Cambell 1985). Technically, this work focused on the Air Force property on the east end of Shell Island rather than the park proper.



Figure 11. View of vegetation in the APE, facing northeast 30 m northeast of SST 30

For their modeling investigations, the AIST team used a variety of environmental data, and historic imagery. A digital elevational model (DEM) was created using LiDAR data. The AIST team visited the park and collected sub-meter GPS point and line data and GPS photos at multiple locations, including cultural remains. From the data gathered, they developed an archaeological sensitivity model, which identified high, medium, and low zones of cultural sensitivity, representing 52.35 percent, 7.57 percent, and 40.08 percent of park land, respectively. Archaeological sites made up 22.83 acres out of the total of 1,189.02 acres; 100 percent of the sites fell within high probability zones (Collins et al. 2012:Table 91).

PTA examined the APE as shown in graphics provided with the scope of work in comparison with the AIST sensitivity zones differentiated by color coding. The Lagoon Use Area overlapped high, medium, and low probability zones, as did the road improvements. The other improvements fell within either high and/or low as far as can be determined.

Survey Procedures

The field crew conducted an intensive pedestrian survey over the entire APE during which the shoreline, exposed ground surface, and all subsurface exposures were carefully inspected for artifacts or evidence of cultural deposits. The surface examination was augmented by the

systematic-interval and judgmental placement of 59 survey shovel tests (SST), 15 of which were not excavated due to surface and subsurface disturbance and/or the presence of wetland or extensive flooding (Figure 12).



Figure 12. Aerial photograph of APE with SSTs overlaid

All SSTs measured 50 cm by 50 cm and were excavated in 10 cm levels to a depth of 100 cmbgs, unless the water table or some type of impenetrable obstruction was encountered. Soil removed from the SSTs was screened through one-quarter-inch mesh for artifact recovery.

During the CRAS, the crew completed SST logs and daily notes on progress, findings, and environmental observations. A digital camera was used to make a photographic record of the work and area of investigation. Extensive surface disturbances were observed including paved roads, heavy landscaping, graded areas from earth-moving activities, and land reclamation for the installation of individual RV campsites complete with pads and underground utilities, such as electric, water, sewer and communications (Figure 13). Also noted, medium to large tidal ponds were present in the low-lying areas between large sand-dunes in the southern portion of the APE. A 1959 USGS marker was located at a high elevation atop a dune in the central portion of the area, indicating the height of that dune has remained relatively unchanged for the past 60 years.



Figure 13. View of RV Park foundational fill, facing north adjacent to SST 7

Regarding the “no-dig” shovel tests, SST 1 was not excavated due to the presence of an artificially mounded and paved picnic area (Figure 14), surrounded by paved roads. SSTs 6, 7, 9, 16, 18, 25, 26, 37, 52 and 53 were in RV campsites built on reclaimed earthen mound/foundations of clay gravel and other fill materials along paved roads within the natural estuary wetland and included underground utilities. SSTs 46 and 49 were not excavated due to their grid location in tidal dune lakes. SST 59 lay within the natural estuary along the north shore of the peninsula, and SST 28 was not excavated due to the presence of a paved passing/roundabout area within a road which was lined by underground utilities.



Figure 14. View of graded concrete slab, facing south in area of SST 1

Excavation in some units terminated prior to 100 cmbgs due to impassable obstruction (SSTs 5, 10, 17, and 32) or water intruding into the unit (SSTs 2, 8, 22, 31, 40, 43, and 57). SST 45 encountered fill materials and clay layers from zero to 30 cmbgs but it was ultimately excavated to a depth of 100 cmbgs.

Findings

No new cultural resources were identified during the current effort. As mentioned in the background and literature review, one known prehistoric site was located within the APE. PTA did attempt to relocate this site through surface and subsurface investigations, the methods of which are discussed in greater detail below.

Site Description

8BY171

Previous Investigations: This site was originally recorded in 1980 by Jim Haisten and Joan Baccarny when shell midden and prehistoric ceramics were observed on the surface. A total of five ceramics were collected, one of which was identified as a Fort Walton type. No subsurface investigation was conducted at this time, but Haisten and Baccarny (1980) documented the surface area of cultural materials to measure 75 ft long by 15 ft wide. No recommendation was given at the time of discovery. However, the site destruction was listed as major on the site form due to wind and water disturbance.

The site was revisited in 1999 by Rick Wiles, Corey Clark, and Joe Macilan to reevaluate the current condition. Wiles et al. (1999) noted that the parts of the site that were not affected by naturally occurring erosion had instead been impacted due to the construction of campsites. Other than a few ceramic sherds and some midden recovered by park staff or visitors, it was stated that the site no longer existed. The site was revisited for a third time in 2006 by Park Service Specialists Debra Walker and Richard Wiles, whom at the time noted that the site was completely submerged underwater and no longer existed. It was deemed as destroyed (Walker and Wiles 2006).

Setting: This site is located in the southern portion of the APE along the shoreline (refer to Figure 12) and in the area of the RV campground. The vegetation is consistent with tidal marsh setting and consists of saw grass and palmettos. Disturbance observed is associated with the construction and maintenance of the RV campground (Figure 15). PTA field director noted that the land in the site area has been cleared and graded down to a level almost even with the sea level to the north.



**Figure 15. View of 8BY171, facing toward the location of SST 57 and the RV campground just west from the shoreline
(Note SST 57 is not visible due palmetto thickets obscuring view)**

Current Work: PTA surveyed through the known site boundaries, plotted using the GIS shape files provided by the Florida SHPO (refer to Figure 12). No artifacts or evidence of midden was observed during the pedestrian survey. Six 50 cm by 50 cm, numbered SST 52, 53, 55, 57, 58, and 59, were plotted within the boundaries, three of which could not be excavated. As mentioned previously, SSTs 52 and 53 could not be excavated due to construction of the RV campgrounds. SST 59 was not excavated due to its location within a natural estuary along the north shore of the peninsula. The remaining three shovel tests were void of cultural material. The cumulative volume for this effort totaled 0.375 m³.

Interpretations, Recommendations, and Evaluation: This site was originally identified as a prehistoric midden site with a probable Fort Walton component. Despite a surface survey and the excavation of 50 cm by 50 cm shovel tests, no additional evidence of prehistoric remains or shell midden was found. The absence of cultural remains from surface and subsurface contexts during the current work confirms that 8BY171 is most likely destroyed and/or submerged, and therefore, lacks significance according to 36 CFR 60. This site is evaluated as ineligible, and no further work is recommended.

CHAPTER FIVE MANAGEMENT RECOMMENDATIONS

In October 2019, PTA conducted field investigations on behalf of CPH to determine the cultural resource impact of proposed drainage improvements to St. Andrews State Park in Bay County, Florida. The effort included an intensive pedestrian survey and inspection of subsurface exposures coupled with the placement of 59 SSTs spaced at 50 m intervals in the areas with moderate site probability and no more than 100 m apart in lower areas of site potential. Fifteen of shovel tests could not be excavated due to disturbance or the presence of standing water.

Another objective of the CRAS was to visit and investigate the plotted location of previously known site 8BY171. Despite the intense effort, no evidence of the site was encountered, confirming that 8BY171 has been lost to erosion. As a destroyed site, it requires no further consideration. The same is true for the APE. The CRAAS demonstrated that the planned drainage improvements will have no effect on cultural resources. No further work is recommended. However, park personnel should be advised of the potential for unexpected discoveries and follow state procedures outlined in Chapter One.

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