

**CENTRAL AND SOUTHERN FLORIDA PROJECT
MODIFIED WATER DELIVERIES TO
EVERGLADES NATIONAL PARK, FLORIDA**

8.5 SQUARE MILE AREA

**SUPPLEMENTAL ENVIRONMENTAL
IMPACT STATEMENT**

**CULTURAL RESOURCE
ASSESSMENT SURVEY**

ATTACHMENT B

**DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA**

July 2000



HDR
HDR Engineering, Inc.

**A CULTURAL RESOURCE ASSESSMENT
SURVEY OF THE 8.5 SQUARE MILE AREA,
DADE COUNTY, FLORIDA**

Conducted for

HDR Engineering, Inc.
Tampa, Florida

By

Southeastern Archaeological Research, Inc.

P.O. Box 14776
Gainesville, FL 32604
352-338-1144

P.O. Box 2818
Riverview, FL 33568
813-677-2280

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Principal Investigator

May 2000

TABLE OF CONTENTS

List of Figures	iii
List of Tables	iv
Introduction	1
Project Location and Environment	1
Prehistoric and Historic Overview	6
Prehistory	6
History	7
Previous Archaeological Research	23
Research Design and Methods	24
Research Design	24
Field Methods	25
Curation	25
Results	25
Conclusions and Recommendations	25
References Cited	26
Appendix A: Unanticipated Discoveries Statement	
Appendix B: FDHR Survey Log Sheet	

LIST OF FIGURES

Figure 1.	Location of 8.5 SMA in Dade County, Florida.	2
Figure 2.	Physiographic regions within the lower Everglades (after Schomer and Drew 1982). Project area is shown within the Rocky Glades region.	3
Figure 3.	Relatively natural marsh landscape at northern periphery of the project area.	4
Figure 4.	Present condition of much of the project area. Note Australian pines in the background.	5
Figure 5.	Jaques Le Moyne de Morgues Map of Florida, 1591. Courtesy Map Collection, P.K. Yonge Library, University of Florida.	9
Figure 6.	William Jennings and Napoleon Broward on Everglades drainage tour, 1906. Courtesy General Collection, Florida State Archive.	13
Figure 7.	Composite aerial photo of the project area showing the absence of development in 1938. Arrows point to remnant tree islands (U.S. Agricultural Stabilization and Conservation Service 1938).	17
Figure 8.	Composite aerial photo of the project area showing remnant tree islands (arrows) and extent of agricultural development in 1953 (U.S. Agricultural Stabilization and Conservation Service 1953).	18
Figure 9.	Composite aerial photo of the project area showing increased agricultural development by 1963. Most of the tree islands visible in earlier aerials have been obliterated by plowing (U.S. Agricultural Stabilization and Conservation Service 1963).	20
Figure 10.	Composite aerial photo of the project area showing the extent of residential and agricultural development in 1970 (U.S. Agricultural Stabilization and Conservation Service 1970).	21
Figure 11.	Modern aerial photo of the project area showing the current extent of residential and agricultural development (U.S. Agricultural Stabilization and Conservation Service 1970).	22
Figure 12.	USGS 7.5' South of Cooperstown Quadrangle map showing the northwest portion of the project area and previously recorded archaeological sites.	23
Figure 13.	View of modern "artifacts" at entrance to private property. Note Australian pines in the background.	26
Figure 14.	Interior of remnant tree island showing absence of soil development and presence of exotic vegetation (Brazilian pepper).	26

LIST OF TABLES

Table 1.	Original Property Owners in Township 55 South, Range 38 East.	16
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A Cultural Resource Assessment Survey of the 8.5 Square Mile Area, Dade County, Florida

PROJECT: Phase I Cultural Resource Assessment Survey
LOCATION: Township 55 South, Range 38 East, Sections 8, 9, 10, 11,
14, 15, 16, 17, 20, 21, 22, 23, 26, 27, 28, 29, Dade County,
Florida
CONSULTANT: Southeastern Archaeological Research, Inc.
P.O. Box 2818, Riverview, FL 33568
PRINCIPAL INVESTIGATOR: Robert J. Austin, Ph.D.
HISTORIAN: Geoffrey Mohlman, M.A.
CLIENT: HDR Engineering, Inc.
DATE: May 19, 2000

INTRODUCTION

This report presents the results of a Phase I cultural resource assessment survey of an 8.5 square mile area (SMA) in Dade County, Florida. The report was prepared at the request of HDR Engineering, Inc. to provide information for inclusion in a Supplemental Environmental Impact Statement (SEIS).

The 8.5 SMA is a component of the Modified Water Deliveries to Everglades National Park (MWD) Project. Since 1992, several of the other features of the MWD Project have been constructed; however, the full implementation of the MWD cannot occur until flood mitigation is provided to the 8.5 SMA. In July 1999, the South Florida Water Management District (SFWMD), the local sponsor for this project, requested that the United States Army Corps of Engineers (USACE) formally develop and evaluate an array of alternatives for providing flood mitigation to the 8.5 SMA. The Supplemental Environmental Impact Statement has been prepared by HDR for the USACE to assist the SFWMD Governing Board in selecting a locally preferred alternative.

The purpose of the cultural resource survey was to locate any archaeological sites or historic structures within the project area and assess their potential for listing on the National Register of Historic Places (NRHP). The survey was conducted under the authority of Section 106 of the National Historic Preservation Act of 1966 (P.L. 89-665), as amended, and its implementing regulation 36 CFR Part 800, as amended.

PROJECT LOCATION AND ENVIRONMENT

The 8.5 SMA project area, also known as the East Everglades Agricultural and Residential Area, actually consists of approximately 10 square miles or 6400 acres in central Dade County. It is located just west of State Road 997 and about 6.6 miles south of U.S. 41 (Tamiami Trail). It is bounded by South Florida Water Management District Levee 31N on the east, Richmond Road (SW 168th Street) on the south, and Everglades National Park to the north and west (Figure 1). Levee 31N separates the project area from a more intensively developed area to the east. Homestead is located about 10 miles to the south and Miami is about 20 miles to the northeast.

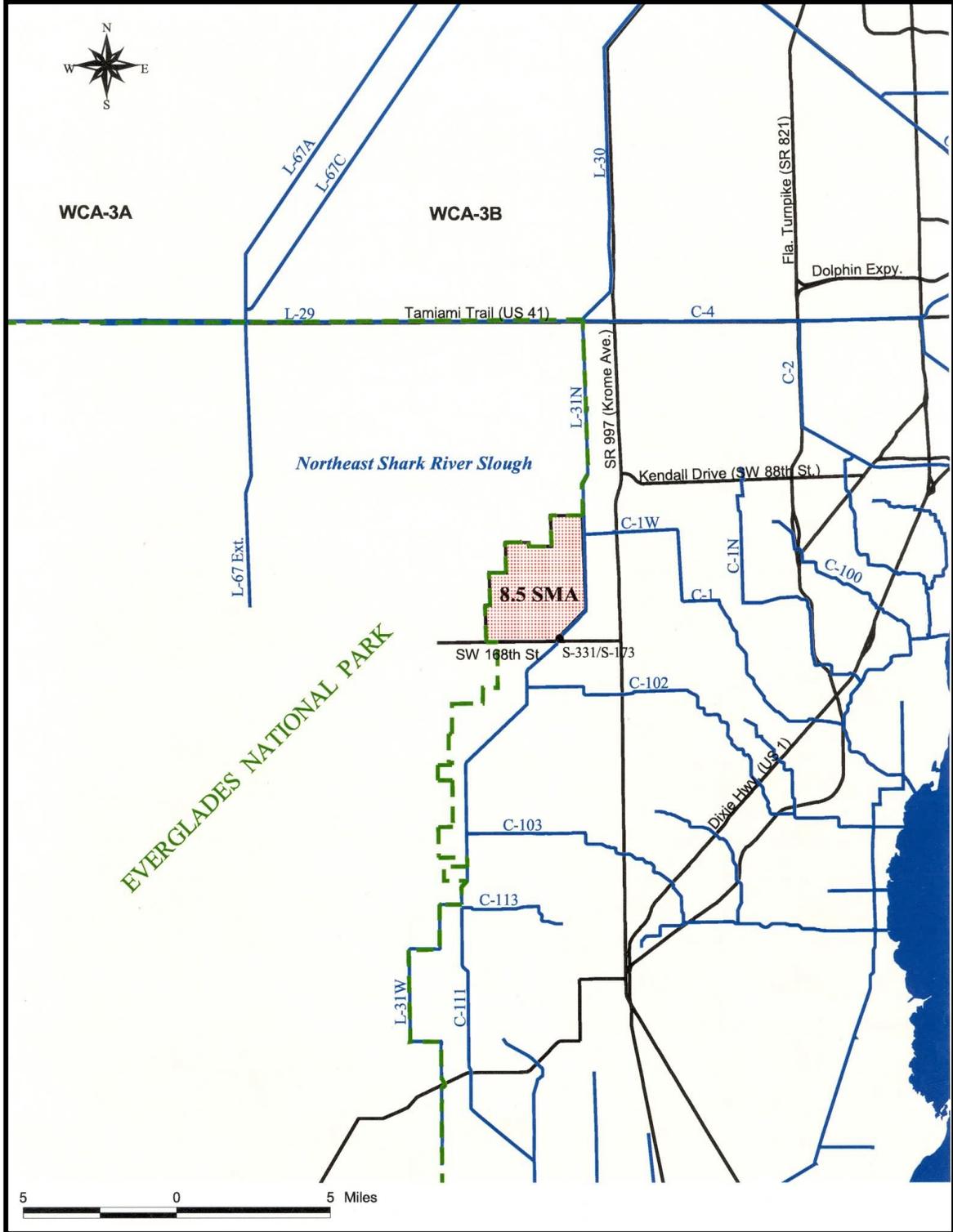


Figure 1. Location of 8.5 SMA in Dade County.

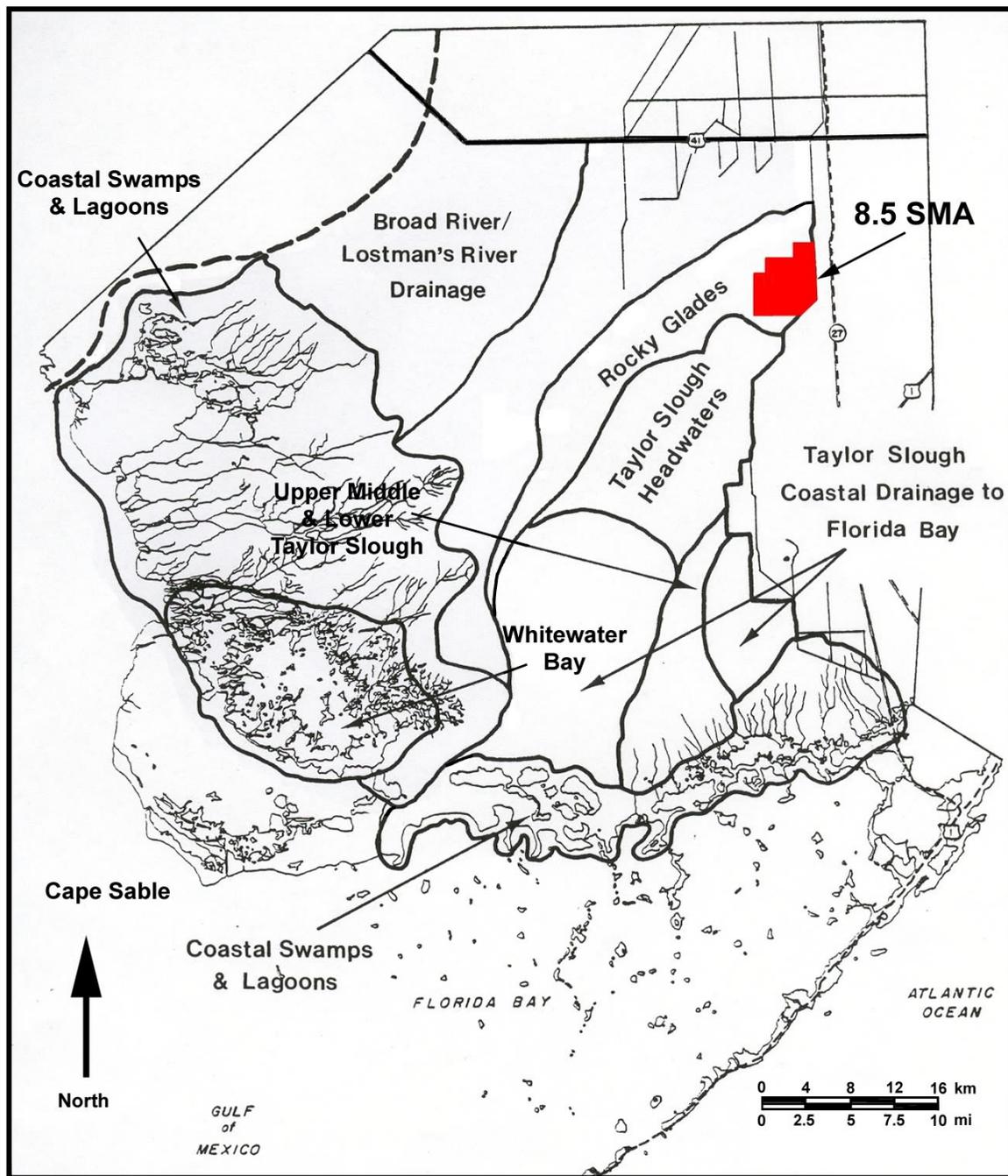


Figure 2. Physiographic regions within the lower Everglades (after Schomer and Drew 1982). Project area is shown within the Rocky Glades region.

The property is situated at the eastern edge of the Everglades, within the Rocky Glades physiographic region (Schomer and Drew 1982; see also Davis 1943). This region is characterized by craggy, solution-pitted limestone that is at or just below the surface. These bedrock exposures are part of the Miami Limestone formation which formed during the Pleistocene (Hoffmeister 1974). The slightly higher elevation of bedrock in the Rocky Glades has created a narrow divide between Shark River Slough to the west-northwest and the headwaters of Taylor Sough to the south-southeast (Figure 2).

Soil development in the Rocky Glades is minimal and those that are present have formed within the last 5000 years as a result of seasonal rainfall patterns and a warm, subtropical climate. Erosional soils are nearly nonexistent due to the low relief (Davis 1943). Instead, the region is dominated by peat accumulation and/or the deposition of fresh or brackish-water calcium carbonates. The distribution of surface sediments and soils follows closely the bedrock topography of the area, with greater amounts of deposition occurring in topographic lows.

The soils in and surrounding the 8.5 SMA were originally identified as Rockland soil, with a narrow finger of Perrine marl, very shallow phase extending north along SW 197th Avenue (Jones 1948; USDA 1958). Both soils historically supported wet rockland prairies and, by today's standards, would be classified as hydric. Subsequent agricultural activities, particularly rock plowing, have altered soil composition and drainage characteristics within the project area. According to the most recent USDA soil survey (1996), the dominant soil types within the 8.5 SMA are Chekika very gravelly loam and the Biscayne-Rock Outcrop Complex (USDA 1996:Maps 30, 34). The former is somewhat poorly drained and consists of about 5 inches of dark grayish-brown gravelly loam underlain by limestone bedrock. All areas that contain Chekika soils have been rock-plowed and used for truck crops (USDA 1996:24). The Biscayne-Rock Outcrop Complex consists of Biscayne marl intermingled with limestone rock outcrops. The only other soil type that appears in the project area is Dania Muck, depressional, a poorly drained soil found in poorly defined drainageways. One small area of this soil type is present in the extreme northern part of Section 11.

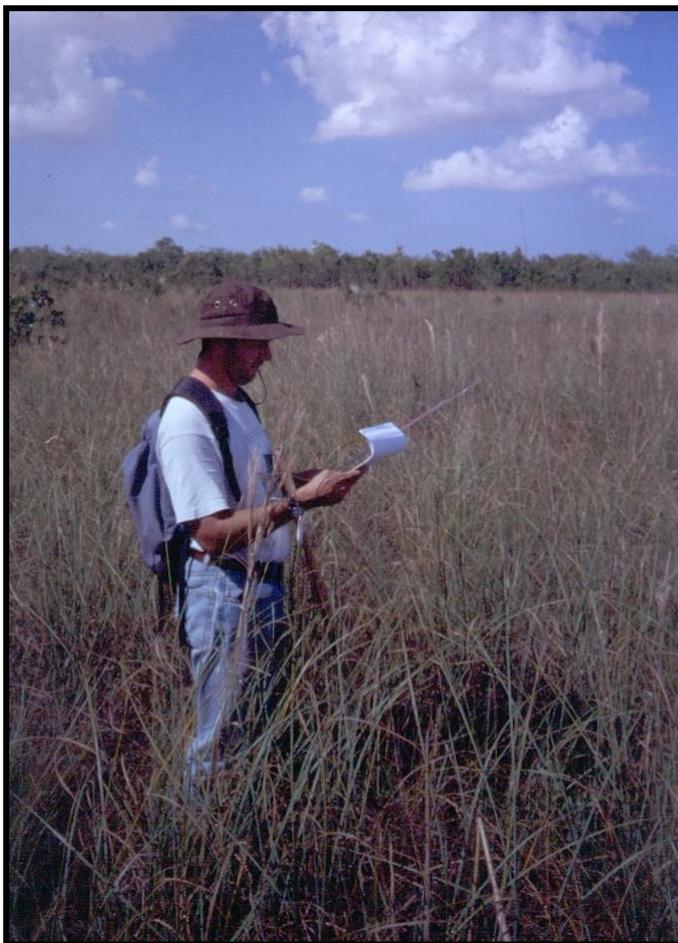


Figure 3. Relatively natural marsh landscape at the northern periphery of the project area.

The Eastern Everglades are dominated by herb-covered marshes, consisting primarily of sawgrass (*Cladium jamaicensis*) and wet prairies (Figure 3). The flat, marshy landscape is

interrupted by small, forested areas that are often referred to as tree islands, heads, or hammocks. These forested areas may be elliptical or round in shape, owing to the influence of surface water flow (Davis 1943). Elliptical islands are most prominent in areas of comparatively fast-flowing water, such as Shark River Slough, and they tend to be oriented parallel to the direction of flow. Round islands tend to be found in drier areas. Vegetation differences between islands are related to bedrock topography. Some islands are situated on bedrock highs where the slight elevation difference allows terrestrial vegetation to colonize and flourish. Other islands are found in bedrock depressions where peat accumulates, eventually forming low mounds of organic soil that provide a habitat for bay trees. Still other areas contain very little peat accumulation above the average high water mark and support cypress and willow.

Animal populations within the Everglades are abundant but, with the exception of birds, not diverse. Most of the fish are small, minnow-sized species such as mosquito fish (*Gambusia affinis*) and least killifish (*Heterandria formosa*). According to Kushlan (1990:350), the dominance of small fishes is due to differential mortality during the dry season, when smaller species are at an advantage. Reptiles and amphibians are common and include alligator, water snakes, and a variety of turtles, frogs, and newts. Mammals are not as abundant, but include deer (*Odocoileus virginianus*), panther (*Felis concolor coryi*), and the Florida water rat (*Neofiber alleni*).

Within the 8.5 SMA, the natural landscape has been modified greatly during historic times (Figure 4). Drainage of the Everglades began as early as the late 19th century. Canal L-31N, which forms the eastern boundary of the property, was constructed in 1968. Historically, native upland plant communities were probably sparse in the 8.5 SMA due to low elevations, high water tables, and periodic flooding. However,



Figure 4. Present condition of much of the project area. Note stand of Australian pines in the background.

the eastern portions of the 8.5 SMA lay within .5 mile of the western limits of the Miami Rockland pine forests (Davis 1943), and pine uplands may have occurred in this portion of the 8.5 SMA originally.

Although agricultural use of the land began as early as the 1930s, it was not until the introduction of the rock plow in the 1950s that intensive use of the property began. As a consequence of drainage and plowing, the natural vegetation has been radically altered. All of

the former upland areas have been converted to agricultural and residential uses. The few forested areas that remain are dominated by non-native, exotic species such as melaleuca (*Melaleuca quinquenervia*), Brazilian pepper (*Schinus terebinthifolius*), and Australian pine (*Casuarina* spp.). The vast majority of wetland features within the 8.5 SMA have undergone varying degrees of disturbance related to land clearing and invasion by exotic species. Generally, those wetlands with the least amount of disturbance are located in the western areas of the 8.5 SMA. With the exception of the radar field in the northeast corner of the study area, eastern portions of the 8.5 SMA are generally absent of recognizable wetland communities and the central region is dotted by wetland mixed within agricultural and residential land uses.

PREHISTORIC AND HISTORIC OVERVIEW

Prehistory

Although prehistoric native peoples entered Florida nearly 12,000 years ago, the earliest evidence for human occupation in southeast Florida dates to about 9000-9500 years before present (BP). At the Cutler site in Miami, side-notched stone projectile points, called Bolen points, were recovered in association with animal bones and a hearth feature (Carr 1986). Based on radiocarbon dates from a cultural stratum believed to be associated with the Bolen points, the Cutler site is believed to date to around 9300 BP. At this time, south Florida was much drier than at present (Brooks 1974; Gleason et al. 1974). Lake Okeechobee and the Everglades did not exist, sea levels were much lower than at present, and surface water was limited. This bleak landscape inhibited intensive human habitation except perhaps along the coast; however, any coastal sites are probably now inundated by higher sea levels.

An increase in precipitation and runoff after 6000-5000 BP is indicated by peat deposits in the Everglades that began to form about 5000 BP (McDowell et al. 1969). Some of the earliest archaeological sites in the Glades region date to about this time (Gleason and Stone 1975:110; Hale 1989:48, 55-56). The earliest documented prehistoric sites in the vicinity of the project area date from as early as 2500 BP up to the time of Spanish contact in the 16th century. These sites were occupied by peoples of the Glades culture. These native peoples lived in many small, homogeneous bands that exploited both the coast and the interior of the region. The Tequesta were the largest and most influential of the Glade culture groups, with a central village on the Miami River that held control over many lesser nearby villages (Milanich 1995:54; Milanich and Fairbanks 1980:232). The population of the area in the early 16th century has been estimated at about 5000 to 7500 people (Milanich and Fairbanks 1980:237). The recently discovered Miami Circle site was probably used by the Tequesta.

Present evidence suggests that the largest and perhaps more permanent settlements were on the coast (Milanich 1994:309). Glades-period sites in the Everglades tend to be small earth and shell (primarily freshwater) middens on tree islands (Griffin 1988). Glades people situated their villages near the mouths of rivers or on coastal lagoons with seasonal movements to smaller occupational sites deeper inland. Hunting, fishing, and gathering were the primary means of obtaining food and there is no evidence that agriculture was practiced. The easily accessible lagoons and ocean provided an abundance of marine resources which the Glades people were heavily dependent upon, such as sea turtles, a variety of fishes, shellfish, and sea mammals (manatee and porpoise). Terrestrial resources, such as coco plum, sea grape, prickly pear, hog plum, acorns, and red mangrove sprouts, also were collected. Deer and land turtles were hunted

but made up a relatively small proportion of the Glades diet (Milanich and Fairbanks 1980: 233; Milanich 1994: 310).

The technology of the Glades culture stayed fairly constant throughout its history. Stone tools were rarely used since there is no chert native to the region; the stemmed knives and points that are found at Glades sites were brought in from farther north as a result of an extensive trade network. Wooden implements are known to have been widely utilized as were marine shells which served as picks, hammers, chisels, dippers, and net weights. Shell also was used as a raw material for making ornamental objects. Bone was commonly worked into such necessities as pins, awls, and points, while fish and stingray spines were fashioned into perforators (Milanich and Fairbanks 1980:233; Milanich 1994: 302). The pottery was typically bowl-shaped with incurving walls and rims. It was constructed using the coiling method and tempered with sand.

Observation of the changes in ceramic decoration and form through time have enabled archaeologists to develop a typology and relative chronology of the Glades region. A Glades chronology was first devised by John Goggin. Goggin's work was further refined by the findings of recent excavations in the area resulting in three distinct cultural periods, Glades I, II, and III, with each period identified archaeologically by different assemblages of ceramics (Milanich 1994: 300-301). The Glades I early period (500 B.C.-A.D. 500) is marked by the original appearance of sand-tempered pottery, such as Glades Plain or Glades Gritty Ware. This was followed by the Glades I late period (A.D. 500-750) when the decorated pottery types Sanibel Incised, Cane Patch Incised, Fort Drum Incised, and Fort Drum Punctated came into prominence. Key Largo Incised, Opa Locka Incised, and Miami Incised are the ceramic type markers for the Glades IIa period (A.D. 750-900). Glades IIb (A.D. 900-1100) is distinguished from Glades IIa by the appearance Matecumbe Incised ceramics and a greater abundance of incurving bowls, while Key Largo incised is the dominant decorated type. During the Glades IIc period (A.D. 1100-1200) decorated ceramics are almost completely absent and the Plantation Pinched type appears. Glades IIIa (A. D. 1200-1400) is identified by Surfside Incised ceramics with some lip grooving. St. Johns Check Stamped and Safety Harbor series sherds are common in this and the following sub-period. The Glades IIIb period (A.D. 1400-1513) there is again an almost total dearth of decorated ceramics and Glades Tooled rims are present.

History

The patterns of indigenous settlement, subsistence, technology, and social structure described above remained fairly constant for over 2000 years. However, in 1513 Florida was "discovered" by the Spanish and the result for native peoples was disastrous. Warfare, disease, and the Spanish attempt to "missionize" the Florida Indians led to cultural disruption and population decline. Although it took another two centuries, the European invasion resulted in the eventual elimination of all but a handful of the indigenous native peoples (Milanich 1995). By the early 18th century, bands of Creek Indians from Georgia, Alabama, and the Carolinas began to enter the Florida peninsula, partly to escape the conflicts between various European powers over control of the New World. The first published reference referring to these Indians is from the field notes accompanying de Brahm's 1765 map of Florida, in which they are referred to by the Spanish term "*cimarrone*" meaning "wild" or "runaway." The term "Seminole" is believed to be derived from this reference (Fernald and Purdum 1992).

The Seminoles prospered in Florida, raising cattle and growing their traditional crops of corn, beans, squash, and tobacco, as well as crops brought over by the Spanish such as sweet potatoes

and melons (Fairbanks 1973). The Seminoles established permanent towns from the Apalachicola River to the St. Johns River. In 1763, the British gained control over Florida and demolished most of the Spanish missions. In place of the mission system, the British established trading posts. The Seminoles traded deer, wild cattle, and furs in exchange for guns, iron tools, cloth, and a variety of ornamental jewelry, and trade was a major impetus for Seminole expansion (Fairbanks 1973; Mahon and Weisman 1996:189). During this time, runaway black slaves from the Carolina colonies fled to Florida and sought refuge among the Seminoles living in the interior of north and central Florida (Deagan 1983). The Seminoles helped the runaways form their own settlements, and often prevented slave-catchers from capturing them (Fairbanks 1973).

Indian refugees from the Creek War of 1814 fled to Florida and almost doubled the Seminole population. The new Seminoles were mostly Upper Creeks, originating from central Alabama, and they spoke a Muskogean language. The Florida Seminoles spoke the Mikasuki language (Fairbanks 1973). Border conflicts with white settlers increased, and culminated in 1818 with the First Seminole War. General Andrew Jackson, known to the Seminoles as “Sharp Knife,” invaded Seminole territory, killing Indians and burning houses. This military effort was largely responsible for Florida becoming a United States Territory in 1819. Thereafter followed nearly 40 years of intermittent conflict between white settlers and the Seminoles, resulting in two wars: the Second Seminole War (1835-1842) and the Third Seminole War (1855-1858). Progressively pushed farther and farther south by the expanding American frontier, the Seminoles eventually took refuge in the Everglades. By the end of the Third Seminole War it was estimated that only about 200 Seminoles still remained in Florida (Mahon and Weisman 1996:201).

The Everglades

Despite being explored by Spanish, British, French, and American colonists since the 16th century, very little knowledge existed about the interior of South Florida until the 19th century. Many early maps depicted the region as being traversed by a series of interconnecting rivers that flowed into the ocean or as a void surrounded by a detailed coastline (Paige 1986:13-15; Ste. Claire 1997:22, 41,49,53; Vignoles 1823:51). Jacques Le Moyne, a French cartographer, referred to the area that is now the Everglades National Park as the land of Carlos, the Spanish name for the Chief of the Calusa Indians (Figure 5). Early European maps also refer to the region as “River Glades” and “Ever Glades” (Paige 1986:26-27). Charles Vignoles, a civil and topographical engineer who moved to St. Augustine one month after American acquisition of Florida, described the interior of South Florida:

The Glade, or as it is emphatically termed the *Never Glade*, appears to occupy almost the whole interior from about the parallel of Jupiter inlet to cape Florida, thence round to cape Sable to which point it approaches very near, and northwardly as far as the Delaware river discharging into Charlotte bay: its general appearance is a flat sandy surface mixed in the large stones and rocks, with from six inches to two feet of water lying upon it, in which is a growth of saw, and other water grasses, so thick as to impede the passage of boats where there is no current. Over this are a number of islands and promontories, many of which are altogether of hammock growth, with mixtures of pine and cabbage tree land, each spot doubtless capable in some degree of cultivation; but deteriorated



Figure 5. Jaques Le Moyne de Morgues Map of Florida, 1591. Courtesy Map Collection, P.K. Yonge Library, University of Florida.

by being placed in a situation so difficult of access, and exhibiting so forbidding an aspect, that for the present the attempts to penetrate across have been repelled, and the dissatisfied traveler has been sent back unable to complete the object of his mission, and confused in his effort to tread the mazes of this labyrinth of morasses (Vignoles 1823:50).

During the 1820s and 1830s, early American colonists began referring to the region as the Everglades (Paige 1986:26-27). Most settlers, whether Spanish, British, or American viewed the area as impenetrable and worthless (Senate 1911:52). As part of its attempt to facilitate the exploration and development of the state, in 1824 the United States government approved the surveying of a road from Cape Sable to the Pensacola-to-St. Augustine Road in north Florida (Carter 1956:924-925). Captain Clark, the surveyor, never completed the assignment due in part to the difficult terrain of South Florida (Paige 1986:24; Tebeau 1968:59-60). Colonel James Gadsden began surveying the Seminole Reservation boundary established by the *Treaty of Moultrie Creek* in 1823. The reservation extended from modern-day Marion County in the north to northern portions of Hardee, Highland, and Okeechobee counties in the south (Carter

1956:905-907; Mahon 1985:390-391). Like Clark, Gadsden did not finish surveying the southern boundary because of the terrain. Gadsden described the northern portion of the Everglades in a letter to John C. Calhoun, Secretary of War as:

...some interposing & impenetrable swamps as defined in the Treaty until the same terminates in a great savannah the commencement of the extensive south western hunting grounds--These savannahs are said to extend south & east to within a few miles of the Atlantic & independent of the impracticability of passing over them, from their peculiar character; the want of wood water &c it would have been impossible otherwise to have defined the line for the want of objects to mark (Carter 1956:906).

Gadsden went on to state:

...considering the general character of the territory South be unimportant, and unquestionably vexatious to the Indian population as seeming to deprive their Hunters of the use of a district of country which can never be converted to any use by white population--It is valued by the Indians only for the game which it affords. They do not & cannot reside on or near that district of savannahs & it is only visited by them during the dry and winter or hunting seasons (Carter 1956:906).

The *Payne's Landing Treaty* of 1832 reversed the *Treaty of Moultrie Creek* and required the Seminoles to relinquish their land within three years and move to reservations on Indian Territories in the western U.S (Sprague 1964[1848]:72-88,101). The Seminole leaders were divided over whether or not to accept the treaty and tensions among the Seminole on the reservation increased. The Seminole leader Osceola carried out the execution of Chief Charley Emathla because Emathla had agreed to move his people to Oklahoma.

When the three years had expired and the *Payne's Landing Treaty* was to be enforced, a group of 180 Seminole warriors, led by Chiefs Micanopy and Alligator, attacked a column of 108 U.S. Army soldiers led by Major Francis Dade. The attack took place near the Withlacoochee River on December 28, 1835 near present day Bushnell while Dade and his men were en route from Ft. Brooke (present-day Tampa) to Ft. King (near present-day Ocala). The raid was an overwhelming victory for the Seminoles, who sustained minimal casualties, and began seven years of intense conflict between the Seminoles and the U.S. government. Before it ended in 1842, the Second Seminole War had spread into south Florida as far as Lake Okeechobee and the Everglades. The Seminoles called the Everglades "Pay-hay-okee" which means "grass-water" (Simpson 1956:88).

Several Everglades expeditions by the U.S. military occurred throughout the war (Senate 1911:141). Lieutenant Levi Powell led a detachment of soldiers into the Everglades' interior early in 1838 during a season so dry that boats had to be carried instead of paddled (Mahon 1985:232). Surgeon General Thomas Lawson, along with a group of 240 soldiers and officers, explored the Everglades' southern coast in 1838 in an attempt to capture Seminoles who reportedly were obtaining guns and ammunition from Cuban fishermen (Tebeau 1968:63-65). While they did find some evidence of previous occupation they did not find anyone living along the coast. Lieutenant Colonel William S. Harney with 90 men in 16 canoes set out from Fort Dallas at the mouth of the Miami River on December 4, 1840, to search for Seminoles in the

Everglades. Traversing much of the Everglades and successfully engaging the Indians, Harney laid the foundation for other U.S. military expeditions into the interior of the state (Mahon 1985:283-284,289,303-304,310; Tebeau 1968:66-70).

At the close of the Second Seminole War, the U.S. government shipped several hundred Seminoles to the western territories (Covington 1957:129; *Florida Peninsular* 8 May 1858). In total, the war cost the United States an estimated \$40,000,000 and the lives of 1,500 American troops. Casualties to the Seminoles are unknown. Although the war effectively stopped people from moving into the sparsely settled Florida territory, it did result in the first successful crossing of the Everglades, from east coast to west coast, by the military.

At the war's conclusion, the Seminole reservation shifted south. The northern-most point encompassed the southeastern half of Hardee County and stretched to the northern end of Whitewater Bay in Everglades National Park (Mahon 1985:390-391). The war also spurred American exploration of the region. As early as 1843, the United States House of Representatives inquired into the possible drainage of the Everglades (Carter 1962:250,386,589; House of Representatives 1843:1-2). Two years later the Legislature of Florida encouraged Congress to further explore drainage possibilities (Senate 1845). In 1848 the Legislature took up the call of draining the Everglades "for the cultivation of tropical plants and fruits," requesting Congress to grant to the state all the land south of the Caloosahatchee River and the northern shore of Lake Okeechobee, between the Gulf of Mexico and the Atlantic Ocean (Senate 1848:1). That same year Buckingham Smith, a Florida native who became a historical scholar and an American ambassador, submitted a report to the Secretary of the Treasury concerning the Everglades. In it he recommended draining the Everglades and growing coffee, sugar, fruits, cotton, corn, rice, and tobacco (Senate 1911:50,52). Smith predicted that the entire future of the region hinged on the government's drainage efforts. If the government took no action he believed:

Most of the region south of the northern end of the lake Okeechobee will remain valueless for ages to come. The borders of the Everglades and adjacent lands susceptible of profitable cultivation can not now sustain any very dense or very numerous population. The acquisition of the advantages and benefits I have adverted to, as resulting to the Union from such population being there, depends, therefore, on the favorable success of the project of reclaiming the lands mentioned (Senate 1911:50-51).

Smith based much of his report on the observation and experiences of military personnel who served in the Everglades during the Second Seminole War. Furthermore, many of these service men suggested that drainage would promote settlement of the Florida wilderness and also create a civilian buffer to help keep Indians confined to their South Florida reservation (Tebeau 1971:346-347). The first step in the drainage process occurred two years after Smith submitted his report.

Under the Swamplands Act of 1850 Florida received approximately 10 million acres of federally owned swamp and overflowed lands for the purpose of drainage and reclamation (Senate 1911:67-68; Tebeau 1971:189-191). In response, Florida created the Internal Improvement Board in 1851 to manage the lands plus an additional 500,000 acres the state received upon becoming a state. The board had the task of making Florida prosperous by developing industry and encouraging settlement. Railroad and canal projects approved by the

government received a 200-foot right-of-way through state lands and alternate sections of land six miles deep on both sides of the canal. However, financial problems, war, and economic depressions beset the board, stalling the project (Light and Dineen 1994:53).

The state tried other means of settling central and southern Florida. If the Seminoles could not be bribed with offers of cash and property to move to a reservation out west, then Whites were determined to force them to leave. Viewed as a hindrance to settlement, in January 1853, the Florida legislature made it illegal for any Native American to remain in the state. In an attempt to drive the remaining 300 or so Seminole and Miccosukee Indians out of South Florida, Secretary of War Jefferson Davis allowed settlers to begin moving onto the northern portion of the reservation. Land surveyors and military personnel began pushing into the reservation throughout 1854 and 1855, and White settlers quickly followed (Brown 1991:100-104,130). The result was a third armed conflict, referred to as the Third Seminole War (1855-1858).

The third and final Seminole War consisted of a series of skirmishes fought by Seminoles under Chief Billy Bowlegs (Milanich 1995:234). This war, like its predecessor, spurred exploration of the region with Captain Dawson, First Artillery, conducting two expeditions into the Everglades between 1855 and 1856 (Senate 1911:71-72). By 1858, after a series of sporadic skirmishes, the Third Seminole War ended with the shipment of 123 Seminoles to Oklahoma. However, 100-300 Seminoles who evaded capture remained in the Everglades (Fernald & Purdum 1992). The present-day Seminole and Miccosukee Tribes of Florida and the Independent Seminole Tribe of Florida are direct descendants of the Seminole Indians who could not be forcibly removed during the wars.

Shortly after the Third Seminole War the state became embroiled in the Civil War bringing to a halt any internal improvements. At the conclusion of the war, Colonel George T. Thompson, staff of the Freedmen's Bureau, surveyed south Florida, reporting to his superiors the economic and social conditions of the region (Tebeau 1971:260-261). He, like Buckingham Smith, advocated the drainage of the Everglades to open the area to cultivation and settlement (Bentley 1950:9,11). Tebeau reported that the 600 or so Native Americans in the region were involved in a variety of economic and subsistence activities including hunting, pelt trading, salvaging of wrecked ships, fishing, turtling, sponging, and cultivation of fruits. Tebeau (1971:260-261) states that Thompson never saw the Native Americans during his trip and overestimated their numbers. Regardless of what Thompson saw or didn't see, he liked the region so much that he eventually moved to south Florida where he remained for 17 years.

In order to build railroads and make other improvements after the Civil War, capital was necessary, so the Internal Improvement Commission sold 4 million acres of land for \$1 million in 1881 to the Florida Land and Improvement Company owned by Hamilton Disston and associates (Light and Dineen 1994:53; Mohl and Mormino 1996:427). Disston gathered dredges at Ft. Myers and Kissimmee to begin dredging and draining land in the Caloosahatchee and Kissimmee river valleys. Between 1881 and 1885 Disston excavated or improved 40 miles of canals and rivers, and in the process proved that water levels could be lowered and crops successfully grown on reclaimed land (Tebeau 1971:280-281). On his vast holdings of lands he experimented with sugarcane, rice, potatoes, peaches, grapes, pineapples, vegetables, and cattle (Senate 1911:73-83). The economic downturn of 1893 and Disston's death shortly thereafter brought his work to a halt. However, Disston's efforts validated Smith's report and laid the groundwork for governmental efforts to drain the Everglades.

The influence of politics, money, and flooding, the primary catalysts for Everglades drainage, converged during the first decades of the 20th century and brought about one of the world's



Figure 6. William Jennings and Napoleon Broward on Everglades drainage tour, 1906. Courtesy General Collection, Florida State Archive

largest public works projects at that time. The recession that stopped Disston's efforts laid the foundation for the political backing of public drainage projects. With the emergence of populist candidates rising from the recession, voters elected officials who limited the influence of railroad interests and other big businesses, especially upon the Internal Improvement Fund. Populist voters elected William S. Jennings, a liberal reform candidate, as governor of Florida in 1901. Two significant planks in his campaign platform included pro-land reclamation and limitation of railroad power and influence (Light and Dineen 1994:55). The need for the latter was reflected by the number of acres of Florida land these companies controlled. Of the over 20 million acres of land patented to the State by the federal government, almost nine million had been turned over to railroad companies, not including the four million acres deeded to Hamilton Disston for his land purchase (Senate 1911:120). Two years after his election, a flood ruined south Florida crops and farms. President Theodore Roosevelt refused Governor Jennings' request for disaster relief, but he did transfer more federally owned land to the state (Senate 1911:91-94). This flood, along with Jennings' political views, brought to the forefront the need for Everglades drainage (Senate 1911:84-

90,97-98). Limited to one term in office by the state's constitution, Jennings turned over the reigns of control to Napoleon Bonaparte Broward in 1905.

Broward, like Jennings, advocated drainage programs to reclaim agricultural land for small farmers (Figure 6) and he started work on drainage immediately ((Proctor 1996:280; Senate 1911:99; Writers Program ca 1930s:4). Broward felt that only 30 miles of new canals needed to be cut in order to keep Lake Okeechobee from overflowing and to drain the Everglades (Senate 1911:101). In addition, he projected only a small number of ditches and small canals needed to be dug with very little public expense. By July 1906, work began on the building of dredges and the digging of canals along New River near Fort Lauderdale (Senate 1911:109-110,128). Three years later, work had commenced on dredging the Miami River and digging a canal that connected with Lake Okeechobee (Senate 1911:121). The state employed four dredges with some having day and night crews to complete what was believed to be the necessary dredging to drain both Lake Okeechobee and the Everglades (Senate 1911:129).

By 1909, Albert W. Gilchrist replaced Broward as governor, but continued the drainage efforts. Three years after his election, over 142 miles of canals had been dug along with the construction of two locks at a cost of over \$2 million, a far cry from Broward's 30 miles and minimal cost projections (Proctor 1996:282). The same year that the United States entered World War I, Florida completed four major canals connecting Lake Okeechobee to the Atlantic Ocean by way of the Everglades: West Palm Beach Canal (42 miles), Hillsboro Canal (51 miles), North New River Canal (58 miles), and Miami Canal (85 miles)(Light and Dineen 1994:55). The success of the drainage project is revealed by the creation of new settlements in the region. By 1921, sixteen communities with populations greater than 200 had arisen out of the reclaimed land in the Lake Okeechobee region (Gannon 1991:28-29). Coupled with the growth around the lake, the southern half of the state grew from a population of 49,442 in 1910 to 268,762 in 1930,

reflecting both drainage efforts and the phenomenal population explosion caused by the land boom of the 1920s (Dietrich 1978:33). Capping this success, the government successfully completed the Tamiami Trail (U.S. 41) across the Everglades in 1928, allowing a south Florida motorist to travel from the east coast to the west (Mahon and Weisman 1996:203).

While demonstrating the success of the reclamation, the population growth also resulted in one of the worst disasters in Florida history. Severe hurricanes struck South Florida in 1926 and 1928. A hurricane with 125-mile-an-hour winds swept across the region on September 16, 1928, leaving over \$75,000,000 in damages in its wake (Light and Dineen 1994:55; Palm Beach Independent September 21, 1928:1). Nearly 2500 people perished from the storm, many from the Everglades and Lake Okeechobee regions. They died when the levee erected around Lake Okeechobee burst, permitting a tidal wave to sweep south of the lake, killing many of the people settled on reclaimed lands (Palm Beach Independent October 5, 1928). The hurricane marked the end of the first phase of Everglades drainage. This massive flooding refocused the government's attention from drainage to flood control around the lake.

The economic downward spiral of the 1930s brought much of the state's drainage efforts to a halt, but not before 440 miles of canals were excavated, 47 miles of levees erected, and the building of 16 locks and dams at a cost of \$18 million (Izuno 1989:4; Light and Dineen 1994:55). In 1930, the Corps of Engineers increased the lake's discharge, built new and improved old levees, and improved the canals (Light and Dineen 1994:55,58). The erection of improved levees became the genesis of the modern-day sugar industry south of the lake. Price supports from the Sugar Act of 1934 helped fuel the nascent industry, with sugar production rising from 410,000 tons to 873,000 tons between 1931 and 1941. During the same period the Royal Palm State Park was established as a tropical preserve which provided much needed federal support (Light and Dineen 1994:53; Tebeau 1968:174).

World War II, while helping much of the country pull itself out of the Great Depression, only caused many of the canals to fall into disrepair because of wartime restrictions. The end of World War II brought tremendous change to Florida in general and the Everglades specifically. Just as the Everglades drainage project gathered steam during the 1920s, efforts to preserve a substantial portion of south Florida as a National Park gained momentum. The efforts of a variety of local, state, and national organizations bore fruit when President Harry S. Truman dedicated 1.4 million acres of the Everglades, including the Royal Palm State Park, as a National Park in 1947 (Brookfield and Griswold 1985; Mohl and Mormino 1996:427; Tebeau 1968:174-180).

In 1947 and 1948, hurricanes again struck south Florida, dumping 108 inches of rain in one year (Light and Dineen 1994:58). Millions of acres south of Lake Okeechobee remained under water for nearly six months. This reinvigorated the Corps of Engineers' efforts to protect the region from flooding by further lowering the water table. The Corps determined that to better manage flood and drainage efforts, one plan should be implemented for all of south and central Florida. This plan became known as the Central and Southern Florida Project for Flood Control and Other Purposes. As part of this program, the Corps dug Levee 31 [L-31] and other canals to carry water away from south Dade and Homestead (Light and Dineen 1994:68). With the construction of other levees, pumping stations, and canals, farmers were able to cultivate nearly a half a million acres of restored Everglades lands in the 1990s (Mohl and Mormino 1996:427). In addition, the southern half of the state grew from 198,843 people in 1930 to 2,373,369 people in 1970 (Dietrich 1978:35). The combined population of Dade, Broward, Palm Beach, and Monroe

counties grew from 750,000 in 1950 to nearly 4 million in 1990, and there appears no end in sight to the demographic explosion (Light and Dineen 1994:58).

8.5 SMA

Private acquisition of land within the 8.5 SMA and surrounding region parallels the Everglade's drainage and population growth in the greater Miami area (Table 1). Richard Balles obtained the first deeds in Township 55 South, Range 38 East in 1908 and 1910 during the initial attempt at Everglades drainage (Florida Department of Environmental Protection n.d.). He purchased 14 of 36 available sections, totaling 8960 acres. James J. Marshall, Carl K. Hoffman, William H. Turner, and G.M. Schuck also obtained smaller tracts between 1926 and 1946. The small size of these acquisitions reflect the initial failure of drainage, the crash of the land boom, and the Great Depression, while at the same time revealing a continued interest in south Florida land despite the prevailing economic and environmental constraints. Early aerial photographs of the project area document that very little human activity occurred during the 1930s and '40s. A few agricultural fields appear in the southern portion of the property in 1938 (Figure 7), and a handful of roads are evident including SW 197th Avenue, U.S. 27 [SW 177th Avenue/Krome Avenue], Vehlin Drive, and Hainlin Drive [SW 216 Street] (U.S. Agricultural Stabilization and Conservation Service 1938). This low level of development continued throughout the war (U.S. Agricultural Stabilization and Conservation Service 1944). Sometime after World War II, the Air Force erected a communication tower along 237th Avenue (Fortin ca 2000:6).

Intensive development of the region occurred in the decades following the war. The project area received its first taste of Everglades drainage between 1952 and 1954 when the U.S. Army Corps of Engineers erected a series of 9 to 18-foot-high levees and borrow canals in Palm Beach and Dade counties (Light and Dineen 1994:58-60). These levees and canals controlled sheet flow from the Everglades to the urban regions on the southeast coast, providing an eastern boundary to water conservation areas. The structures also prevented development west into the Everglades with the exception of the region around L-31, which forms the 8.5 SMA's eastern boundary. By lowering the water table and providing a minimal amount of flood protection, L-31 made possible agricultural and residential development in the Northeast Shark River Slough. Consequently, land acquisition intensified. Between 1952 and 1956 Arthur Vining Davis purchased significant parcels of lands as the Corp built L-31 (Florida Department of Environmental Protection n.d.). Davis, who founded ARVIDA, one of the largest construction and development companies in the state (Fortin ca 2000:7), transferred the deeds to DAWAL Farms, which consisted of Arthur Davis and Barney Walden. Madeleine Fortin (ca 2000:7) states that Walden purchased 70,000 acres of land in the East Everglades for DAWAL which he then quit-claimed to ARVIDA. It is unknown if this 70,000 acres included part of Davis's acquisition.

During the early 1950s agricultural land use intensified (Figure 8), especially along SW 197th Street, north and south of Richmond Drive [168th Street] (U.S. Agricultural Stabilization and Conservation Service 1953). The portion of L-31 near Richmond Drive appears on an aerial taken March 8, 1953, but is absent from an aerial taken March 17, 1952. During this one year period the amount of land under cultivation on the west side of SW 197th Avenue more than doubles.

During the early 1960s, the Miami International Airport was planned for development on land just north of the project area, north of Tamiami Trail. In 1971, the Aerojet Development

Table 1. Original Property Owners in Township 55 South, Range 38 East.

Section	Part of Section	Purchaser	To Whom Deeded	Date of Sale	Date of Deed
1	All		Richard J. Balles		12/24/1908
2	All		Richard J. Balles		5/28/1910
3	All		Richard J. Balles		12/24/1908
4	All		Richard J. Balles		5/28/1910
5	All	Vacant State			
6	All	Vacant State			
7	All	Vacant State			
8	All	Vacant State			
9	All		Richard J. Balles		12/24/1908
10	All		Richard J. Balles		5/28/1910
11	All		Richard J. Balles		12/24/1908
12	All		Richard J. Balles		5/28/1910
13	All		Richard J. Balles		12/24/1908
14	NW1/4 of NW1/4		James J. Marshall		1/7/1926
14	All less NW1/4 of NW1/4	Arthur V. Davis	Dawal Co.	6/25/1952	1/7/1957
15	All		Richard J. Balles		12/24/1908
16	All	Arthur V. Davis		6/25/1952	6/1/1952
17	All	Arthur V. Davis	Dawal Co.	6/25/1952	1/7/1957
18	All	Arthur V. Davis	Dawal Co.	6/25/1952	1/7/1957
19	All	Arthur V. Davis	Dawal Co.	6/25/1952	1/7/1957
20	All	Arthur V. Davis	Dawal Co.	6/25/1952	1/7/1957
21	All		Richard J. Balles		12/24/1908
22	All	G.N. Schuck	G.N. Schuck	2/16/1943	3/27/1952
23	All		Richard J. Balles		12/24/1908
24	All		Richard J. Balles		12/24/1908
25	All		Richard J. Balles		5/28/1910
26	All	Arthur V. Davis	Dawal Co.	4/7/1952	10/10/1956
27	All	G.N. Schuck	G.N. Schuck	10/21/1942	1/24/1946
28	All	G.N. Schuck	G.N. Schuck	10/21/1942	1/24/1946
29	All	G.N. Schuck	G.N. Schuck	10/21/1942	1/24/1946
30	All	G.N. Schuck	G.N. Schuck	10/21/1942	1/24/1946
31	All	Arthur V. Davis	Dawal Co.	2/13/1952	8/29/1956
32	All	Arthur V. Davis	Dawal Co.	2/13/1952	8/29/1956
33	All	Arthur V. Davis	Dawal Co.	2/13/1952	8/29/1956
34	E1/2		Carl K. Hoffman		7/10/1931
34	W1/2	William H. Turner, Jr.	William H. Turner, Jr.	6/21/1943	7/6/1945
35	All		Richard J. Balles		12/24/1908
36	All		Richard J. Balles		5/28/1910

Source: Florida Department of Environmental Protection (n.d.)

Corporation purchased a large tract of land from the State of Florida at \$50.00 per acre (Metropolitan Dade County Planning Department 1979:1, 3). The company planned on building a large manufacturing facility south of the project area. Both of these projects failed to materialize because the necessary canal infrastructure was deemed ecologically damaging to the Everglades. Without an airport and manufacturing base, ARVIDA possessed 70,000 acres of devalued land (Fortin ca 2000:7). ARVIDA began selling off portions of its vast holdings to private developers who subdivided the property, typically into 1.25-acre parcels (Metropolitan Dade County Planning Department 1979:21-22; *Stuart News* 1999). Much of this subdivision



Figure 7. Composite aerial photo of the project area showing the absence of development in 1938. Arrows point to remnant tree islands (U.S. Agricultural Stabilization and Conservation Service 1938).

occurred between 1965 and 1972, with parcels bought under ‘contract for deed’ arrangements. Under this system, purchasers acquired property under an installment contract and developers transferred the deeds after the purchasers paid in full. These contracts generally were due in 8 to 10 years after signing. Foreigners and out-of-state people constituted many of the initial

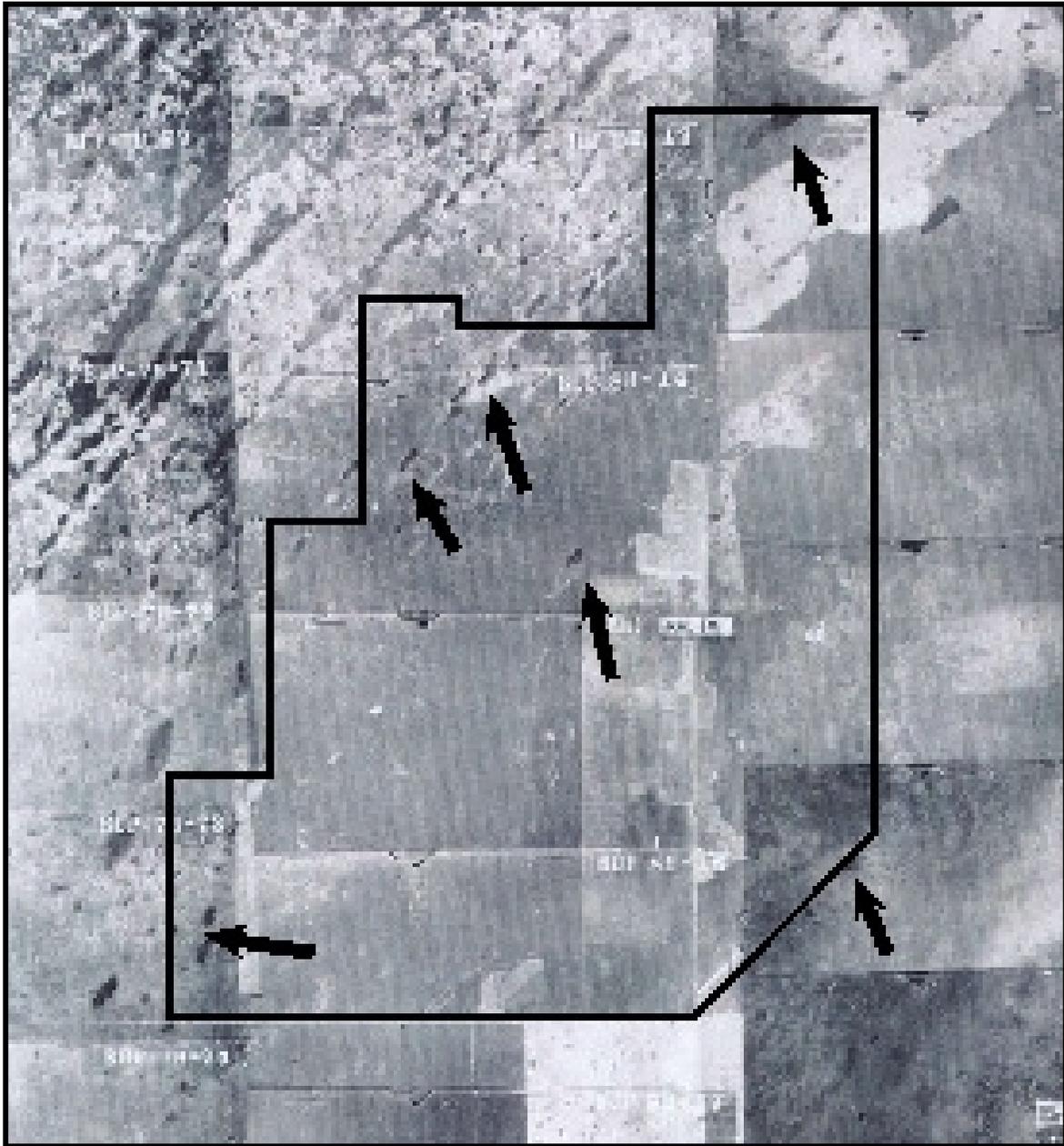


Figure 8. Composite aerial photo of the project area showing remnant tree islands (arrows) and extent of agricultural development in 1953 (U.S. Agricultural Stabilization and Conservation Service 1953).

purchasers. Louis Rotfort, owner of Suburban Acres, Inc., was one such developer in the Howard Drive area during the latter half of the 1960s. He subdivided the property, constructed many of the roads, and sold the property under contract.

Several other events occurred during the same period that helped fuel the area's growth. A severe drought in south Florida in 1963 lowered the water table in the region, making land in the

project area more marketable (Light and Dineen 1994:68,70). Coupled with the drought the Corp realigned and enlarged L-31 beginning in 1968. L-31N, the current eastern boundary of the project area, emerged from this realignment. Finally, the entire southeast coast underwent a tremendous population explosion that fueled development along the coast and west towards the interior. Between 1960 and 1990, Dade County added 1 million new residents, growing to 1,937,094 (Andriot 1993:97). As developers gobbled up farmland to build houses around Miami and other coastal cities, farmers were pushed further and further west (Metropolitan Dade County Planning Department 1979:1,3). When land became available in the project area, much of it was developed for agricultural production.

Between 1953 and 1963, agricultural development intensified between SW 197th Avenue and L-31 and spilled across the western side of SW 197th (Figure 9; U.S. Agricultural Stabilization and Conservation Service 1963). Agricultural development also occurred north and south of SW 168th Street, pushing farther west. The project area underwent a tremendous transformation between 1963 and 1970, reflecting the subdivision of land and selling of property. Roads such as SW 128th Street, Howard Drive [SW 136th Street], SW 144th Street, and SW 152nd Street, as well as a number of Avenues were created (U.S. Agricultural Stabilization and Conservation Service 1970). Developers subdivided much of the farmland around Richmond Drive and SW 197th Avenue into smaller parcels and structures are apparent on many of these (Figure 10; U.S. Agricultural Stabilization and Conservation Service 1970). This trend throughout the 1970s.

By 1979 most residences existed around Howard and Richmond Drives while agriculture dominated much of the eastern boundary along L-31N (Metropolitan Dade County Planning Department 1979:i-ii,1). Vacant land or agricultural parcels existed between many of the houses and mobile homes. Row crops grown in the area included tomatoes, squash, sugar cane, and tropical vegetables while grove crops included limes, bananas, and avocados. Plant nurseries and packing houses were also located in this area. Landowners typically possessed 1.25 to 10 acre parcels, while large grove owners leased larger parcels (Metropolitan Dade County Planning Department 1979:4). Developers, including Context Corporation, Cavalier Group, Inc., the Central Bank Trust Company, and Dynamic Development Corporation were selling lots in the area under deed contracts (Metropolitan Dade County Planning Department 1979:23-24). People continued to move to the region despite the fact that only four paved roads existed: (1) U.S. 41 [Tamiami Trail] (north of project area), (2) Grossman Hammock Road [south of project area], (3) Richmond Drive [SW 168th Street], and (4) U.S. 27 [Krome Avenue/SW 177th Avenue] (east of the project area). The remaining roads were either improved (filled with crushed limestone) or unimproved double track roads. The county estimated that 418 people resided in and around the project area in 1979 (Metropolitan Dade County Planning Department 1979:i-ii).

By the mid-1990s, Fortin (ca. 2000:4-5) estimated that the project area included 1600 pieces of property which housed 450 residences in 445 dwellings (Figure 11). Many of the mobile homes from the 1970s appear to have been destroyed when Hurricane Andrew devastated the area in 1991, leaving only more permanent structures in its wake. Agriculture is still the dominant economic activity, with fields of malanga, okra, and sweet potatoes, lime groves, and orchards of mangoes, mamee, bananas, and coconuts dotting the landscape (Fortin ca. 2000:1-2). The paved roads include those present in 1979 plus Howard Drive (SW 136th Street), with portions of SW 192nd Avenue south of SW 136th Street and SW 199th Avenue north of SW 136th Street also paved.

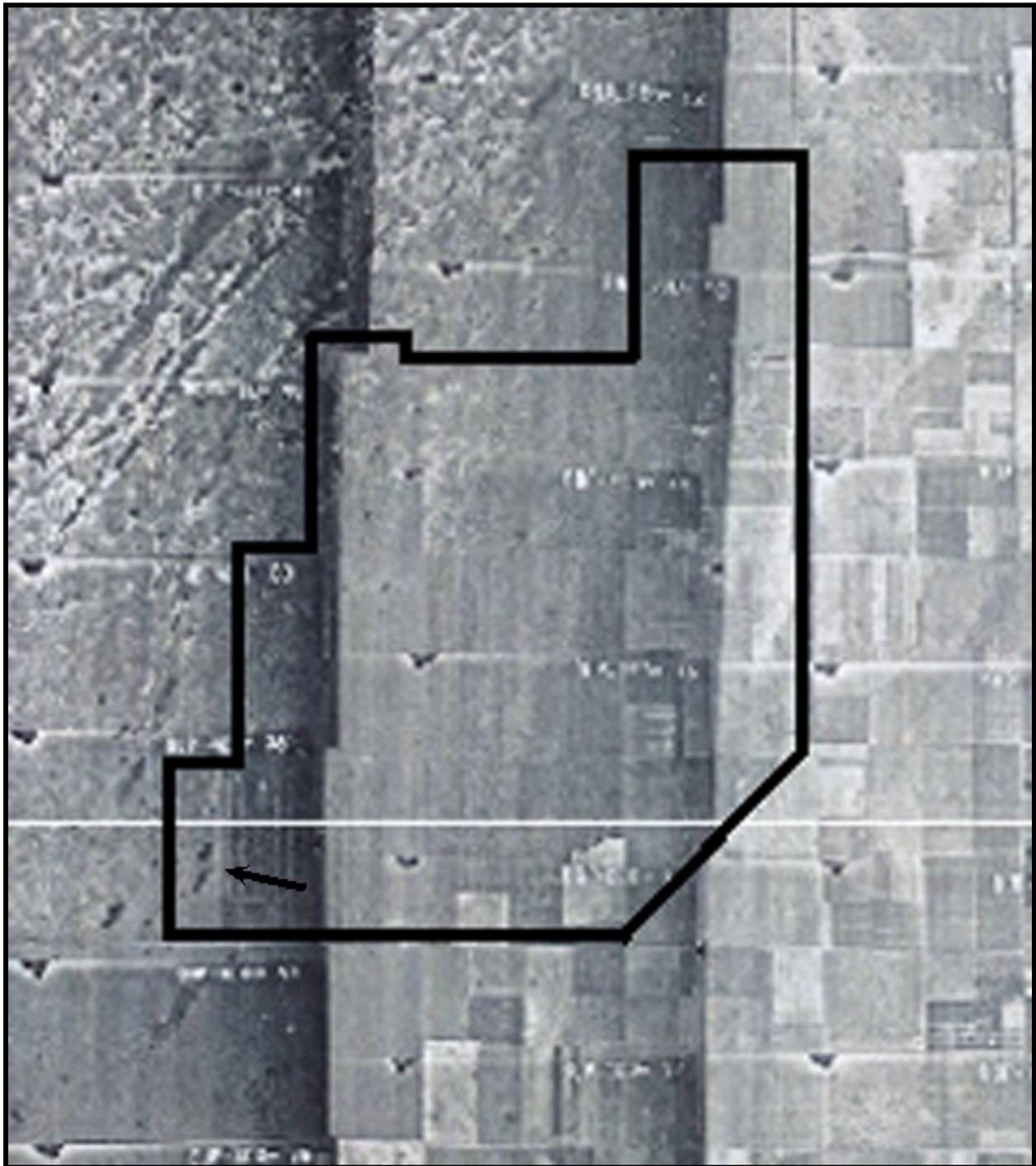


Figure 9. Composite aerial photo of the project area showing increased agricultural development by 1963. Most of the tree islands visible in earlier aerials have been obliterated by plowing (U.S. Agricultural Stabilization and Conservation Service 1963).

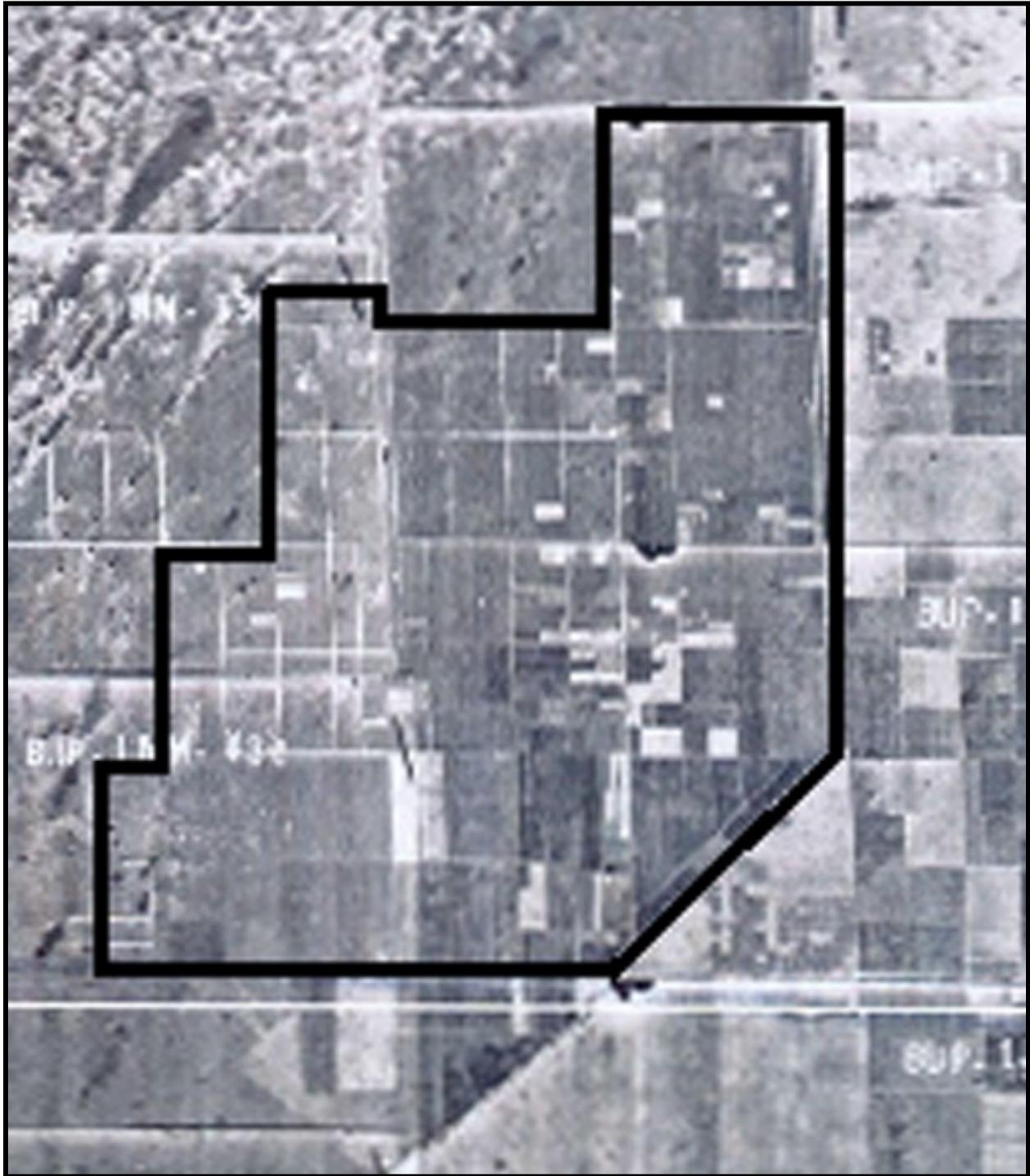


Figure 10. Composite aerial photo of the project area showing the extent of residential and agricultural development in 1970 (U.S. Agricultural Stabilization and Conservation Service 1970).



Figure 11. Modern aerial photo of the project area showing the current extent of residential and agricultural development (U.S. Geological Survey Digital Orthophotographs, flown 1994).

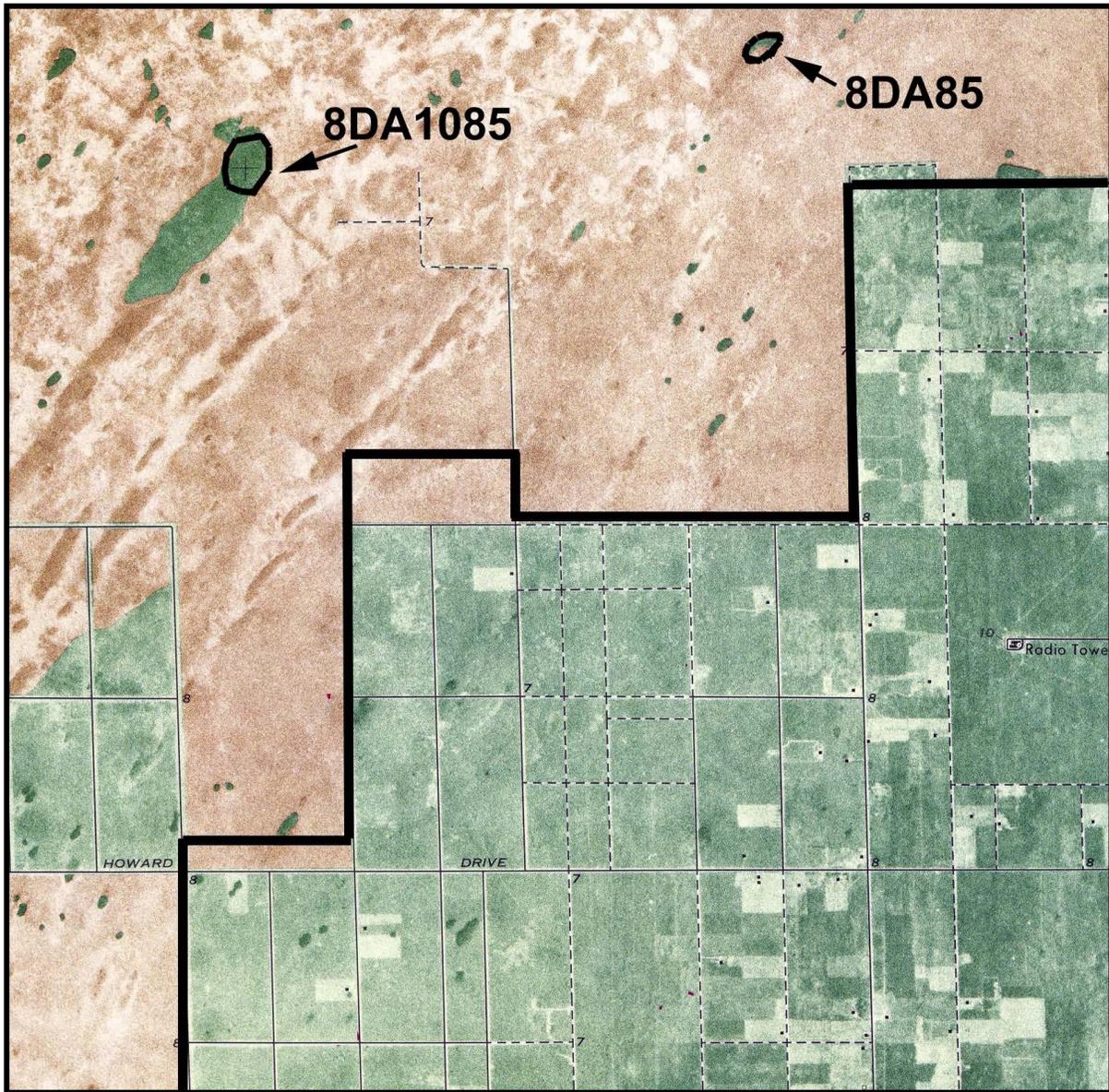


Figure 12. USGS 7.5' South of Cooperstown Quadrangle map showing the northwest portion of the project area and previously recorded archaeological sites.

PREVIOUS ARCHAEOLOGICAL RESEARCH

A search of the Florida Master Site File indicates that no archaeological sites or historic structures have been previously recorded within the 8.5 SMA, nor has any cultural resource survey been conducted. Several have been conducted near the project area, including a major survey of Everglades National Park (Griffin 1988).

A search of the sections within a two-mile radius of the project area revealed only two previously recorded sites (Figure 12). Black Creek 1 (8DA85) is a small Glades 2 period midden on

a tree island. This site is located just to the north of the project area in Section 3, T58S, R38E. The Howard site (8DA1085) also is a tree island midden. It is located to the northeast of the project area in Sections 4 and 9, T58S, R38E. This site was occupied throughout the Glades period (i.e., Glades 1, 2, and 3).

RESEARCH DESIGN AND METHODS

Research Design

The purpose of this survey was to determine whether any archaeological sites or historic structures are present within the 8.5 SMA and, if so, to assess their potential for listing on the NRHP. Based on previous research in the vicinity of the project area, it was considered likely that some evidence of prehistoric activity might be present on the property. More specifically, prehistoric archaeological sites of the Glades culture and historic period Seminole Indian sites were expected on remnant tree islands. Research by Carr (1981, 1991) and Griffin (1988) indicates that occupation of tree islands occurred most frequently at their north ends, due to the greater accumulation of sediments and slightly higher elevations. Both of the previously recorded sites located near the project are located at the north ends of elliptical tree islands. The archaeological sites are typically middens where habitation refuse (artifacts, food remains) were discarded and features such as hearths, post molds, and pits were constructed. Burials are sometimes present at these sites, usually located at their southern ends and often in solution features (e.g., Carr 1981; Carr et al. 1984).

To determine if buried archaeological sites are present on the property, SEARCH examined a series of aerial photographs (1938, 1950, 1952, 1953, 1963, 1970) in order to identify potential tree islands within the project area boundaries. Since most of the project area has been developed, examination of these early aerials was essential to identifying potential site locations. Figures 7-10 show the project area in 1938, 1953, 1963, and 1970. Several elliptical tree islands are present within the boundaries of the project area, particularly in the western half of the property. As the property became more intensively used for agriculture, many of the tree islands were obliterated by plowing (Figure 11). In those areas where agricultural activities have ceased, exotic vegetation (melaleuca, Brazilian pepper, Australian pine) have invaded and colonized locations presumed to have been occupied by these islands.

In all a total of nine potential site locations were identified on the early aerials. Of these, six appear as remnant features on modern aerials. The approximate locations of the remaining tree islands were plotted on modern aerial photographs so that they could be investigated in the field. In addition, three areas identified during the field survey as possible site locations, but not otherwise distinguishable on the aerial photographs, also were investigated.

The potential for historic structures was considered minimal since the documentary research indicated that the property was undeveloped prior to the 1950s, with only minor agricultural use up to the 1960s. After this time both agricultural and residential use increased; however, no historic structures or trails were identified within the project area as a result of the background research.

Field Methods

The Phase I field survey of the project area consisted of judgmental subsurface testing of potential site locations using the information obtained from the analysis of early aerial photographs. This was coupled with a visual inspection of the entire project area for historic structures. Round shovel tests measuring approximately 50 cm in diameter were excavated in each potential site location to determine the presence or absence of archaeological materials. Because soil development is minimal within the project area, shovel tests rarely exceeded a depth of greater than 20 cm below ground surface. All excavated soil was screened through ¼ inch mesh hardware cloth. The cultural content, stratigraphy, environmental setting, and any other relevant data concerning the shovel test or the surrounding area were recorded in field notebooks.

Since no historic structures are located within the project area, no formal architectural survey was conducted.

Curation

No artifacts or other cultural materials were recovered during the survey. The field notes, photographs, and related paperwork will be housed at the SEARCH office in Gainesville, Florida.

RESULTS

A total of 19 shovel tests was excavated during the survey. All of the shovel tests encountered bedrock limestone within 10-20 cm of the ground surface. A typical soil profile was 5-10 cm of black, organic humus underlain by 5-10 cm of grayish-tan marl lying atop bedrock. Ten of the 12 potential site locations were accessible and investigated. Two potential site locations are in private residential yards and were not tested. No archaeological sites were discovered during the survey. The only cultural material observed was related to farming (plastic plant containers, an abandoned tractor frame), refuse disposal, and other recent activities (Figure 13). All of the structures were constructed after 1951, with most appearing to date from the 1970s to the present.

The absence of archaeological sites is believed to be due to the fact that most of the tree islands identified from early aerial photographs turned out to be willow and bay heads. Lower elevations usually were encountered when entering the forested areas and solution holes visible on the surface also tended to increase in and near these features. Many had been invaded by dense stands of melaleuca, although a few retained some evidence of natural vegetation. Australian pines have colonized the few high spots that were investigated within these features. Three potential site locations features appear to have been drier originally as they are presently covered with dense stands of Brazilian pepper. However, testing and visual examination of these features indicated minimal soil development and evidence of modern rock plowing (Figure 14).

CONCLUSIONS AND RECOMMENDATIONS

A Phase I cultural resource assessment survey was completed of an 8.5 SMA in Dade County, Florida. No cultural resources were discovered. For these reasons, it is the opinion of SEARCH that the project will have no impact on NRHP-eligible resources. No further



Figure 13. View of modern “artifacts” at entrance to private property. Note Australian pines in the background.



Figure 14. Interior of remnant tree island showing absence of soil development and presence of exotic vegetation (Brazilian pepper).

archaeological or historical research is recommended. In the unlikely event that human remains are encountered during site development, the stipulations of Chapter 872 (*Offenses Concerning Dead Bodies and Graves*) should be followed (see Appendix A).

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Appendix A:
Unanticipated Discoveries Statement

UNANTICIPATED DISCOVERIES OF ARCHAEOLOGICAL AND HISTORIC SITES INCLUDING HUMAN REMAINS

Although a project area may receive a complete cultural resource assessment survey, it is impossible to ensure that all cultural resources will be discovered. Even at sites that have been previously identified and assessed, there is a potential for the discovery of previously unidentified archaeological components, features, or human remains that may require investigation and assessment. Therefore, a procedure had been developed for the treatment of any unexpected discoveries that may occur during site development.

If UNEXPECTED CULTURAL RESOURCES are discovered the following steps will be taken:

- 1) Initially, all work in the immediate area of the discovery will cease and reasonable efforts will be made to avoid or minimize impacts to the cultural resources.
- 2) A Professional Archaeologist will be contacted immediately and will evaluate the nature of the discovery.
- 3) The Archaeologist will then contact the State Historic Preservation Officer (SHPO) and if necessary, the State Archaeologist.
- 4) As much information as possible concerning the cultural resource, such as resource type, location, and size, as well as any information on its significance, will be provided to the SHPO.
- 5) Consultation with the SHPO will occur in order to obtain technical advice and guidance for the evaluation of the discovered cultural resource.
- 6) If necessary, a mitigation plan will be prepared for the discovered cultural resource. This plan will be sent to the SHPO for review and comment. The SHPO will be expected to respond with preliminary comments within two working days, with final comments to follow as quickly as possible.
- 7) If a formal data recovery mitigation plan is required, development activities in the near vicinity of the cultural resource will be avoided to ensure that no adverse impact to the resource occurs until the mitigation plan can be executed.

If HUMAN REMAINS are discovered during site development, all work in the near vicinity of the human remains will cease and reasonable efforts will be made to avoid and protect the remains from additional impact. When human remains are encountered, federal and/or state guidelines must be followed depending upon the nature of the project, including those contained in the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA) and Chapter 872.05, Florida Statutes. Regardless of which law takes precedence, consultation with the SHPO (or in the case of Ch. 872, F.S., the State Archaeologist) and appropriate interested parties will occur in an effort identify and notify next of kin, closest lineal descendant, or, for Native American remains, the Indian tribes who may be culturally affiliated with the remains, and to determine appropriate treatment and disposition of the remains.

In addition, the following steps will be taken:

- 1) Pursuant to any request from the SHPO or State Archaeologist, a qualified professional archaeologist will be retained to investigate the reported discovery and to inventory and evaluate alternate work areas or routes that will avoid any further effects to the human remains.
- 2) A plan for the avoidance of any further impact to the human remains and/or mitigative excavation, reinterment, or a combination of these treatments will be developed in consultation with the State Archaeologist, the SHPO, and next of kin, closest lineal descendants, or, if applicable, appropriate Indian tribes. All parties will be expected to respond with advice and guidance in an efficient time frame.
- 3) At the request of the SHPO and/or State Archaeologist, the avoidance/mitigation/reinterment plan will be prepared and submitted to the SHPO, State Archaeologist, and appropriate interested parties for review and comment. Once the plan is agreed to by all parties, the plan will be implemented.

The points of contact for Florida are:

Dr. Janet Snyder Matthews, State Historic Preservation Officer
Dr. James Miller, State Archaeologist
Florida Division of Historical Resources
R.A. Gray Building
500 S. Bronough St.
Tallahassee, FL 32399-0250
PH: 850-487-2299

Appendix B:
Completed FDHR Survey Log Sheet

SURVEY LOG
VERSION 2.0.0
IDENTIFICATION AND BIBLIOGRAPHIC INFORMATION

Electronic form used: MS20
Survey Project Name CRAS 8.5 SQ MIEIS, DADE COUNTY, FL
Report Title CULTURAL RESOURCE ASSESSMENT SURVEY OF AN 8.5 SQUARE MILE AREA, DADE COUNTY, FLORIDA
Report Author (last name first) AUSTIN, ROBERT J.; MOHLMAN, GEOFFREY
Publication Date (year) 2000
Total Number of Pages in Report 31
Publication Info SOUTHEASTERN ARCHAEOLOGICAL RESEARCH, INC., RIVERVIEW, FL
Fieldwork Supervisor (Name[last,1st]/Org./City) AUSTIN, ROBERT/SEARCH/RIVERVIEW/**/**
Key Word/Phrase Describing Survey EASTERN EVERGLADES; EVERGLADES NATIONAL PARK; ROCKY GLADES
Survey Sponsor's Name HDR ENGINEERING, INC
Survey Sponsor's Address/Phone 2202 N WEST SHORE BLVD, TAMPA, FL/813-282-2300
Survey Sponsor's Code HDR Engineering, Barry Wharton
Log Sheet Recorder's Name (last name first) AUSTIN, ROBERT J.
Date Log Sheet Completed 05/23/2000
Is this a continuation of a previous project? No Prior Phase I or Other Ongoing Work's Been Done

MAPPING

County Surveyed Dade
USGS 7.5' Map for Surveyed Area: Name/Latest Revision Date SOUTH OF COOPERTOWN/1979; GROSSMAN HAMMOCK/1973

DESCRIPTION

Field Work Start Date 03/27/2000
Field Work End Date 03/29/2000
Number of Distinct Tracts Surveyed 1
Total Area Surveyed (hectares; 1 acre= 0.405 ha) 2592.00
Total Area Surveyed (acres; 1 hectare=2.47 acres) 6400.00
Corridor Width (meters; 1 ft=0.3048 meters) ** blank **
Corridor Width (feet; 1 meter=3.281 feet) ** blank **
Corridor Length (kilometers; 1 mile=1.609 km) ** blank **
Corridor Length (miles; 1 kilometer= 0.622 miles) ** blank **

RESEARCH AND FIELD METHODS

Types of Survey Archaeological survey (at least in part); Historical survey (historic, documentary evidence); Architectural survey (some focus on bldgs, struct)
Other types of survey ** blank **
Preliminary Method Used Used aerial photography; Florida Archives, excluding Florida Site File; Researched this property at the Florida Site File; Researched Florida Site File for past surveys; Public land surveys records-DNR (Knetsch&Smith 92); Literature/archives/documentary search
Archaeological Method Used/Percent Screened shovel: smallest nested mesh size 1/4 in/Method Used at 0-20% of the Properties; Other-describe in free form or continuation field/Method Used at 20-50% of Properties
Architectural Method Used/Percent Other-describe in free form or continuation field/Method Used at 90-100% of Properties
Scope/Intensity/Procedures JUDGMENTAL SHOVEL TESTS IN AREAS IDENTIFIED ON EARLY AERIALS AS POSSIBLE TREE ISLANDS; DRIVE THRU OF ENTIRE PROPERTY TO SEARCH FOR HISTORIC STRUCTURES

SURVEY RESULTS

Sites' Significance Evaluated? Sites' Significance Was Not Evaluated by Recorder
Number of Previously Recorded Sites ** blank **
List of Previously Recorded Sites ** blank **
Number of Newly Recorded Sites ** blank **

List of Newly Recorded Sites ** blank **

Site Form Used No Sites Located or Tested/No Forms Used

SURVEY SEARCH

Type of document: Archaeological field survey; Historical/Architectural survey

Other Document Type ** blank **

Document destination: ** blank **

Plottability (1): ** blank **

Plottability (2): ** blank **

