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United States Department of the Interior
National Park Service

National Register of Historic Places Multiple Property Documentation Form

This form is used for documenting multiple property groups relating to one or several historic contexts. See instructions in *How to Complete the Multiple Property Documentation Form* (National Register Bulletin 16B). Complete each item by entering the requested information. For additional space, use continuation sheets (Form 10-900-a). Use a typewriter, word processor, or computer to complete all items.

x New Submission ___ Amended Submission

A. Name of Multiple Property Listing

Archeological Resources of Southwest Florida's Caloosahatchee Region, Lee and Charlotte Counties, 11500 B.C. - A.D. 1945

B. Associated Historic Contexts

(Name each associated historic context, identifying theme, geographical area, and chronological period for each.)

Paleoindian Stage	11500 B.C. - 6500 B.C.
Archaic Stage	6500 B.C. - 500 B.C.
Caloosahatchee Culture Period	500 B.C. - A.D. 1750
Spanish-Cuban/Seminole/Euro-American Pioneer Period	A.D. 1750 - A.D. 1881
Euro-American Period	A.D. 1881 - A.D. 1945

C. Form Prepared by

name/title Karen J. Walker, Ph.D. & Barbara E. Mattick/Historic Preservationist Supervisor

organization Bureau of Historic Preservation date January 1996

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city or town Tallahassee state FL zip code 32399-0250

D. Certification

As the designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this documentation form meets the National Register documentation standards and sets forth requirements for the listing of related properties consistent with the National Register criteria. This submission meets the procedural and professional requirements set forth in 36 CFR Part 60 and the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation. (☐ See continuation sheet for additional comments.)

Suzanne P. Walker/Deputy SHPO — 3/26/96

Signature and title of certifying official — Date

Florida State Historic Preservation Officer, Division of Historical Resources

State or Federal agency and bureau

I hereby certify that this multiple property documentation form has been approved by the National Register as a basis for evaluating related properties for listing in the National Register.

by Barbara J. Little — 5/21/96

Signature of the Keeper — Date of Action

Table of Contents for Written Narrative

Provide the following information on continuation sheets. Cite the letter and the title before each section of the narrative. Assign page numbers according to the instructions for continuation sheets in *How to Complete the Multiple Property Documentation Form* (National Register Bulletin 16B). Fill in page numbers for each section in the space below.

Summary

For purposes of this National Register Multiple Property Documentation Form (MPDF), the area designated as the "Caloosahatchee Region" is along southwest Florida's Gulf coast. Specifically, the geographic focus of the MPDF is the coastal and interior lands of Lee and Charlotte counties (Figure 1). The boundaries of the region are based in part on a century of information gleaned from archeological exploration and excavation. The interval of time that most distinguishes the region from all others in Florida ranges from 500 B.C. to A.D. 1750 and is archeologically known as the Caloosahatchee Culture Period. Thus, the name "Caloosahatchee Region" is appropriate for the MPDF. Since the northern, eastern, and southern boundaries of this Caloosahatchee Region surely changed through time, archeologists arbitrarily use boundaries presently defined for Lee and Charlotte counties. For this reason, the two counties serve as the geographic focus for the greater Caloosahatchee MPDF.

For purposes of this MPDF, the Paleoindian and Archaic stages, 11,500 to 500 B.C., are added to the early end of the Caloosahatchee Culture Period, and the Spanish-Cuban/Seminole/Euro-American Pioneer and Euro-American periods, A.D. 1750 to 1945, are added to the late end of the sequence. Although the precolumbian and historic cultures of these periods were not confined to Lee and Charlotte counties, they were important contributors to the archeological resources of the Caloosahatchee region. Thus, the more general name "Caloosahatchee Region," rather than the more limited "Caloosahatchee Culture Period," incorporates all archeological properties (11500 B.C. to A.D. 1945) in Lee and Charlotte counties. The Caloosahatchee Region archeological nomination does not include any standing structures related to the Euro-American Period; such properties in Lee County should be nominated in association with the "Historic Resources of Lee County, 1881-1945" National Register MPDF (Olausen 1994).

The archeological resources of coastal southwest Florida's Caloosahatchee Region are significant under National Register Criterion D in that they have outstanding potential to yield important scientific information about precolumbian and historic

peoples and their environments. Many of the precolumbian, historic-Calusa, and post-Calusa historic archeological properties are significant at local, state, national, and even international levels. Furthermore, sites associated with the Caloosahatchee Culture Period (500 B.C. - A.D. 1750) are recommended for a National Historic Landmark thematic nomination.

Evidence for the Caloosahatchee Region's earliest human residents comes from Useppa Island in the form of a single artifact, a chert biface commonly called a "Suwannee point." Archeologists associate this point type with Florida's Paleoindian Stage, 11500 - 6500 B.C., the first major historic context of the Caloosahatchee Region MPDF. The next major context is the Archaic Stage, ranging from 6500 to 500 B.C., including the Early Archaic, Middle Archaic, Late Archaic, and Terminal Archaic periods. Only a few sites are known to date to the Archaic periods. The third major historic context is the Caloosahatchee Culture Period, 500 B.C. - A.D. 1750. This context roughly corresponds with the Woodland (Caloosahatchee I through IIB), Mississipian (Caloosahatchee IIB through IV), and European (Caloosahatchee V) Stages of the greater southeastern U.S. (Bense 1994). To date, deposits attributable to the Caloosahatchee Sequence comprise the bulk of recorded archeological resources in the Caloosahatchee Region. The Spanish-Cuban/Seminole/Euro-American Pioneer, A.D. 1750 - 1881, and Euro-American, A.D. 1881 - 1945, historic contexts follow, mostly represented by shallow, surface deposits of cultural debris.

Geographical Perspective

The Caloosahatchee Region is centered along the Charlotte Harbor/Pine Island estuarine system of coastal southwest Florida, but also includes Estero Bay (Figure 1). More specifically, the region encompasses the aquatic areas of Charlotte Harbor, Pine Island Sound, Matlacha Pass, San Carlos Bay, and Estero Bay. These estuarine environments are characterized by high biotic productivity resulting from the combined climatic, physiographic, and hydrographic nature of the lower half of the Florida peninsula. Located between 26° and 27½° latitude, the Caloosahatchee Region lies at the northern limit of the subtropical or tropical wet/dry savannah as classified in the

Köppen system (Oliver and Hidore 1984:186-189). The barrier effect of the Atlantic coastal ridge plus the general southwesterly slope of the peninsula create a great nutrient flow that eventually concentrates in the shallow, inshore marine waters of the Charlotte Harbor system (Estevez 1981; Taylor 1974:205-209; White 1970).

Three major rivers, the Myakka, Peace, and Caloosahatchee, drain interior lands to the north and east, emptying into Charlotte Harbor and San Carlos Bay, while the Estero River feeds into Estero Bay. Combined with the circumscribing nature of sand barrier islands and ocean to the west, relatively less productive savannah environments to the north and east, and swamps to the south and southeast, the Caloosahatchee Region can be viewed as an optimal center for natural estuarine/marine-food production. Abundant and diverse animal populations benefit from the existence of expansive mangrove and seagrass biological communities (Harris et al. 1983; Odum et al. 1982; Taylor 1974; Zieman 1982). Spatial distribution of the aquatic fauna largely depends on the structure of the estuarine salinity gradient and its variation over time at multiple scales (Walker 1992a). For example, inlet dynamics and sea-level fluctuations are critical factors in the determination of precolumbian peoples' subsistence and settlement patterns (Walker 1992a).

With the exceptions of the Paleoindian Stage and the Euro-American Period, the estuarine/marine environment described above was common to most people who inhabited the Caloosahatchee Region. It is generally believed that what now is a coastal region may have been a dry interior part of Florida's mainland during Paleoindian times. Paleoindian people, however, may have taken advantage of area streams; Boca Grande Pass, for example, is thought to be an ancient, entrenched river bed. With the tremendous growth of human population during the Euro-American Period, settlements associated with terrestrially oriented livelihoods spread across the interior areas of Lee and Charlotte counties.

History of Archeological and Ethnographic Research

The earliest period of archeological interest in southwest Florida spans the latter part of the nineteenth and the first

three decades of the twentieth centuries (the region's "Euro-American Period"). The period was marked by visits and explorations by such figures as Kenworthy (1883), Simons (1884), Douglass (1885), Durnford (1895), Cushing (1897), Moore (1900, 1905, 1919), Hrdlicka (1917), Collins (1929), and Stirling (1931, 1935). By far, the most significant event of this period of archeological investigation of southern Florida was the discovery and excavation of the Key Marco Site, 8CR49. The site contained well-preserved organic precolumbian material culture (Cushing 1897; Gilliland 1975, 1988). The Key Marco Site is now believed to lie outside the Caloosahatchee Region as presently defined (Carr and Beriault 1984:4-5; Griffin 1988:135, 137). However, Key Marco's residents are believed to have come under the control of the Calusa political hegemony.

John Goggin's work of the 1940s and 1950s (1939, 1940, 1947, 1949a, 1949b, 1950, 1952) was of great importance in that it established archeological spatial and temporal relationships in south Florida. His contributions to south Florida chronology remain a springboard for subsequent amendments, refinements, and comparative study. Although Goggin's chronological work focused on areas other than the Caloosahatchee, one of his most influential papers, co-authored with William Sturtevant, spotlighted the historic Calusa culture as a complex society that existed without the benefits of agriculture (Goggin and Sturtevant 1964).

The modern era of archeological investigation emphasizing evolutionary concerns is currently underway. Randolph Widmer's published dissertation (1988) offers a testable cultural-materialist model for the Caloosahatchee Region. Most recently, an interdisciplinary research project aimed at understanding the history of Caloosahatchee cultures and the emergence of historic Calusa complexity through the consideration of both material and sociohistorical forces operates under the direction of William Marquardt (1984, 1986, 1987a, 1988a, 1991, 1992a, 1992b) of the Florida Museum of Natural History (FLMNH).

Historic Contexts

The Holocene Epoch is prominently marked by the global, episodic Flandrian Transgression (Fairbridge 1992). The

oscillations (smaller scale regressions and transgressions) associated with this sea-level transgression and therefore also the forcing climatic variables are closely tied to the ability of anthropologists to identify and interpret accurately the history of humans in Florida and elsewhere (Gunn 1994; Hodell 1991). Research directed toward reconstructing Holocene sea-level history in Florida continues to fine-tune the timing and magnitude of fluctuations, both small and large (Stapor et al. 1991; Tanner 1991; Walker et al. 1994, 1995).

The chronology of the historic contexts presented below is based on a number of sources including Bense (1994) for the greater southeastern U.S., Milanich (1994) for the state of Florida, and Marquardt (1992d) for southwest Florida. Widmer (1988) and Cordell (1992) are also primary sources for the southwest Florida chronologies. The chronology presented here most closely follows Marquardt's (1992d). All of these sources, in turn, are based on the research of many Florida archeologists, spanning the twentieth century.

Paleoindian Stage, 11500 - 6500 B.C.

To date, few Paleoindian sites have been discovered in the Caloosahatchee Region. Recently, a Suwannee point was discovered on Useppa Island (8LL51), indicating a Paleoindian occupation there (Marquardt in press). The Ryder Pond Site, believed to be Paleoindian, was discovered just this year near the town of Bonita Springs, south of Fort Myers. It is generally accepted that sea level during Paleoindian times, although no doubt continually fluctuating (Fairbridge 1992), was overall many meters lower (about 150 meters) than that of the present day. Associated with the lowered sea level, Florida's climate was generally cooler and drier (Watts and Hansen 1988).

Sites that would have been "coastal" during this time have long been inundated by rising waters; no underwater surveys have been attempted in the Gulf waters off the Caloosahatchee Region. Inundated shell middens off the coast of Tampa have been hypothesized to belong to the Paleoindian Stage (Goodyear et al. 1983). Dunbar et al.'s (1992) "oasis" model for the location of Paleoindian sites suggests that south Florida in general may not have had the environmental prerequisites (karst topography,

access to fresh water and chert outcrops) for a populous Paleoindian habitation (see also Milanich 1994:40-44).

Paleoindian peoples have long been characterized as big-game hunters, but new information indicates that Florida's Paleoindians exploited a diverse range of foods. Artifacts characteristic of the Paleoindian Stage in Florida include stone Suwannee, Clovis, Simpson, and later, Bolen points, ivory foreshafts, stone bolas, and double-pointed bone points.

Archaic Stage, 6500 - 500 B.C.

The Archaic Stage is marked by a warmer and wetter climate and a higher sea level. With the general increase in freshwater sources, Early Archaic (6500 - 5000 B.C.) settlement broadened across Florida's landscape. Distinctive artifacts include Kirk, Hamilton, Arredondo, Wacissa, and other stone points. One possibility for a Caloosahatchee-Region site dating to the Early Archaic Period is the West Coral Creek Site, on the Cape Haze Peninsula in Charlotte County (Hazeltine 1983).

Almost nothing is known about the Middle Archaic Period (5000 - 2000 B.C.) in the interior portions of the Caloosahatchee Region. Small lithic scatters have been found in the interior (Almy and Deming 1987) and several researchers have speculated about Archaic affiliations for these sites (Beriault 1973; Austin 1987:49). The Little Salt Spring, Republic Groves, and Bay West sites are nearby in neighboring counties to the north, southeast, and northeast. One distinction of these Middle Archaic Period sites is the mortuary practice of placing the dead in pond cemetaries. The preservation at such sites is remarkable.

Isolated projectile points (e.g., Newnans) are occasionally found along southwest Florida's shoreline (e.g., Hazeltine 1983). A small test excavation at Galt Island (8LL27) produced a Middle Archaic radiocarbon date (Austin 1992). Zooarcheological evidence from the Middle Archaic at the Useppa Island Site (8LL51) indicates that a rich estuarine environment was intensively exploited in the Caloosahatchee Region as early as 4610 - 4370 B.C. (Marquardt 1992c:11; Marquardt in press). Sites on Horr's Island just south of the Caloosahatchee Region indicate a Middle Archaic estuarine subsistence pattern dating as early as

ca. 5000 B.C. (Russo 1991). Both the Useppa and Horr's Island Archaic occupations indicate multi-seasonal settlement and possibly permanent coastal habitation. The appearance of these subsistence and settlement patterns for the Middle Archaic is coeval with the slow-down of the Flandrian Transgression.

The Late Archaic Period (2000 - 1200 B.C.) is generally recognized in southwest Florida by the appearance of fiber-tempered pottery known as "Orange Plain." Generally, in Florida the period is characterized with a growing regionalism and an increasing importance of interior and coastal wetlands and waters to subsistence and settlement patterns. The period is poorly known in the Caloosahatchee Region with only a few sites recorded. Examples are Howard Mound, 8LL44, and Calusa Island, 8LL45. Even fewer sites have been scientifically investigated (e.g., Useppa Island Site).

The Terminal Archaic Period (1200 - 500 B.C.) is marked by a gradual transition from fiber-tempered to a sand-tempered pottery; it is also an understudied period (Marquardt 1992d:428; Widmer 1988:72). The pottery is referred to as "semi-fiber tempered," showing a combination of fiber and sand as tempering agents. Semi-fiber-tempered sherds are known from Useppa Island (Griffin 1949) and the Wightman Site, 8LL54 (Fradkin 1976:53).

Caloosahatchee Culture Period, 500 B.C. - A.D. 1750

Chronology. Sand-tempered Plain pottery came into use ca. 750 - 550 B.C., marking the beginning of both the Glades Tradition in greater south Florida and the Caloosahatchee Culture Period in coastal southwest Florida (Goggin 1949a:28; Widmer 1988:73). Building a precolumbian ceramic chronology for the Caloosahatchee Region has been a difficult task because its prehistory is dominated by undecorated sand-tempered pottery with little obvious differentiation through time. Nonetheless, studies by Luer and Almy (1980), Milanich et al. (1984), and especially Cordell (1992; in press) demonstrate the chronological potential of southwest Florida ceramics. Widmer (1988:83-87) outlines what he calls a "Caloosahatchee Sequence" that has served as an initial ceramic synthesis for the region. Research by Cordell (1992; in press) -- an extensive study of paste and decoration attributes, as well as technological and formal variability -- is

refining Widmer's Caloosahatchee Sequence. The date ranges below reflect these recent refinements.

The Caloosahatchee I Period, 500 B.C. - A.D. 500 is characterized by sand-tempered and laminated sand-tempered plain pottery, and perhaps most importantly, an absence of Belle Glade ceramics. The appearance and increase of Belle Glade ceramics among the sand-tempered plain wares distinguishes Caloosahatchee II.

The Caloosahatchee II Period, A.D. 500 - 1200, is divided by Cordell (1992) into IIA, A.D. 500 - 800, and IIB, A.D. 800 -1200. Current study of the Pineland pottery assemblage (Cordell in press) suggests that A.D. 500 is an appropriate estimate for the Caloosahatchee I to II transition and that A.D. 800 is an appropriate boundary between IIA and IIB. The beginning of IIA is marked by the introduction of Belle Glade pottery. Belle Glade pottery becomes the predominant type circa A.D. 800, marking the beginning of IIB.

The Caloosahatchee III Period, A.D. 1200 - 1350, is represented by the addition of occasional St. Johns and Englewood ceramics, the former thought to be a tradeware, while the latter is believed to be of a specialized ritual-mortuary context.

The Caloosahatchee IV Period, A.D. 1350 - 1500, is identified by the addition of sporadic occurrences of Glades Tooled (generally associated with areas to the south), Safety Harbor, and Pinellas Plain (both generally associated with the central Gulf coast to the north). Safety Harbor ceramics, widely thought to be associated with the Tocobaga Indians to the north, are increasingly found in the Caloosahatchee Region, indicating that they should no longer be conceptually confined to the Tocobaga (Widmer 1988:86). Mitchem (1989:304), upon examination of Charlotte and Lee county artifact collections, concurs with this thesis.

The Caloosahatchee V Period, A.D. 1500 - 1750, is characterized by period-IV native pottery but is marked with a few Spanish artifacts and, during latest times, with Leon-Jefferson ceramics (Bullen and Bullen 1956). Thus, Caloosahatchee V is associated with the historic-period Calusa, known from Spanish accounts.

Sixteenth- and seventeenth-century Spanish activity in southwest Florida was minimal compared to more northern parts of Florida. Nonetheless, written Spanish documents are an invaluable source of information about the Calusa. Although the predominant view is that the de Soto expedition (1539-1543) entered La Florida at Tampa Bay (Milanich 1987; 1995; Milanich and Hudson 1993), Williams (1986) recently published an argument for Charlotte Harbor as the landing location.

The 1566 to 1570 encounters between the historic Calusa of the Caloosahatchee Region and Pedro Menéndez de Avilés are documented from the Spanish perspective and have been discussed in considerable detail (Goggin and Sturtevant 1964; Lewis 1978; Marquardt 1987a, 1988a, 1992b). Spanish explorers entering Estero Bay and Charlotte Harbor in the sixteenth century encountered the populous and sedentary maritime Calusa Indians governed by a paramount chief named "Carlos." Written accounts of these meetings record first-hand observations of Calusa life. Principal archival sources include Fontaneda (1944), Hann (1991), Laudonnière (1975), Solís de Merás (1923), Vargas Ugarte (1935), and Zubillaga (1946). The chronicles frequently focus on the Calusa capital, "Calos," believed to be located at Mound Key, 8LL2, in Estero Bay (Goggin and Sturtevant 1964:182-183; Lewis 1978:19, 40-41) and consistently depict the area of Estero Bay/Charlotte Harbor as the heartland of the Calusa people whose political influence extended over all of south Florida. The densest population in south Florida occurred at this coastal "center" (Goggin and Sturtevant 1964:186; Milanich and Fairbanks 1980:246).

The Calusa are variously identified by modern researchers as a society at the level of complex hunter-gatherer, chiefdom, and state. Spanish descriptions characterize an elaborate level of cultural complexity for the Calusa, all based on a fishing economy (Goggin and Sturtevant 1964; Lewis 1978; Marquardt 1986, 1987a, 1988a, 1992b; Widmer 1988). Although the chief of the Calusa, Carlos, was killed in 1567, and his successor Felipe in 1568 by the Spanish, and the main town Calos was abandoned temporarily in 1569, Calusa ideology and political hegemony in south Florida were still firmly rooted during the seventeenth

century, indicating the system's resilience (Lewis 1978:30; Marquardt 1987a:108-109, 1992b).

As late as 1743, traditional ideological elements were evident even when only a few Calusa remained as part of a remnant native group in the Miami area (Marquardt 1987a:110; Sturtevant 1978:141). The last known Calusa families departed the Florida Keys for Cuba in 1763. To date, archeologists have not demonstrated conclusively whether or not this historic Calusa society originated in the Caloosahatchee coastal area (Luer 1986a:154-155; Widmer 1988:97).

Subsistence. With the development of estuaries along the southwest coast of Florida, semi-enclosed shallow-water mangrove and seagrass environments provided rich marine "gardens" allowing the growth of sedentary human populations. An essential element of native coastal life was a near-shore maritime fishing-gathering-hunting subsistence base. Ethnohistoric accounts depict the Calusa as a fisher folk above all else, and explicitly note the absence of agricultural foodstuffs. Archeological food remains so far confirm this description for both the historic Calusa and their predecessors. Possible coastal sources for drinking water include small ponds dug to collect rainwater, sinkholes (one is reported to occur on the southern end of Pine Island), and artesian wells (examples are known for Galt Island and Pineland).

The quiet, near-shore marine tropical waters of the Charlotte Harbor/Estero Bay area produce a remarkable abundance and diversity of fish and shellfish (Estevez 1981; Harris et al. 1983; Taylor 1974; Wang and Raney 1971). Fishing with nets, hook and line, spear, and probably tidal traps accounted for the largest nutritional portion, roughly 80 to 90% meat biomass, of the Caloosahatchee animal diet (Walker 1992a). Analysis of faunal samples from five variously located Caloosahatchee-period sites indicates that the species, size, abundance, and diversity of fishes procured varied according to village location, and targeted micro-environment and spawning cycles (Walker 1992a).

Although seemingly unimportant from the perspective of meatweight, shellfish-gathering was extremely significant in the

native diet as evidenced by the abundance and diversity of species in the massive middens (Walker 1992a). Spatial studies of archeological mollusks indicate that shellfish were collected on a very local scale (Walker 1992a). Supplementary animal foods included the white-tailed deer, small and medium-sized mammals, ducks and other fowl, alligator, turtles, siren, and sea urchin (Fradkin 1976; Milanich et al. 1984; Walker 1992a).

Wild plant foods, reported either ethnohistorically (Fontaneda 1944; Zubillaga 1946) or archeologically (Scarry and Newsom 1992), include various wild roots (Hann 1986:91-93; Widmer 1988:232-233), mastic fruit, prickly pear cactus fruit, palm fruits, sea grapes, hogplum, and cocoplum. Additionally, there is the possibility that *Chenopodium* (goosefoot) and other starchy grasses archeologically identified in the Caloosahatchee Region were used as food resources (Scarry and Newsom 1992).

The role of horticulture in prehistoric southwest Florida is presently contested among anthropologists (Dobyns 1983:126-130; Gilliland 1975:35; Lathrap 1987:349-350; Johnson 1990; Keegan 1987:334-335; Milanich 1987; Widmer 1988:229-234). The coontie plant (*Zamia* sp.), commonly thought to be the bread root of Fontaneda's memoir, now has fallen out of favor. Hann (1986:91-93), Widmer (1988:233), and Griffin (1988:298) suggest other possible identifications. In any event, there is no indication that roots were cultivated, only that they were collected as food items (Marquardt 1986:66). Most recently Scarry and Newsom's research (1992) would seem to support the prevailing view that cultivated plant foods overall played a minor role in the native subsistence system, yet these authors acknowledge the potential gap in the archeobotanical record due to the non-preservability of root foods.

Settlement. Little is known about interior archeological sites of the Caloosahatchee Region due to a paucity of systematic survey and excavation. A number do exist, though, as evidenced by Austin's (1987) Lee County site inventory, concentrating along the banks of the Caloosahatchee River. About 27 sites occur above the river's mouth and are typed as middens or burial mounds (Austin 1987:17). Examples include River's Edge Shell Midden (8LL129), Moody's Mound (8LL758), and Beautiful Island Burial Mound (8LL73).

Another kind of midden site in interior Lee County is the small dirt midden occurring in "oak/palm hammocks or palm islands associated with freshwater marshes" (Austin 1987:17). Austin's inventory locates 14 of these sites including the Sentinela Site (8LL746), Maranda's Site (8LL731), and Halfway Pond Site (8LL743). A third interior site type of which there is presently only one recorded is the canal that cuts through present-day Cape Coral (8LL756). Unfortunately, only one site, Oil Well Road Site (8CH66), has been recorded for the interior areas of Charlotte County. It is a midden located in freshwater marshlands. More intensive archeological investigations on these sites is required before their significance can be understood.

Coastal middens have received the most scientific attention, clearly because they are the most numerous type of site within the Caloosahatchee Region. Moreover, some of these sites are enormous, reaching elevations of 9.5 meters. A few of the largest sites, called midden/mound complexes, have been mapped, some very recently (Luer 1988; Marquardt 1992c; Marquardt in press; Torrence et al. 1994; Walker and Marquardt in press). Many of these sites today are surrounded by mangrove wetlands, and in many cases their deposits extend well below mean sea level. Possible explanations for this setting include: 1) inhabitants lived in stilt houses over shallow water and discarded shells, bones, etc. into the water, the middens eventually accumulating to a height above the high-tide mark; 2) middens were originally deposited above the high tide mark and the sea level subsequently rose; and 3) middens were originally deposited above the high tide mark and the land area subsequently subsided.

Burial mounds also are found in the coastal area (Hrdlicka 1940). They vary in size and form. In some cases, *in situ* natural sand features such as relict dunes were used as burial sites (e.g., Buck Key Burial Mound, 8LL55/8LL723). Other mounds were purposefully constructed for human burial. Pineland's Smith Mound today stands at 7 m above mean sea level. Canal features are not uncommon in the coastal area, usually associated with the large midden/mound complexes. Some canals carry their own Florida site numbers, as in the case with the Pine Island Canal, 8LL34.

Intra-site settlement information is scant. What is known comes from two ethnohistoric sources documenting the Caloosahatchee V period and archeological excavation of Caloosahatchee I, IIA, and III deposits. In a 1566 meeting, the paramount Carlos received Menéndez in his own house, a building large enough to hold 2,000 people (Solís de Merás 1923:145). A priest in 1697 described a Calusa temple called a "mahoma" as a long, wide, and tall building with only one door (Marquardt 1987a:109). Archeological evidence for structures has been excavated at the Caloosahatchee I Solana Site (8CH67) on the Peace River (Widmer 1986:41) and at Pineland's Caloosahatchee I, IIA, and III components (8LL33, 8LL37) (Walker and Marquardt, in press). In neither case, however, have excavations been broad enough to allow pattern definition.

Another important aspect of intra-site settlement is whether or not people lived year-round at sites. Advances have been made toward answering this question for Archaic and Caloosahatchee time periods. Quitmyer and Jones (1992) completed a baseline biological study to allow the interpretation of site residence based on seasonality of the quahog clam, *Mercenaria campechiensis*. In addition, other animal remains such as scallop shells, odostome shells, and fish atlases and otoliths, are now being analyzed, providing multiple lines of evidence (Russo 1991; Quitmyer and Massaro in press; Quitmyer in press).

The abundance and enormity of sites in the Caloosahatchee coastal area denote a large population, perhaps the densest of precolumbian south Florida. The middens/mounds are at times overwhelming in size. Mound Key, for example, covers roughly 125 acres reaching an elevation of 9.5 meters (Goggin and Sturtevant 1964:183). Widmer uses late precolumbian site size and frequency to estimate a historic-period Calusa (including the Ten Thousand Islands area) total population of 10,250, and only 4,800 for the Charlotte Harbor estuarine area (1988:260). Other total estimates for the Charlotte Harbor and Ten Thousand Island locales for the sixteenth century (Caloosahatchee V) include 4,000 to 7,000 (Goggin and Sturtevant 1964:186-187), 10,000 to 15,000 (Milanich and Fairbanks 1980:246), and 97,600 (Dobyns 1983:131). Such estimates remain in the realm of speculation.

Material Culture/Technology. Study of temporal variation in bone, shell, and stone artifacts in the Caloosahatchee Region has been very limited. One exception is Patton's recent study (in press) of shell artifacts from the Pineland Archeological District. Additionally, little intra-regional spatial variation has been detected and so these artifact classes have been treated largely on a south Florida regional basis. Goggin, in his unfinished book manuscript (n.d.), noted a few intra-regional differences in artifact classes, as did Bullen and Bullen (1956). These observations should be tested with increased sample sizes.

Shell and bone are prominent media in south Florida for a great variety of utilitarian and decorative items. Major sources for shell artifact typologies are Goggin's (n.d.) unpublished manuscript, Griffin's (1988) synthesis, and Marquardt's (1992e) new compilation. Complementing these are research papers focusing on specific shell tool types (Luer et al. 1986; Luer 1986a), and two forthcoming studies (Patton in press; Torrence in press). Vessels such as dippers, cups, and spoons varying in size were fashioned from a number of different marine gastropod species. Picks, hammers, celts, gouges, adzes, and chisels are common tools generally made from thick-walled gastropods. Perforated bivalves, notched clam fragment weights, gorges, beads, plummets, and pendants are also common (Marquardt 1992e; Patton in press; Torrence in press).

Goggin also presents a descriptive typology for bone artifacts (n.d.). Purdy (1973) presented a study of bone points. More recently, a large collection from the Granada site near Miami has been described (Richardson and Pohl 1985). Additionally, Walker (1992b) reports on a small collection of bone artifacts from three Caloosahatchee-period sites and Patton is currently studying the Pineland collection. Awls, beads, pendants, pins, gorgets, barbs, and points are just a few of the many forms. A few of these shell and bone artifacts are being reinterpreted as more is learned about Florida's prehistoric fishing technology (e.g., Kozuch 1993; Marquardt 1992e; Walker 1992b).

Chipped stone artifacts are not well known for the Caloosahatchee Region but do occur sporadically throughout the temporal sequence. One explanation for this is the lack of high-quality chert outcrops in south Florida (Austin in press). Thus,

most of the lithic tools that are found probably were traded into the region. It is not surprising, then, that chert debitage scatters are noticeably unidentified and thus, understudied. An important new study is that of Austin (in press) which deals with the Pineland collection. Common stone artifact types are perforated rocks (sometimes shaped) of limestone thought to have been weights, and limestone plummets (Goggin n.d.; Griffin 1988:98-100, 110). Another important type, although rare, is the incised stone (non-native southwest Florida material) ceremonial tablet; most of these are from Collier and Monroe counties (Allerton et al. 1984; Luer 1985). Unfortunately, chronological context is unknown for the tablets, but a late prehistoric time is suspected.

Artifacts of wood and cordage are largely known from the Key Marco site located south of the Caloosahatchee Region (Cushing 1897; Gilliland 1975, 1988). The degree of material technology exhibited in the well-preserved artifacts nevertheless can be extrapolated for northern neighbors and may be closely associated with the Calusa, especially if the Key Marco site dates to late prehistoric times as argued by Milanich (1978). Artifacts document a diverse and sophisticated use of woods, including a knowledge of functional properties and an elaborate artistic expression. Additionally, toy wooden canoes suggest the construction and use of water-going vessels for different purposes (Cushing 1897:364-365). More recently, wooden artifacts and cordage have been found at Pineland (Walker and Marquardt in press).

The most extensive use of cordage (probably of palm fiber) was in the manufacture of fishing nets of varying mesh sizes and shapes. Remains of gourds of a type similar to modern ornamental specimens have been identified from Key Marco (Cutler 1975:255-256) and more recently from Buck Key (Scarry and Newsom 1992). These gourds are thought to have been used for net floats or containers (e.g., Gilliland 1975). Recent excavation at a waterlogged Pineland midden resulted in the recovery of preserved cordage fragments, remains of gourds and gourd-like squashes, seeds, and large amounts of wooden debris (Walker and Marquardt, in press).

Little systematic study of post-contact European or European-influenced native artifacts has been undertaken largely because many, if not most, burial mounds of this period have been looted, and artifacts are scattered among private collectors or were melted down years ago (Goggin n.d.). Goggin (n.d.) described various artifact classes and discussed their known distribution circa 1949. Mitchem (1989) provides an updated survey of known sixteenth-century European artifacts for southwest Florida. Of importance is work by Allerton et al. (1984) who provide an excellent descriptive and illustrative inventory of all known contact-period metal ceremonial tablets with a subsequent addition by Luer (1985). Their research resulted in a significant study of pattern and variation in an artifact type that is unique to south Florida. The tablets, based upon their chronological and geographical contexts, may signify high status positions closely associated with the spread and maintenance of the historic-period Calusa hegemony (Griffin 1988:311-312; McGoun 1981).

Belief System and Mortuary Behavior. A ranked set of three deities representing rule in the realms of the celestial, the earthly terrestrial polities, and war were most important to the Calusa of the Caloosahatchee V Period (Goggin and Sturtevant 1964:197). Ritual specialists who had the power to summon the winds (Sturtevant 1978:147) and control the idols were a prominent element of Calusa society. Human sacrifice, usually of shipwrecked Spaniards, was related to the needs of various idols. One type of idol was a painted, flat board depicting an animal figure. Beautifully carved and painted wooden masks such as those found at Key Marco (Cushing 1897; Gilliland 1975; 1988) were used in complex ceremonies. At Calos, the paramount chief's town, wooden masks and other ritual paraphernalia were kept in a temple on top of a mound. There are also ethnohistoric suggestions of charnel houses and burial mounds that were feared, but closely guarded and located away from the main village complex. Rogel notes that the Calusa believed that each person had three souls, one of which was in the pupil of the eye and remained in the body after death (Zubillaga 1946:278-281). For this reason, people visited the burial grounds to leave offerings for and gain counsel from the dead.

Knowledge of precolumbian mortuary practices is limited, but Widmer (1988:94-97) has sketched an initial chronology based on early excavations. Sand burial mounds excavated at Captiva (8LL57) (Collins 1929:151-153) and the Pine Island 8 Site (8LL40) (Moore 1900:363) have components tentatively assigned to the Caloosahatchee II period (A.D. 500 - 1200), characterized by continuous use over time, flexed primary with secondary burials, associated charnel houses, and no grave artifacts except for the placement of pottery sherds around the skull (Goggin n.d.:296-298, 307-308; Widmer 1988:94-95). Flexed, primary Caloosahatchee II burials excavated at Useppa Island (Hansinger 1992; Marquardt in press) occur as intrusions in Caloosahatchee I period shell middens.

Burials of the Caloosahatchee III and IV periods (A.D. 1200 - 1500) differ only in that they contain ceramics such as Safety Harbor and Englewood styles as mound inclusions. Mounds with these components are the Punta Rassa site (8LL7), the Pine Island 8 site (8LL40), the Pineland Smith Mound (8LL36), and the Aquí Está Burial Mound (8CH68) (Widmer 1988:96). A multiple burial excavated from the sand mound on Buck Key (8LL55/8LL723) (Hutchinson 1992), possibly dates to Caloosahatchee III but does not contain artifacts (Marquardt 1992c). Caloosahatchee V (A.D. 1500 - 1750) burials follow a similar pattern except for the addition of European artifacts. The Punta Rassa (Moore 1905:308-309) and Pine Island (Moore 1900, 1905) sites, already mentioned, contained burials with European grave goods (Goggin n.d.; Widmer 1988). The most striking feature of the Caloosahatchee mortuary pattern, to the extent that it is known, is its continuity through time and general lack of grave goods.

Sociopolitical Organization. That the sixteenth-century Calusa sociopolitical formation was highly complex has been demonstrated (Goggin and Sturtevant 1964; Lewis 1978; Marquardt 1986, 1987a, 1988a, 1992b; Widmer 1988). Marquardt (1987a:99) notes that although most researchers consider the level of historic Calusa cultural complexity to have been that of a chiefdom (e.g., Widmer 1988), the society falls into an "early state" category under one anthropologist's typology and a "weak tribute-based state" under another.

Also debated is when Calusa society became complex. Widmer (1988:261-276) argues that the Calusa social formation was as complex by A.D. 800 as it was in historic times, while Marquardt (1991:xvi-xvii) raises the possibility that Calusa complexity was greatly elevated in post-contact times, and could have been considerably simpler before the arrival of the Spanish. Almost all that is known about the sociopolitical realm of the Caloosahatchee peoples is due to ethnohistoric documentation; thus, we are largely limited to the protohistoric and early historic periods, Caloosahatchee IV and V. These documents have been used in depth by Goggin and Sturtevant (1964), Lewis (1978), Marquardt (1987a, 1988a, 1992b), and (Widmer 1988) to characterize sociopolitical organization.

Calusa status differentiation was well developed as described by the sixteenth-century Spanish. Chroniclers perceived a rigid social hierarchy that operated under the paramount chief's authority. Close to the paramount were two powerful advisory figures, the chief priest and the captain general. The paramount's principal wife was normally his sister. Royal succession to the paramountcy was maintained through this practice of sibling marriage. A supported nobility and military elite were not required to work. Noble women participated in public ceremonies along with the men. Commoners, denied access to certain privileges and material surpluses, constituted the bulk of the population. Captives were made to work, at least in historic times.

The political authority of Carlos was ideologically melded with his spiritual authority (Marquardt 1988a:174-175). There existed a tight link between his absolute power and the insurances of environmental productivity, intra- and inter-regional sociopolitical order, and spiritual order. Ceremonies performed in secret by the paramount and his associates maintained the availability of food abundance. Alliances with other south Florida polities were cemented by the acceptance of a noblewoman to be Carlos' bride and by engagement in a system of tribute extraction (e.g., food, hides, mats, feathers, captives, salvaged European materials). Luer (1989) discusses the probable role of artificial canals in the Calusa hegemony. The paramount chief could call on the armies of any subservient town to take part in the frequent warfare conducted with his rival, the Tocobaga. One

of three principal gods described by Rogel (Zubillaga 1946:280) was said to help gain victory in these wars.

Spanish-Cuban/Seminole/Euro-American Pioneer Period, A.D. 1750 - 1881

For a period of roughly A.D. 1750 to 1850, Cuban fisherfolk of Spanish descent settled in the Caloosahatchee Region, establishing permanent communities--referred to as "ranchos"--primarily based on the netting of mullet (Covington 1954, 1959; Hammond 1973; Williams 1962). One historian, Grismer (1982:42), states that these fishing ranchos employed Calusa fisherfolk and paid them with a portion of the catch, general supplies, guns, and ammunition. Other historians do not mention Calusa fisherfolk; rather Seminole individuals are presented in this role. Grismer's placement of Calusa fisherfolk amidst the ranchos is generally discounted.

Historians report that the fishing ranchos ceased to exist by 1850; that the events of the Second Seminole War contributed to their demise (Grismer 1982; Hammond 1973). The fishing communities were located on many of the estuarine islands of the region. The ranchos on Cayo Costa, Cayo Pelau, and Useppa are especially visible in historical documents (Gibson 1982; Hammond 1973; Williams and Cleveland 1993). In addition, artifacts from this time period, including fragments of Spanish olive jar and British-made refined earthenware ceramics, are found at many sites throughout the region. In most known cases, these deposits overlie those of the Calusa or their predecessors. To date, only one scientific excavation of a Spanish-Cuban rancho midden has occurred--that of the Florida Museum of Natural History in 1993 (Palov in press).

Overlapping (in time) with the Spanish-Cuban settlement were the first homesteads and other ventures (e.g., trading posts) of various Euro-American settlers. During the Third Seminole Indian War, the U.S. government founded in 1850 an outpost named Fort Myers on the banks of the Caloosahatchee River. It was dismantled following the Civil War (ca. 1866) by angry Euro-American settlers (Grismer 1982:86), but the site was subsequently resettled by several families. The town of Fort Myers was platted in 1876. Recently, Marion Almy and her

associates (ACI 1993) excavated at the site of the 1850s Fort Myers, today in downtown Fort Myers.

Euro-American Period, A.D. 1881 - 1945

This period is subdivided based on a series of distinct economic episodes as outlined by Olausen (1994) in his MPDF entitled *Historic Resources of Lee County, 1881-1945*. What follows is a brief summary of these episodes; the more extensive summaries of Olausen should be consulted for this Euro-American period. Although Olausen's MPDF was written for only Lee County, the chronological outline applies to Charlotte County as well.

Early Development of Lee County, 1881-1895. The last two decades of the nineteenth century experienced a growth in Euro-American settlement. Farming, cattle ranching, recreation, and out-of-state investing translated into settlements such as homesteads on Mound Key and at Pineland on Pine Island; the cattle-shipping station at Punta Rassa; the establishment of the exclusive Useppa Inn on Useppa Island; and the founding, by New Yorkers, of St. James City at the southern extreme of Pine Island.

The Disston Land Purchase of 1881 marks the beginning of this development episode. Hamilton Disston purchased from the state of Florida 4 million acres stretching from Tarpon Springs to Fort Myers to Lake Tohopekaliga. He also was granted a franchise to drain interior lands in exchange for half of the resultant drained land. In August of 1883, the Caloosahatchee River was connected to Lake Okeechobee, completing the first stage of Disston's operation. By 1885, Fort Myers was the second largest town on Florida's Gulf coast. Disston's operations faded by 1893, and combined with the effects of Florida's Great Freeze (1894/1895), the region suffered a short-term economic depression.

Agricultural and Industrial Expansion, 1896-1918. The region's citrus industry greatly expanded following Florida's Great Freeze of 1894/1895. Lee County's groves escaped destruction, resulting in the attraction of growers from north and central Florida and ultimately recovery from the depression.

Regional transportation improvements of the first two decades of the twentieth century led to enormous growth in both the Lee and Charlotte county areas. Steamboats provided transportation along the Caloosahatchee and the coastal waters. The commercial fishing industry, centered on the Charlotte Harbor/Pine Island Sound region, received a substantial boost with the appearance of railroads and refrigeration, used for transporting fresh fish to northern areas. The railroads also led to the establishment of a timber (pine) industry. The largest Lee County operation was run by Dowling-Camp who had a mill at Slater and logged extensive areas of what is now Cape Coral and Leehigh Acres. The end of this episode of growth is marked by World War I.

The Florida Land Boom, 1919-1927. Following World War I, Lee County experienced another surge in population growth and development, and Collier and Hendry counties were separated from Lee in 1923. Land speculation and large migrations of northern residents mark this episode, a characteristic true of the entire state. However, financial troubles developed by 1925 and a hurricane devastated the region in 1926. In addition to the great damage done to Fort Myers and other mainland settlements, the storm seriously impacted the coastal islands, including Punta Rassa, Estero Island, and Sanibel Island. The region's economic problems worsened with the onset of America's Great Depression.

The Great Depression and World War II, 1928-1945. Like the rest of the nation, Lee and Charlotte counties suffered during the depression, benefited from the federally funded relief projects, and fully recovered with the activities associated with World War II. During World War II, a number of military installations were established in Lee County. These resulted in the development of Page Field (Lee County Airport) and a base at the community of Buckingham; both were operated by the U.S. Army Air Corps. The construction of these facilities combined with the associated services, housing, products, and recreation once again brought economic growth to the region.

F1.1 Associated Property Types: Midden; Burial Mound; Midden/Mound Complex; Cemetery; Canal; Shellworks/Earthworks

F1.2 Description

The property types described below basically follow Austin's (1987:47-51) "site types" defined in his *An Archaeological Site Inventory and Zone Management Plan for Lee County, Florida*. For this cover, the following modifictions have been made: 1) a combination of Austin's shell midden, dirt midden, artifact scatter, and lithic scatter types into one grouping, that of the midden property type; and 2) the integration of Austin's "historic sites" type into the other property types. These property type descriptions are appropriate for all of the Caloosahatchee Region, Lee and Charlotte counties.

F1.2.1 Midden. Midden sites contain deposits of cultural debris including gastropod and bivalve shells, animal bones (primarily fish), artifacts made of shell, bone, and stone, pottery fragments, charcoal and other plant remains, structural features (e.g., post-molds), and varying amounts of organically "stained" sand. For the most part, these materials have accumulated due to precolumbian human activities of every-day life. In addition, human burials sometimes were placed in middens. Deposits range from scatters of artifacts and ecofacts to those exhibiting complex internal stratification, often with shell-dense layers alternating with sand-dense ones. For the purposes of this MPDF, midden sites are associated with all historic contexts, including the Spanish-Cuban/Seminole/Euro-American Pioneer and Euro-American ones. The first three subtypes (see below) are appropriate for these two time periods. Approximately 122 midden sites are recorded for Lee County as of 1987 while roughly 90 are recorded for Charlotte county.

Four subtypes of the midden property type are recognized: shell midden, dirt midden, artifact scatter, and lithic scatter. By far, the most abundant subtype is the shell midden. Midden sites primarily are distributed along the estuarine perimeters and dot many mangrove-fringed islands in Pine Island Sound, Estero Bay, and Charlotte Harbor (Austin 1987:17; Edic 1987; Kennedy 1978; Luer 1988; Wilson 1982:3). A variety of shell-midden sites is found beginning with small, isolated, amorphous

middens and ending with large mounded middens. Those middens that exist as components of the larger midden/mound complex property type (see below) are not considered under the midden property type. A series of discontiguous shell middens is also recognized as a midden site. Examples of coastal shell midden sites include Buck Key Shell Midden 1 and 2 (8LL721 and 8LL722), Cabbage Key (8LL71), Calusa Island (8LL45), and Cash Mound (8CH38) (Bullen and Bullen 1956; Marquardt 1992c).

Although dirt middens can occur as stratigraphic components of shell midden sites, the subtype "dirt midden" is used for those middens generally associated with "oak/palm hammocks or palm tree islands in or adjacent to ponds, marshes, sloughs and swamps" (Austin 1987:48). They are thought to be short-term habitation sites; they exhibit a matrix of dark sandy sediment with inclusions of pottery and other artifacts, along with animal bone.

Artifact and lithic scatters are characterized by a low density of artifacts sometimes with accompanying ecofacts. Lithic scatters contain almost entirely (if not 100%) lithic artifacts. The distinction between the two subtypes is made because lithic scatters are often associated with Paleoindian and Archaic peoples whereas the more-general "artifact scatter" can relate to any of the historic contexts.

F1.2.2 Midden/Mound Complex. This property type is reserved for complex sites comprised of mounds, platforms, plazas, courts, and canals. To date, few sites are designated as complexes, likely due to lack of knowledge about so many of the region's sites. At these large village complex sites, mounds seem to be of three major types. Many mounds represent undisturbed accumulations of shell and other debris (middens) over time while others show stratigraphic evidence for mound-building using shell midden previously deposited elsewhere. A third mound type often found in these complexes is the burial mound (see below). These extensive, planned complexes concentrate along the eastern estuarine fringe. A few sites have been mapped, some very recently (Luer 1988; Marquardt 1992c; Torrence et al. 1994). These complexes can contain components dating from the Paleoindian to the Euro-American temporal contexts.

Examples of midden/mound complexes are Pineland (8LL33, 8LL34, 8LL36, 8LL37, 8LL38, 8LL757, 8LL1612) (Luer 1986b; Marquardt 1992a; Walker and Marquardt in press), Josslyn Island (8LL32) (Marquardt 1984, 1992a), Galt Island (8LL27, 8LL81) (Marquardt and Beriault 1988), Useppa Island (8LL51) (Griffin 1949; Marquardt 1992a; Milanich et al. 1984), Wightman (8LL54) (Fradkin 1976; Wilson 1982), Mound Key (8LL2) (Lewis 1978), and Big Mound Key/Boggess Ridge (8CH10, 8CH16) (Luer and Archibald 1988; Luer et al. 1986; Marquardt 1992a).

F1.2.3 Cemetery. This property type is defined as an area containing subsurface human burials (at least one), but not involving mounded sediment, whether purposeful or not. The pond burials that are known for the Archaic periods in Florida are the primary example. Recently, such a burial site (Ryder Pond, 8LL1850) was discovered to the east of Estero Bay in Lee County. Cemeteries of the Spanish-Cuban/Seminole/Euro-American Pioneer and Euro-American periods are included in this category. For example, a cemetery possibly related to a Spanish-Cuban fishing community reportedly is located on Cayo Costa.

F1.2.4 Canal. Canal sites today consist of remnant linear depressions in the earth. At Pineland for example, the Pine Island Canal, 8LL34, appears as a ditch periodically filled with water. The site plans at Pineland and Mound Key are similar in that each has two major midden/mound complexes that are separated by "central canals." Generally, central and lesser canals associated with large complexes are today choked with black mangroves.

F1.2.5 Burial Mound. In the Caloosahatchee Region, burial mounds are usually conical-shaped sand mounds, varying in size, and purposely constructed by precolumbian peoples for the purpose of burying deceased individuals. They sometimes are situated in the midst of a black mangrove wetland associated with a large midden/mound complex (e.g., Galt Island, Mound Key). In the case of Pineland, the Smith Mound (8LL36) is partially encircled by a water-filled ditch, but was at one time completely surrounded by water. Some burial mounds contain shells in their deposits. There are also examples of mounds that are naturally formed dune deposits that people took advantage of, burying their dead in the

fine, aeolian sands. Both primary and secondary interments are known for the region and grave goods are rare.

F1.2.6 Shellworks/Earthworks. Austin (1987:50) defines this property type as "linear ridges, circular embankments and causeways constructed of earth or shell, as well as their associated borrow pits." This type is the least understood of the property types and may not even be valid; only future investigation will allow its evaluation as a property type. No non-shell earthworks are known for the Caloosahatchee Region, but they are considered here because several examples occur in central south Florida, an area known to have had close relations with the southwest coast. Middens can appear as "linear ridges," "circular embankments," and causeways; the distinction is unclear. Although the recently recorded Mark Pardo Shellworks Site, 8LL1612, contains linear shell deposits, these deposits have not been dated or tested. They could be simply linear middens, paralleling the shoreline.

Two examples of shell features -- one in Charlotte Harbor's Bull Bay, the other in Estero Bay -- present possibilities for non-midden "shellworks." These are long, straight lines of oyster-shell bars clearly visible, rising perhaps no more than a foot above the surface of the shallow waters. Some of the lines appear to be squared off. They do not appear to be natural oyster bars. One might hypothesize that the lines were constructed for use as a fish weir. However, these features have not been determined to be anthropogenic -- precolumbian or historic -- so they have not been assigned site numbers.

F2.1 Associated Property Types: Midden; Burial Mound; Midden/Mound Complex; Cemetery; Canal; Shellworks/Earthworks

F2.2 Significance

The middens, midden/mound complexes, cemeteries, canals, burial mounds, and possible shellworks/earthworks of the Caloosahatchee Region are all significant at the local, state, and/or national levels under National Register Criterion D in that they have the potential to yield important scientific information about the area's precolumbian and historic peoples. A number of examples of the property types have been investigated enough to

demonstrate such potential. The preservation of archeological materials in the property types is outstanding. Sites containing dense shell deposits exhibit excellent preservation of bone and plant remains owing to the high concentrations of calcium carbonate. Moreover, the Caloosahatchee Region potentially contains numerous coastal and inland wet sites. Excavations at Pineland have documented this potential with the recovery of a carved cypress wood bird head, several specimens of palm-fiber cordage, hundreds of wood chips and other plant remains (including seeds of papaya, gourds, and chili pepper).

What follows is, first, a general statement of significance for the Caloosahatchee Region sites and second, a listing of research topics that link the midden/mound, canal, burial mound, and cemetery property types to the historic contexts. The topics first appeared in the Florida Comprehensive State Preservation Plan (Walker n.d.) and are reproduced here.

Mechanisms underlying the emergence of complex social formations in Native American populations are currently an important concern in the international anthropological arena. In the past, archeologists themselves have been a great source of bias in understanding the evolution of all of south Florida's native cultures. Scholars have begun to recognize that theoretical mind sets originating from long-held cultural trajectories based on southeastern United States prehistory or Caribbean migrations may not be appropriate for the southern half of Florida. The common core of these evolutionary mind sets is a prerequisite of food surpluses in the form of aboriginal cultivation of plant foods, whether they be corn or root crops, for the rise of cultural complexity.

South Florida projects southward from the North American continent into the tropical latitudes, immediately distinguishing it environmentally from its northern neighbors. It also differs from the Caribbean islands in that it is part of a large peninsula giving rise to productive estuarine and interior wetland environments. The notion that south Florida stands on its own environmentally and culturally as a region characterizes the present direction of research (Griffin 1988; Marquardt 1986, 1987a, 1988a, 1992a; Widmer 1988).

At the heart of this matter, then, is whether or not the rich, inshore marine "gardens" of the Calusa coastal center of power were analogous to the agricultural fields and horticultural gardens of interior complex chiefdoms, as Goggin and Sturtevant suggest (1964:207). Goggin and Sturtevant (1964) and Widmer (1988) argue that this was the case. The precolumbian Caloosahatchee peoples and the historic Calusa are examples of a short list of non-agricultural, complex societies that once were habitually dismissed as "anomalies" because they did not "fit" traditional evolutionary schemes. Populous, sedentary prehistoric coastal groups are recognized in a variety of climatic and geologic settings around the world. Viewing the Calusa and their predecessors from a maritime south Florida perspective as opposed to a terrestrial southeastern United States one is a major turning point in understanding the evolution of south Florida cultural systems, especially in the Caloosahatchee Region.

A second major shift in south Florida research is the recent attention given to sociohistorical as well as environmental factors in the emergence of social complexity (Marquardt 1986, 1987a, 1988a, 1992b). Widmer believes that by as early as A.D. 700-800 the basic economic, social, and demographic pattern of the precolumbian Caloosahatchee and historic Calusa was established as evidenced in part by the construction of large non-mortuary ceremonial mounds (1988:94, 97, 216, 223). Sometime after A.D. 800 when village fissioning could no longer relieve the population stress, Widmer hypothesizes, an intra-regional (greater south Florida) system of Calusa hegemony came into existence, lasting into the historic period.

Marquardt (1986:67) challenges this viewpoint, presenting the possibilities that climatic conditions of late prehistory or the protohistoric introduction of European goods may have triggered the complex Calusa sociopolitical developments. Marquardt believes that environmental richness may indeed be the base for a complex Calusa chiefdom, but suggests that the Calusa's atypical, state-like, tributary power witnessed by the Spanish at the time of their brief encounters might not have been attained until the early sixteenth century. The protohistoric infusion of exotic European goods salvaged from early shipwrecks into native economics may have provided the impetus for change in the Calusa

power structure (Marquardt 1986:67; 1991:xvi-xvii). The archeological sites of the Caloosahatchee area provide a testing ground for the two different perspectives of Calusa culture and furthermore present a case study to the broader anthropological study of complex societies.

A third new research emphasis of major importance is the investigation of the climatic and sea-level fluctuations that have occurred and are detectable on scales of time (e.g., 100 to 300 year intervals) that are relevant to peoples of prehistory as well as the present (Walker 1992a; Widmer 1986). Independent lines of evidence from the work of archeologists, geologists, paleoecologists, and paleoclimatologists are converging to reinterpret the Holocene warming/transgressional epoch. Once seen as a smooth, rising curve, the event is now perceived to be punctuated by multiple fluctuations, including episodes that exceeded that of present-day temperatures and sea levels (Fairbridge 1992; Stapor et al. 1991; Tanner 1991).

Moreover, the west coast of Florida is one of the few locations in the world where geological requirements are met for the detection of small-scale sea-level fluctuations (Fairbridge 1992:17). For this reason, the coastal sites of the Caloosahatchee Region offer a rare opportunity to understand the dynamic interaction between sea-level fluctuation at varying time scales and human populations in prehistory. This episodic, dialectical environment/culture interaction bears a message for the present-day issue of global warming and its causes.

With these three new perspectives, a new directional course has been set for future field research in the Caloosahatchee Region of south Florida.

F2.2.1 Chronology. In addition to traditional seriation of ceramic and settlement patterns, archeologists now recognize that environmental chronologies on a local scale also must be constructed. For example, recent geological advances allow the construction of localized sea-level curves for the Holocene Epoch. Fluctuations in sea level such as have been documented by Missimer (1973) and Stapor and his associates (1987, 1991) for Charlotte Harbor translate into significant changes in estuarine resources during the Late Holocene. Archeologists have begun

investigating the effects of subtle sea-level fluctuations on precolumbian south Florida (e.g., Griffin 1988; Hale 1985; Walker 1992a; Widmer 1986, 1988).

- How should paleoenvironmental continuity and change over time be investigated?
- How do the paleoclimatic and paleoecologic records relate to patterns of settlement, subsistence, and ultimately political organization?
- How can ceramic, bone, shell, and stone artifact types be refined to permit their use in chronological studies?

F2.2.2 Subsistence. Despite significant advances in zooarcheological and archeobotanical analytic procedures and considerable recent work in the area, understanding of subsistence practices is incomplete. The presence of agriculture of any sort, for example, is still debated.

- Were domesticated crops grown? If so, which crops and to what extent were they important?
- To what extent were wild plant foods, especially roots, utilized?
- Can techniques be developed and applied to detect the presence of wild or cultivated roots in the prehistoric diet?
- Were the maritime Calusa subsisting at the environmental carrying capacity by circa A.D. 800 as Widmer contends?
- How does subsistence at riverine and marshland sites differ from that at coastal or estuarine sites?
- How do subsistence patterns in each of these environments change through time?
- Are subsistence patterns affected by over-exploitation of resources?
- Are interior and coastal subsistence patterns affected by long-term climatic or sea-level fluctuations?
- To what extent were white-tailed deer important to both interior and coastal inhabitants?
- Can differences in social status be detected in archeological food remains?
- How early were residents exploiting estuarine resources on a year-round basis?
- Is there any evidence for offshore fishing? Where? When?

- What was the nature of estuarine fishing strategies?
- Can we detect territorial rights in estuarine fishing practices?
- What role did shellfish play in the aboriginal diet? Were molluscs more important at certain times of the year?
- Was the spring season a hungry time of the year for the estuarine inhabitants?
- Why are there so few mullet bones in the shell middens when we know that this is a common fish today and the Spanish mention a Calusa mullet fishery?
- Were anchovy, the most abundant fish in Charlotte Harbor, not utilized, or are their skeletal parts not preserved?

F2.2.3 Settlement patterns. Extensive field research and radiocarbon dating of stratigraphic deposits are critical before reliable diachronic patterns of settlement can be determined. Widmer (1988:88), for example, points out that the common assumption that the extensive midden/mound complexes represent a late precolumbian adaptation influenced by Mississippian culture is an invalid one. It is now known that large complexes such as at the Wightman and Pineland sites were operating in earlier times as well. Few Archaic site components such as Useppa Island (Griffin 1949; Marquardt 1992c; Marquardt in press; Milanich et al. 1984) have been inventoried (e.g., Austin 1987:33; Edic 1987), largely because only surface collection or limited excavation has taken place at the massive mound complexes. We know surprisingly little about the large, coastal midden/mound complexes. We know even less about sites that occur in various interior environmental locales. Investigation of these would contribute much to an understanding of site function and intra- and inter-regional relationships.

- Are differing patterns typical of coastal and inland areas?
- Do settlement patterns change through time? Are they affected by long-term climatic change and/or sea-level fluctuations?
- Do interior sites concentrate along major streams and marshes as is indicated, or is this a product of our unsystematic site records?

- Were interior sites occupied seasonally or year-round?
- How do community patterns vary through time? For example, how far back in time do the coastal midden/mound complexes extend?
- What is the nature of public architecture (e.g., mounds, plazas, etc.) at the large coastal complexes and how does it change through time?
- What functional purpose existed for the features commonly referred to as "water courts" found at a number of the coastal village sites?
- What mound-formation processes took place to create the large shell mounds?
- Were the large coastal sites occupied on a year-round basis, as is suggested by the Spanish documents?
- Can we detect evidence for domestic and other structures in/on the shell middens/mounds? Elsewhere (e.g., charnel houses)?
- What are the nature and probable function of the numerous, small to moderately-sized shell middens that are found on the mangrove islands and along the estuarine fringe?

F2.2.4 Material culture/technology. All existing typologies, ceramic and non-ceramic, should be revised and/or refined with the study of larger sample sizes.

- Where are the source clays located for pottery manufacture located?
- Why was there so little interest in pottery decoration compared to culture areas to the north and south of the Caloosahatchee Region?
- What artifacts are related to the sophisticated fishing industry?
- How are they distributed spatially and temporally?
- What spatial and temporal variation at both intra-areal (i.e., Caloosahatchee) and intra-regional (south Florida) scales occurs in shell tool manufacture and use?

F2.2.5 Belief Systems and Mortuary Behavior. Testing and refinement of Widmer's mortuary sequence are needed using increased sample sizes. Additionally, bioarcheological studies

are generally lacking in the Caloosahatchee area. This lack should be remedied, because such studies can provide us with useful information that may aid in answering questions of diet, status, mechanical stress, and epidemic disease. The need for research in these areas is especially critical because almost every burial mound in the Caloosahatchee Region has been damaged by looters.

- Can a privileged class be distinguished on the basis of bioarcheological studies?
  •Are there differences in health status between coastal and inland groups?
- Are there differences in health and nutritional status after contact with Europeans?
- Does health status vary through time?
- Can differential access to resources be documented in Caloosahatchee burial populations? If so, when did it begin?

F2.2.6 Sociopolitical Organization. Little archeological information exists to complement the ethnohistoric documents or give us a diachronic understanding of Caloosahatchee sociopolitical organization. Widmer offers a testable environmental model of cultural development while Marquardt takes issue with various features of that model and proposes that sociohistorical factors were equally important. There is a great need for large-scale excavation to generate significant data sets before such issues can be resolved.

- What is the form of prehistoric political organization? For example, is the historic Calusa complex political organization a prehistoric feature as well?
- How does political organization change through time?
- Can social/political status be detected through dietary and dress preferences?
- What are the archeological correlates of complex sociopolitical organization? Do they include metal artifacts and canoe canals, as has been hypothesized?
- How early and at what frequency do large construction projects, such as canals and non-mortuary platform mounds built of secondary fill, appear in the coastal area?

- What is the extent and nature of Calusa political alliances? How far back in time do these alliances extend?
- What is the significance of the appearance of Belle Glade pottery in the Caloosahatchee Region?
- Is there a precolumbian trade network comparable to that of the historic Calusa?
- How do the nature and boundaries of precolumbian networks shift through time?
- What roles do coastal and inland sites play in the trade networks?
- Does the presence of Safety Harbor pottery in some sites reflect shifting sociopolitical boundaries between groups north of Charlotte Harbor and the prehistoric ancestors of the Calusa? Or were the latter only using these ceramics in mortuary contexts?

F3.1 Associated Property Types: Midden; Burial Mound; Midden/Mound Complex; Cemetery; Canal; Shellworks/Earthworks

F3.2 Registration Requirements

To be considered for National Register status under the Caloosahatchee Region multiple property listing, a site must demonstrate a location within the Caloosahatchee Region boundaries or Lee and Charlotte counties (F3.2.1), chronological association with the Paleoindian, Archaic, Caloosahatchee, Spanish-Cuban/Seminole/Euro-American Pioneer, or Euro-American historic contexts (F3.2.2), and significant integrity (F3.2.3).

F3.2.1 Location. Attempts to delineate a southwest Florida Caloosahatchee "culture area," along with other areas of southern Florida, has resulted in variously drawn boundaries (e.g., Bullen 1969; Carr and Beriault 1984; Goggin 1947, 1949a; Griffin 1988; McGoun 1993; Milanich 1994; Milanich and Fairbanks 1980; Sears 1967; Widmer 1988). Because the spatial configuration of any culture area surely underwent constant change over time, it is not crucial to establish rigid cultural demarcations. Yet even a rough definition is useful for organizational purposes (Griffin 1988:119). John Griffin's updated approximation of south Florida culture areas places the Caloosahatchee Region's northern boundary slightly north of the mouths of the Peace and Myakka

rivers and the southern boundary just south of Estero Bay (1988:121). Both Carr and Beriault (1984:12) and Widmer (1988:79) concur. For purposes of the MPDF, an eastern boundary is arbitrarily drawn at the Lee and Charlotte county lines. Thus, to qualify for registration, archeological sites must be located within Lee or Charlotte counties.

F3.2.2 Chronological association. Sites to be considered in the Caloosahatchee Region National Register multiple property listing will be limited to those with demonstrated chronological association with one or more of region's historic contexts as described in Section E: Paleoindian, 11500 B.C. - 6500 B.C.; Archaic, 6500 B.C. - 500 B.C.; Caloosahatchee, 500 B.C. - A.D. 1750; Spanish-Cuban/Seminole/Euro-American Pioneer, A.D. 1750 - A.D. 1881; and Euro-American, A.D. 1881 - A.D. 1945. Keeping in mind that Spanish-Cuban/Seminole/Euro-American Pioneer and Euro-American sites do not include structural remains unless associated with archeological deposits, the great majority of the Caloosahatchee Region's recorded archeological sites are related to the five Caloosahatchee Culture periods.

F3.2.3 Integrity. The third criterion for registration under the Caloosahatchee Region multiple property nomination is integrity of archeological properties. For all property types described above, properties must retain enough of their "original" (i.e., as they appeared when abandoned) features so as to still possess potential to yield important scientific information about the site's precolumbian and historic occupants. At some midden/mound complexes and middens, massive damage is exhibited as a result of treasure hunting (e.g., Big Mound Key), burial looting (e.g., Galt Island Burial Mound), shell mining (e.g., Cash Mound, Mound Key), or land modification (e.g., Pineland). These sites, however, are often so extensive that disturbed deposits actually comprise a small percentage of the overall property area. Even where disturbances do occur, especially at burial mounds, deposits underlying those disturbances often remain intact and are worthy of scientific exploration. In some cases (e.g., Solana, 8CH67; Pineland), dredged or bulldozed "fill" covers middens, burying them without harm to their scientific value.

G. Geographical Data

The geographical extent of the Caloosahatchee Region Multiple Property nomination coincides with the corporate limits of Lee and Charlotte counties within the state of Florida (Figure 1).

H. Summary of Identification and Evaluation Methods

Much of the information used to prepare the Caloosahatchee Region National Register MPDF comes from a great many sources spanning approximately 100 years of archeological exploration. An attempt was made to include citations to most of this research, even in the absence of publications. Together, this information has provided a major resource for preparing the MPDF.

The Caloosahatchee Region MPDF was developed primarily by Karen Walker of the Florida Museum of Natural History's (FLMNH) "Southwest Florida Project (SWFP)." The SWFP, under the leadership of William H. Marquardt, has been conducting long-term investigations of the culture and environment of the Caloosahatchee-Region peoples. The products of the SWFP served as a major resource for preparing the MPDF. The SWFP began in 1983 with the mapping of the Josslyn Island Site (Marquardt 1984). The next three years saw limited surface collecting and testing at various coastal sites, always involving the local community. In this manner, the "Calusa Constituency" came into existence, soon resulting in a project newsmagazine called *Calusa News* (Blanchard 1989; Blanchard and Marquardt 1990; Marquardt 1987b, 1988b; Marquardt and Blanchard 1989; Marquardt et al. 1992, 1993). A 1986 National Science Foundation grant brought Marquardt's interdisciplinary team to the Caloosahatchee Region to build a scientific foundation for long-term research. This baseline work resulted in the publication of the multi-authored *Culture and Environment in the Domain of the Calusa* (Marquardt 1992a), a major source of information for the preparation of the MPDF. Funded by the Florida Department of State, the National Endowment of Humanities, the Ruth and Vernon Taylor Foundation, the Knight Foundation, and many other private donors, the SWFP continues its research and education activities; books reporting the excavations at Useppa Island (Marquardt in press) and Pineland (Walker and Marquardt in press) are forthcoming. A book

written for popular audiences (Blanchard 1995), a video program (IAPS 1995), and a book about Charlotte Harbor's fishing traditions (Edic in press) have also been produced by the SWFP team.

The Caloosahatchee Region National Register project has been financed in part with historic preservation grant assistance provided by the Bureau of Historic Preservation, Division of Historical Resources, Florida Department of State, assisted by the Historic Preservation Advisory Council. However, the contents and opinions do not necessarily reflect the views and opinions of the Florida Department of State, nor does the mention of trade names or commercial products constitute endorsement or recommendation by the Florida Department of State. Gloria Sajgo of Lee County's Planning Division secured and administrated the grant. Annette Snapp, also of that division, provided guidance and necessary ownership and other property information. Reviewers include the Lee County Preservation Board, Mark Barnes, Garfield Beckstead, Jan and Robin Brown, Larry Fooks, J. Calvin Gaddy, William Grace, Arthur Lee, George Luer, William Marquardt, Barbara Mattick, William Mills, Gloria Sajgo, Annette Snapp, Barbara Sumwalt, and Randolph Widmer.

Barbara Mattick of the Florida State Historic Preservation Office (SHPO) proved a valuable resource for guiding the development of the MPDF. Essential in the preparation of the cover document was the Caloosahatchee Historic Context (Walker n.d.), a component of the Florida SHPO's Comprehensive State Preservation Plan. Much technical assistance was provided by Mark Barnes of the National Park Service. Other important sources include the Florida Master Site File (of the Florida SHPO), the Lee County site inventory (Austin 1987), the Charlotte Harbor State Reserve site inventory (Luer 1988), and Olausen's (1994) *Historic Resources of Lee County, 1881-1945*. Austin's inventory was especially helpful in dealing with the associated property types, which were based on physical characteristics rather than function, temporal period, etc. George Luer offered regional site information. Other information sources are listed in Section I.

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