ARCHAEOLOGICAL INVESTIGATIONS AT McCLAMORY KEY (8LV288), LEVY COUNTY, FLORIDA

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March 2015

Cover photo: Crew from the Laboratory of Southeastern Archaeology (UF), Florida Bureau of Archaeological Research, National Park Service, and Seminole Tribe of Florida work to rescue burials from the beachface of McClamory Key in an area bounded by sand bags to subdue the energy of rising tide.

MANAGEMENT SUMMARY

McClamory Key is a state-owned sea island located approximately six kilometers northwest of the town of Cedar Key in Levy County, Florida. Ongoing shoreline erosion from tidal action, boat wakes, storm surge, and the ambient effects of sea-level rise has reduced McClamory Key to a fraction of its original size. Exposed on the beach and in the erosional cutbank of the Gulf side of the island are archaeological deposits estimated to date to the past 4,500 years. Recorded in the Florida Master Site Files as 8LV288, the site has been collected by citizens who encounter artifacts on these eroded surfaces, and several individuals have donated their collections to the Laboratory of Southeastern Archaeology (LSA) at the University of Florida. In the Fall of 2012, the Florida Bureau of Archaeological Research (BAR) was notified by local citizens that archaeological human remains were exposed in the intertidal zone of the beach face. At the request of BAR, personnel of the LSA visited McClamory Key to verify that burials were indeed exposed and then acquired a 1A-32 permit from BAR (1213-003) to conduct limited subsurface testing of the adjacent landform. It later became clear that burials were not only eroding but also being vandalized by looters. Staff of LSA, BAR, and the National Park Service partnered to rescue the burials from further destruction and to better document archaeological deposits from intact portions of the island. The remains of 25 individuals were recovered from an estimated burial population of 32. Subsurface testing of two hammocks revealed stratified deposits with components dating primarily to the late Weeden Island period (ca. A.D. 650–750) and the twelfth and thirteenth centuries A.D. Artifacts of Late Archaic age (ca. 2000–1500 B.C.) beneath these later deposits attest to activity that likely coincides with emplacement of human burials on the island, which themselves included Archaic Stemmed hafted bifaces of imprecise age. Reported herein are the methods and results of the burial recovery and subsurface testing, along with ancillary observations from surface collections made at McClamory Key since the early 2000s. The ongoing work of the Lower Suwannee Archaeological Survey (LSA) provides a basis for putting McClamory Key into broader regional context. Like so many sites along the northern Gulf Coast of Florida, McClamory Key has little time left before it is completely erased by rising sea and other forces of destruction.

ACKNOWLEDGMENTS

Archaeological investigations at McClamory Key (8LV288) were made possible through the authorization and cooperation of the Florida Bureau of Archaeological Research (BAR). We are grateful to State Archaeologist of Florida, Dr. Mary Glowacki, for inviting us to participate in the documentation and recovery of burials exposed by erosion, and for deploying her staff to assist in this project. Dr. Daniel Seinfeld of BAR deserves our thanks in particular for negotiating the terms of the recovery operation and for joining us in the field, along with BAR Archaeological Field Assistant Zan Rothrock. Drs. Katie Miyar and Ian Pawn of the Southeast Archeological Center of the National Park Service lent their expertise in human osteology to the recovery operation. University of Florida field participants included Ellen Lofaro, Gypsy Price, Micah Monés. Kristen Hall, Ginessa Mahar, Elyse Anderson, Meggan Blessing, Zackary Gilmore, Sydney Roberson, Paulette McFadden, and Drs. Neill Wallis and Ken Sassaman. Dominique deBeaubien of the Tribal Historic Preservation Office of the Seminole Tribe of Florida also joined the crew in recovery operations. We are grateful to the Tribe for not only granting permission to undertake this project, but for providing tribal representation under these difficult circumstances. The entire crew is commended for enduring three days of trying field conditions and for conducting themselves with professionalism and compassion.

The initial subsurface testing of McClamory Key was made possible by a 1A-32 permit from BAR (1213-003), obtained by LSA through the good offices of Senior Archaeologist Julie Byrd. Field crew for the September 2012 portion of the project consisted of Ginessa Mahar, Andrea Palmiotto, Paulette McFadden, Micah Monés, Sydney Roberson, and Ken Sassaman. In addition, Mahar, Palmiotto, Monés, Hall, and Sassaman made various trips to McClamory Key between September 2012 and March 2013 to monitor the rate and severity of erosion to the burial features.

Florida Fish and Wildlife Conservation Commission (FWC) provided logistic support for the recovery project, as well as intermittent surveillance of the site to curtail looting. In particular, FWC Officers Scott Wiggins and James Umhoffer, under the command of Captain John Burton, were indispensable with their airboat, which the crew came to depend on for travel at low tide. We are likewise grateful to Dr. David Reed of the Florida Museum of Natural History for use of his jonboat.

The initial cleaning, sorting, and inventorying of human remains was ably handled by Kristin Hall. Dr. John Krigbaum of UF conducted the osteological analysis, with the assistance of Ellen Lofaro, and authored the report that is included here as Chapter 3.

Cleaning and cataloging of the archaeological materials from McClamory Key were undertaken by UF students in the LSA, under the supervision of Ginessa Mahar. Ginessa also contributed to this report with GIS output of burial locations, maps of shoreline regression, compilation of the catalog in Appendix C, and written contributions to Chapter 4. Andrea Palmiotto takes full credit for the zooarchaeological analyses reported in Chapter 6.

We acknowledge the stewardship of Silas Campbell and Hedy Havel for keeping an eye on McClamory Key and for donating to the LSA collections they made of the eroding shoreline on multiple occasions. They both maintained provenience information, and they did not discriminate in selecting only diagnostic artifacts, thus enhancing the scientific value of their longitudinal collections.

Financial support for this project was provided by the Hyatt and Cici Brown Endowment for Florida Archaeology. We are grateful to UF Anthropology Office Manager Karen Jones for handling the finances, and to Chair Dr. Susan deFrance for institutional support.

CONTENTS

CHAPTER 1
BACKGROUND AND RESEARCH ORIENTATION

McClamory Key is a state-owned sea island located about six kilometers northwest of the town of Cedar Key in Levy County, Florida (Figure 1-1). A victim of ongoing erosion from rising sea, tidal action, boat wakes, and storm surge, McClamory Key today consists of about three hectares of subaerial land at mean high tide, of which less than 0.5 hectare is at least 50 cm above the tidal zone. What remains of "upland" terrain consists of a 0.4-ha remnant of a hammock at the west end of the island and a 0.1-ha remnant of a hammock at its east end (hereafter West and East Hammocks). Both hammocks support mature oak trees and other hardwoods, plus an occasional pine tree. The rest of the island consists of tidal marsh. Extensive oyster beds bookend the island to the north and south, and additional oyster beds and salt marsh are dispersed across the tidal flats separating the island from the mainland, less than a kilometer to the east. Tidal creeks flowing towards McClamory Key emanate from expansive marsh to the northeast and east.

Like so many near-shore islands in the northern Gulf Coast region, McClamory Key is but a remnant of a much larger, drier landform. Before sea-level reached near-modern levels after about 5,000 year ago, McClamory Key and many other islands in the region were parts of parabolic dunes that formed during the late Pleistocene (Wright et al. 2006). It was thus attached to a larger sand body, most likely the distal limb of a dune that included all or parts of Richards and Seabreeze islands to the east. The erosive consequences of sea-level rise have reworked dune sands to both reconfigure subaerial landforms and provide clastic material for marsh aggradation.

As sea level continued to rise in recent millennia, subsurface evidence (middens, artifacts) of human use of the coastal landscape have been exposed in the cutbanks and beach faces of eroding shorelines. This has been an ongoing, if nonlinear, process for thousands of years, slowing at times and accelerating at others, such as in recent years with the atmospheric inputs of industrial greenhouse gases. The archaeological remains of many, perhaps most, coastal sites predating 5,000 years have long been displaced or at least inundated (Faught 2004). Coastal sites postdating 5,000 years present themselves today as landforms, like McClamory Key, with active erosional fronts, and they are expected to follow suit with their older, now-destroyed counterparts in decades to come.

The ongoing Lower Suwannee Archaeological Survey (LSAS) of the Laboratory of Southeastern Archaeology (LSA), University of Florida, aims to document coastal archaeological sites before they are completely destroyed. Launched in 2009, the LSAS also includes reconnaissance efforts on landforms that are not actively eroding, as well as targeted research projects of LSA personnel (Sassaman et al. 2011, 2014). The project area extends from the towns of Cedar Key to the south and Horseshoe Beach to the north (Figure 1-1). The Suwannee River delta separates this 40-km stretch of coastline, which is divided for analytical purposes into five tracts. McClamory Key is part of the Shell Mound Tract, in the southern half of the study area (Sassaman et al. 2011).

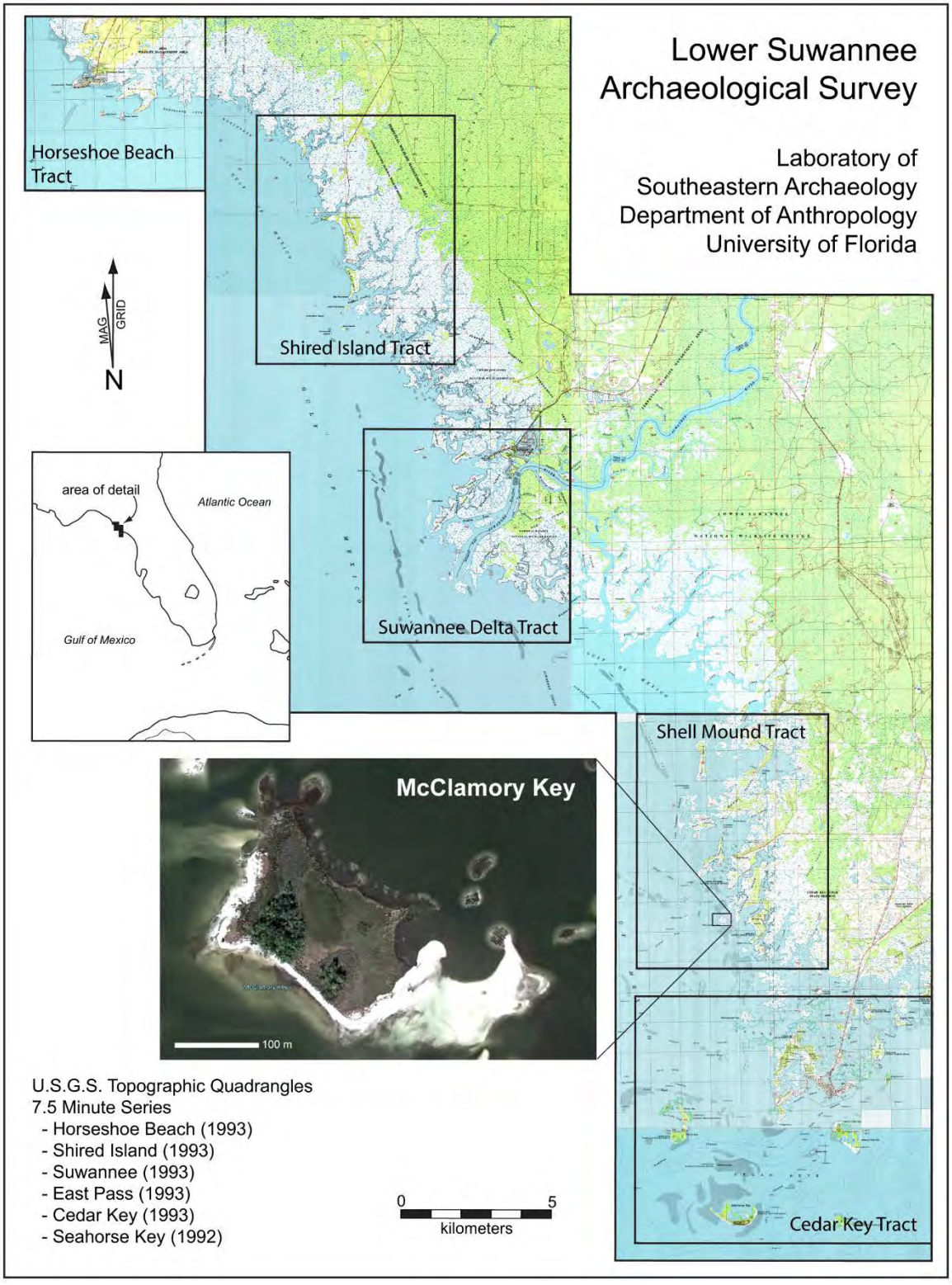

Figure 1-1. Composite U.S.G.S. topographic map of the study area of the Lower Suwannee Archaeological Survey, showing location of McClamory Key in the Shell Mound Tract.

McClamory Key was among the many sites earmarked for salvage operations when the LSAS started five years ago. Events in late 2012 moved it to the top of the priority list. It was then that local citizens notified state personnel of human burials eroding from the intertidal beach face of the island. Reconnaissance survey, subsurface testing, and eventually burial recovery ensued over the following several months. This report details the methods and results of those activities, starting with a review of prior work and further discussion of the condition of the site. Also reviewed in this chapter is the broader research orientation of work at McClamory Key, as well as an outline of the results of this effort.

PREVIOUS RESEARCH

McClamory Key was recorded in the Florida Master Site Files (FMSF) as 8LV288 in 1989, when a University of Florida graduate student conducted reconnaissance survey of the Cedar Key area for dissertation research. The dissertation project was never completed, but a report of the survey was issued in 1990 and was deposited with the FMSF in Tallahassee (Borremans and Moseley 1990). Little detail on 8LV288 is provided in the report. Shell midden was observed across the island, and it was noted that storm surge and erosion had compromised the integrity of low-relief deposits (Borremans and Moseley 1990:27). A survey log of the work was also filed with the FMSF but apparently not a site form. A summary sheet of the digital record indicates the presence of "prehistoric shell midden" of "unspecified culture type," and it adds that "human remains are present or may be present." This latter observation was not part of Borremans and Moseley's (1990) report, so it must have been added to the site file afterwards, perhaps through notification by a private citizen.

Although no other professional work has been conducted at McClamory Key since the 1989 reconnaissance survey, many private citizens have visited the island and collected artifacts from the beach and eroding cutbank. Staff of the LSA have befriended three individuals who have made their collections available for study. Each of these individuals maintained site-level provenience and did not discriminate in their collection practices, retrieving not only decorated pottery sherds, but also plain sherds, worked shell, faunal material, and an occasional lithic artifact. Each of these collections was made over several years beginning in the late 1990s or early 2000s. They therefore have a longitudinal quality that enables some assessment of the differential effects of shoreline erosion on components of the site. As we discuss further in Chapter 5, the artifacts of subsurface testing generally match those of surface collections, although the latter shows better representation of the oldest components.

ONGOING EROSION AND SITE CONDITION

It is impossible to know with any precision the configuration of McClamory Key when humans first arrived in the area, but we can be sure that sea level was lower than it is today and thus the site was some distance from the coast. The human remains rescued in 2013 are estimated to date to the early part of the Late Archaic period, about 5000–4500 cal B.P., when sea level was about 2–3 m lower than today and the shoreline 4–5 km to the west (Wright et al. 2006). The burials were therefore emplaced landward of the shore, presumably far from the tidal zone and its erosive forces. Overlaying the burials at McClamory Key was

Figure 1-2. View of the beach face of McClamory Key, facing east. East Hammock is in background and area of burials in foreground, overlain with peaty deposit. Lotter's pits are evident in the pock marks of the peaty deposit.

a sandy peat deposit (Figure 1-2), which was laid down in water, although it remains unclear if this was formed in its present position (i.e., autochthonous) or originated from another place of formation (i.e., allochthonous). Initial, widespread peat formation in the general area ensued after 6000 cal B.P. (Wright et al. 2006), and these sediments could very well have been mobilized and redeposited with ensuing transgression of the shoreline. For now the peaty deposit at McClamory Key is enough of an indicator of the first water to cover this portion of the site, and on stratigraphic grounds alone, it must postdate ~4500 cal B.P.

The extent of shoreline erosion at McClamory Key in recent years is evident in aerial photographs taken over the past two decades (Figure 1-3). Historical imagery from Google Earth dating from 1994, 2004, and 2011 shows a retreat of shoreline in excess of 50 m. By 1994 the East Hammock was beginning to be impacted by shoreline erosion, and by 2011 the shoreline had encroached on the area of the burials, as well as the West Hammock. A fourth shoreline projection, from 1979 (Figure 1-3, bottom right), suggests that erosion has been punctuated over recent decades, most of it coming in the past 20 years, and little in the previous 16 years. Storms are certainly among the more dramatic events with capacity for

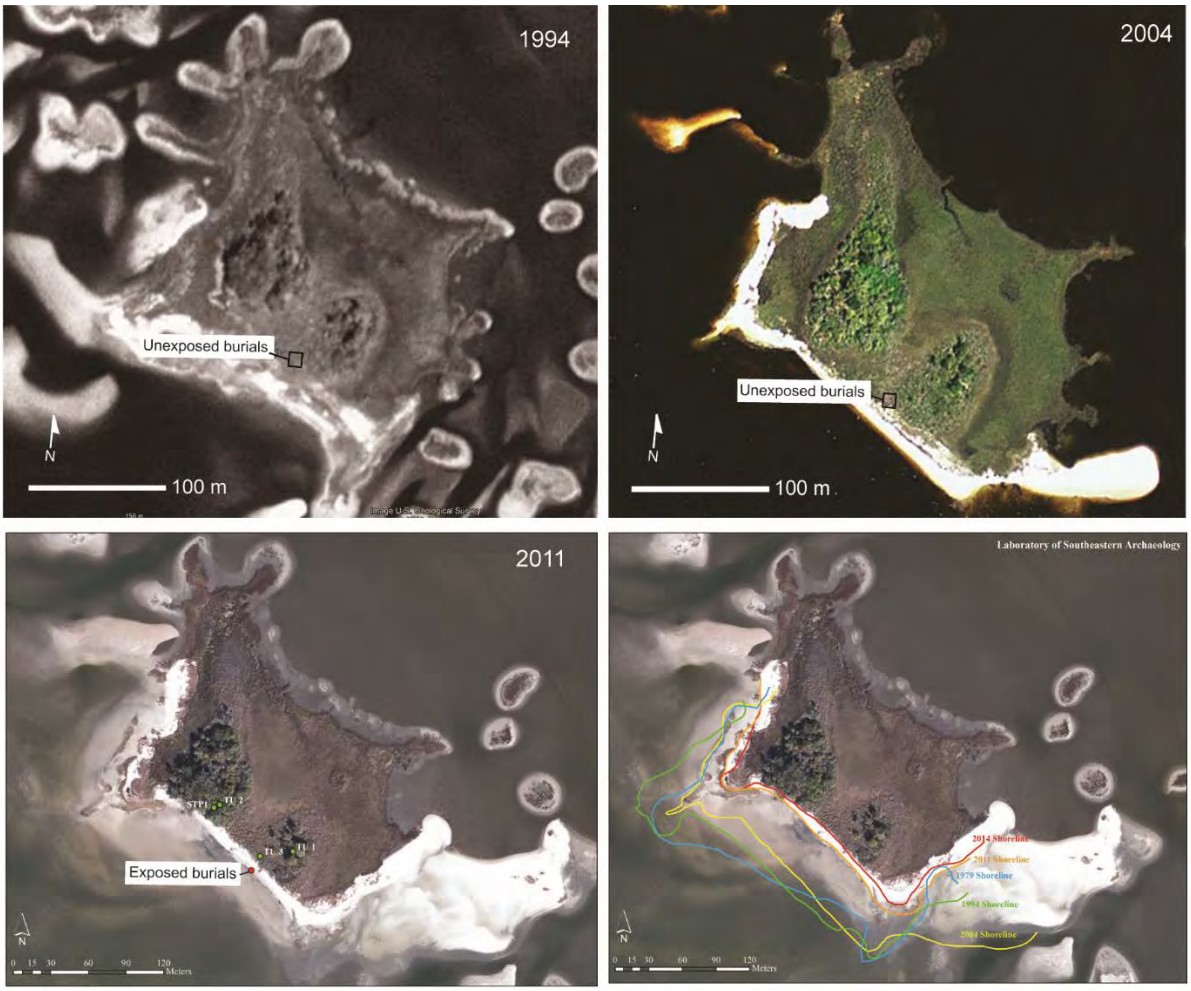

Figure 1-3. Google Earth imagery of McClamory Key in 1994 (top left), 2004 (top, right), and 2011 (bottom, left), showing regressing shoreline and exposure of the mortuary assemblage. The image in the bottom right is a composite of the changing shoreline, keyed to year and color, that includes a 1979 boundary taken from an image available online (www.labins.org), as well as the 2014 Google earth shoreline, compiled by Ginessa Mahar.

large-scale erosion, although what gets eroded from one place gets deposited elsewhere. The southeasterly accretion of a sand spit at McClamory Key since 1994 exemplifies this process.

Remnants of the two hammocks at McClamory Key continue to erode, exposing shell and artifacts along the beachface. Erosion of the West Hammock has been particularly severe in recent years. This is the location of a Weeden Island period midden, an anthrosol that supports large hardwood trees that topple as the escarpment along the shoreline is undercut by wave action (Figure 1-4). The mass wasting of midden precipitated by fallen trees is accelerating the rate of site destruction and increasing the visibility of the site to passers-by. Decorated pottery, shell tools, and occasional lithic artifacts can be found on the beachface at low tide, enticing local collectors to return to the site after bouts of severe

Figure 1-4. Overturned hardwood trees at the southwest shoreline of McClamory Key, in the vicinity of the Weeden Island shell midden (8LV288). View facing northwest on December 28, 2012.

weather, such as the storm that preceded our late December 2012 visit, shortly after the hardwood trees shown in Figure 1-4 fell.

The burials recovered in March 2013 came from an entirely different context, one subject to slow, gradual erosion, as well as deposition. It is likely that human remains have surfaced on the beach of McClamory Key before this most recent episode, as high-energy waters scoured the sands and lower-energy waters deposited additional sand. The peat deposit over the burials seems to have provided a bit of protection from erosion, although it did little to protect them from human vandals and the scarring of motor props. Ultimately, it was the exposure of artifacts, in association with human remains, that prompted the need for rescue because looters had found added incentive for digging. As we discuss in Chapter 2, the burials recovered in March 2013 were part of a tightly clustered group and because of that, exposed at the surface together and rendered vulnerable to looting all at the same time. There may be other clusters of burials and perhaps isolated burials in different parts of the site that remain intact, but those observed appear to be part of an integrated mortuary program, arguably a formal cemetery.

The hammock remnant to the east of the burials presumably once covered the burials as a portion of dune that has since been reworked by transgressive sea and storms. It follows that archaeological midden post-dating human interments may have extended over the burial area. The only intact archaeological component observed on this landform today is actually among the most recent known from the greater study area, dating to the thirteenth century A.D. Compared to eighth century A.D. Weeden Island use of the West Hammock, this late-period occupation appears to have been less intensive, perhaps smaller in scale or shorter in duration. Survey and testing at nearby sites by Micah Monés supplies additional evidence for twelfth and thirteenth century occupations, some involving the mass production of shell beads.

BROADER SIGNIFICANCE

With reference to the broader goals of the Lower Suwannee Archaeological Survey (Sassaman et al. 2011), investigations at McClamory Key contributed to ongoing reconnaissance and rescue efforts. But aside from sampling another vulnerable record of ancient life on the coast, the value of investigations at McClamory Key lies in both the intrinsic qualities of this particular place, as well as its relationship to other places in the study area. The broader significance of McClamory Key is revealed in at least two distinct ways: (1) its cemetery, and (2) its record of abandonment and resettlement.

Late Archaic Cemeteries

Very little is known about the mortuary practices of coastal dwellers before about 2,000 years ago, when burial mounds of the Middle Woodland era were erected on landforms that remain above mean sea level today. Older cemeteries along the coast were no doubt erased or buried by a transgressive shoreline, much like the one at McClamory Key. As noted earlier, Late Archaic burials were emplaced at McClamory Key when the level of sea was 2 m or more lower than today, and the shoreline several kilometers seaward of its present position. Another cemetery of this age was salvaged in the early 1990s at Bird Island (Stowjanowski and Doran 1998), about 35 km northwest of McClamory Key, and burials from a third cemetery at Cat Island (Sassaman et al. 2011), about 20 km northwest, have been exposed at low tide in recent years. We do not know, and can only presume, that settlements at the time these cemeteries received burials were concentrated along a now-drowned coastline. Late Archaic settlements could very well have been distributed landward too, but those documented thus far post-date 4500 cal B.P.; the prior half-millennium is poorly represented at sites along the modern coast and older sites are completely absent. Why then were these three Late Archaic cemeteries sited were they were, back from the coast and apparently apart from locations of human settlement?

The answer eludes us but one possibility is that the cemeteries were established landward of coastal settlements in anticipation of future inundation (Sassaman 2013, n.d.). Many of the burials at McClamory Key were secondary interments, this is, individuals who were disinterred from primary contexts and parts of the skeleton, sometimes only the skull, were reburied. It is unknown if any of the burials at Bird and Cat islands included secondary interments, but all three of the cemeteries exist at the same elevation and the same orientation

relative to the coastline. What is more, they are spaced evenly apart (a little over 10 km) when measured on an orthogonal to meridians. Incidentally, the parabolic dunes these sites occupied had openings to the southwest and were closed to the northeast on angles that mimic the setting winter and rising summer solstice suns, respectively. Put into larger context, the cemeteries arguably were sited on a Gulf-coastal solar grid that structured the emplacement of not only cemeteries, but also major settlements, ceremonial centers, and caches of soapstone vessels, like the one in association with Bird Island burials (Yates 2000). Soapstone vessels from the lower Appalachians and Piedmont of Alabama, Georgia, and beyond were among the items exchanged along the Gulf coast and eventually up the Mississippi River to places like Poverty Point of Louisiana (Gibson 2000). Caches of soapstone vessels, like the cemeteries of the Lower Suwannee region, were spaced evenly apart along meridians and at intersections of solstice angles connecting places of both the living and the dead. The establishment of settlements, caches, and cemeteries across this expanse evidently elapsed over many centuries. Using the Bird Island as an index of this history (McFadden 2015), a cemetery dating to over 4500 cal B.P. was later the site of Late Archaic settlement dating between about 4400 and 4200 cal B.P., and then a recipient of soapstone vessels sometime between 4100 and 3700 cal B.P. Poverty Point was established as a locus of regional gathering towards the end of this sequence, and was abandoned after 3200 cal B.P., when climate turned from its long-term trend of warming to a period of cooling (Kidder 2006), thereby interrupting, temporarily, shoreline transgressions that had elapsed over millennia.

This pattern of spatial integration has been hypothesized from an archaeological record that has been, and continues to be, compromised by sea-level rise and shoreline transgression. Better resolution awaits the discovery of the inundated components of the Late Archaic landscape, something that may never happen for lack of preservation and the practical limits to underwater investigations (cf. Faught 2004). No matter the empirical veracity of this hypothetical model, communities that occupied Gulf coastal settings over the mid-Holocene clearly experienced environmental conditions that challenged sustained settlement. That they may have anticipated change going forward is perhaps not all that surprising, but to plan futures at the geographic and temporal scale proposed is without precedent in the modern or ancient worlds. The spatial scale of these projections notwithstanding, the cemeteries of the Lower Suwannee provide a glimpse into communities of practice that enchained many generations of people in the shared experiences of sea-level rise. From these local experiences arose *constellations* of practice (Sassaman n.d.) that were structured not by the experience of sea-level rise per se, but by material exchanges of objects like soapstone vessels and a solar-reference grid of cyclical movement that lessened the uncertainy of futures.

Abandonment and Resettlement

The Late Archaic cemeteries of the Lower Suwannee region suggest that abandonment of coastal sites was planned far in advance of climate events that had the potential to irreparably disrupt settlement. However, many of the sites in the region also register instances of resettlement at sites that were abandoned centuries, even millennia before. McClamory Key is a case in point. Its Late Archaic history was followed in the

eighth century A.D. by a Weeden Island settlement, and again in the thirteenth century by a yet-to-be-defined cultural component of the Mississippian era. Lacking significant topographic relief, McClamory Key was perhaps always more vulnerable to changes in sea level than nearby dune remnants, such as Richards Island, which expresses several meters of elevation. Patterns of settlement at particular sites, however, followed more than the tempo of sea-level rise, and reversals in trends like shoreline transgression were among the various challenges. Considering the concatenation of multiple environment variables affecting inhabitability, the long-term history of coastal settlement is hardly a matter of tracking the sea. For instance, as shore-parallel oyster reefs formed with a slowing of sea-level rise after 6000 cal B.P. (Wright et al. 2006), sediment accumulation on the landward side of reefs kept pace with rising water. These same sediments—derived mostly from eroding dunes—enabled the establishment of expansive salt marsh, key habitat for sea grasses and the fry of fish populations on which humans had come to depend. Overwash of these formations from severe storms had the potential to quickly change coastal geomorphology and marsh habitat. Storms also had the potential to help stabilize sandy shorelines by contributing to marsh accretion (Goodbred and Hines 1995). Moreover, fluctuations in the input of freshwater from the Suwannee River and lesser, spring-fed flows greatly affected estuarine conditions necessary for healthy and productive oyster beds, as well as species further up the food chain. Reduced freshwater flow due to groundwater extraction in the upper reaches of the Suwannee River has been cited as the main cause for oyster reef collapse in the modern era (Bergquist et al. 2006; Seevey et al. 2011). Myriad environmental variables collude with cultural sensibilities and human needs to mitigate any one-to-one correlation between sea-level trends and the occupational history of the coast. Add to this complexity the lack of concordance among sea-level reconstructions built from different datasets and by different investigators of the Gulf coast (Balsillie and Donoghue 2004) and our ability to explain settlement change is hampered.

All this goes to the need to address human-environmental relationships at multiple scales and with great sensitivity to local-scale variations that inflect regional trends. The recent geoarchaeological investigations of Paulette McFadden (2015) in Horseshoe Cove exemplify the scale of investigation needed to relate local changes to regional and larger-scale trends. Archaeological sites with records of abandonment and resettlement provide the historical archive of changes in the inhabitability of particular landforms and the viability of nearby habitat for plant and animal resources of economic value to people. Like Bird Island and other sites in the Horseshoe Cove area that enabled McFadden to gauge human response to sea-level change, McClamory Key encases records of change in its inventory of food remains, artifacts, and other traces of coastal living. Among the ongoing research projects of LSA archaeologists that draw on such data are studies of alternative fishing technologies (Mahar 2015), seasonality of fish and shellfish collection (Palmiotto 2015), and oyster mariculture (Jenkins 2015). The results of these studies must be combined with increasingly fine-grained environmental reconstructions to more accurately gauge the intimate relationships between natural and sociocultural processes in the Gulf coast. Further we should be mindful throughout that local communities were tied into regional and macroregional networks that not only introduced new ideas and personnel to the area, but perhaps also placed demands on local production that would have challenged sustained occupation of particular sites or locality far beyond the capacity of “natural” habitats to

sustain human life. McClamory Key, like all other locations of human activity along the coast, is an integral piece of a large-scale puzzle.

SUMMARY OF RESULTS

As noted earlier, investigations at McClamory Key were precipitated by exposure of human remains and the illicit activities that ensued. It indeed is unfortunate that the burials were impacted by erosion, and regretful that persons with no respect for these remains chose to vandalize them. However, it is fortunate that concerned citizens, staff of the Florida Bureau of Archaeological Research, the Seminole Tribe of Florida, personnel of Florida Fish and Wildlife Conservation Commission, and archaeologists with the National Park Service and the University of Florida could cooperate to ensure the recovery of human remains before they were completely destroyed. This recovery operation provided an opportunity to sample what remains of archaeological deposits on the remnants of two hammocks. The LSAS would have eventually tested the island as part of its ongoing mission to locate and sample sites that are vulnerable to shoreline erosion. Time, however, is running short for this landform.

The methods and results of burial recovery at McClamory Key are reported in the chapter that follows, and the results of osteological analysis are provided in Chapter 3. A minimum of 25 individuals are accounted for in the disarticulated skeletal remains rescued from the beach. Although the burial disposition of many of these individuals could not be determined, a combination of primary and secondary interments is inferred. Adult men and women and both represented, as are a few subadults. The individuals appear to have been in overall good health, with no obvious signs of endemic disease or nutritional stress. As noted by Kles (2014) from her morphometric analysis of the Bird Island skeletons, individuals of Late Archaic age in the area deviate from earlier and contemporaneous skeletal populations elsewhere in the state by being more robust in stature and build. Individuals buried at McClamory Key would appear to mirror the robusticity of those from Bird Island, although the fragmentary nature of their remains prevented morphometric analysis. The possible biological connection of these groups to northern populations with access to soapstone leaves open the possibility that persons interred at Bird Island and McClamory Key traced their ancestry to Georgia, Alabama, or the Carolinas.

The methods and results of subsurface testing of the two hammocks at McClamory Key is reported in Chapter 4. Material culture recovered from these tests is described in Chapter 5, and Chapter 6 reports on the results of zooarchaeological analysis conducted by Andrea Palmiotto.

Limited subsurface testing of the West Hammock verified what artifact scatters on the eroding beachface suggested: the presence of a substantial Weeden Island component. A midden dominated by oyster extended down from the surface over 50 cm in the area immediately back of the eroding beach escarpment. The base of this midden produced charcoal that was estimated to date to the eighth century A.D. by accelerator mass spectrometry (AMS). Contained in the midden were sherds with surface treatments typical of the Weeden Island tradition, as well as a modest assemblage of shell tools and lithic flakes.

Vertebrate fauna from this midden were dominated by unidentifiable fish and turtle elements, evidently deposited primarily during warm weather.

A single 1 x 1-m unit in the East Hammock contained a 35-cm thick midden dominated by oyster underlain by a ~10-cm thick organically enriched stratum with lesser amounts of shellfish. The upper midden produced charcoal by was estimated by AMS to date to the thirteenth century A.D. Associated artifacts include dentate or punctated sherds that are typically attributed to the Ruskin Dentate type or Hillsborough Shell Stamped of the Weeden Island tradition. Recent fieldwork led by Micah Monés at Raleigh (8LV293) and Richards Island (8LV137) verifies that this type of pottery indeed dates to the early Mississippian era (11-13th centuries). In association with this type of pottery at both of these islands, especially at Raleigh, are the by-products of shell bead production. A single bead blank was recovered from the test unit of the East Hammock at McClamory Key.

The underlying stratum of the East Hammock unit provided the only context for in situ Late Archaic artifacts, a few sherds of fiber-tempered pottery whose precise age is uncertain, but are not likely to predate 4500 cal B.P. Mixing of artifacts and vertebrate fauna from above compromises the stratigraphic integrity of this older component.

The final chapter of this report summarizes the work and offers some suggestions for additional research. Further research on the human remains depends on the results of NAGPRA review and negotiations with various regulatory authorities. Additional burials emerging from the beachface of McClamory Key have been rumored since the recovery operation in March 2013. Irrespective of the veracity of such claims, the island continues to erode and it will not be much longer before all remaining archaeological deposits on the hammocks are erased. A pressing need for the near-term future is to conduct additional testing of the East Hammock to locate Late Archaic-age deposits and determine their relationship to the burials. Surface collections over the years lend credence to the assertion that a substantial Late Archaic occupations followed the interment of the deceased at a time of lower sea level, as seems to be the case at Bird Island and probably also at Cat Island.

Appendices at the back of the report provide details of AMS age estimates (Appendix A), an inventory of human remains (Appendix B), an artifact catalog (Appendix C), an updated Florida Master Site File form (Appendix D), and the BAR Survey Log (Appendix E).

CHAPTER 2
METHOD AND RESULTS OF BURIAL RECOVERY

The recovery of human remains from McClamory Key in March 2013 was the culmination of a seven-month process that began with public notifications to both state and federal authorities in the Fall of 2012. At the request of Florida State Archaeologist Dr. Mary Glowacki, staff of the Laboratory of Southeastern Archaeology (LSA), University of Florida, visited McClamory Key on August 18, 2012 to observe the exposed skeletal remains of at least 11 individuals. A second trip to the site on September 7, 2012 raised the inventory to at least 20 individuals and provided an opportunity, under permit with the Bureau of Archaeological Research (BAR), to test a nearby midden deposit for insight into the age of the burials. Coupled with multiple sites and at least one cemetery (8LV2) of Weeden Island age in the vicinity, the eroding midden at McClamory Key provided indirect evidence for the age of the burials. If the burials proved to be of Weeden Island affiliation they would likely contain mortuary accoutrements of interest to looters.

A third trip to McClamory Key by staff of the LSA on December 29, 2012 showed that burials continued to erode and were likely being looted. However, among the exposed skeletal remains were not objects of Weeden Island affiliation, but rather stemmed hafted bifaces typical of the Late Archaic period (ca. 5000–3000 B.P.). Irrespective of the age of the burials, evidence for looting prompted BAR personnel to initiate a plan to remove and possibly rebury exposed remains. Consultations between BAR and the Seminole Tribe of Florida led to a work plan that was implemented in March 2013 to exhume all exposed human remains before any further damage was inflicted by looters, boat docking on shore, and tidal erosion. All parties agreed that if "nature" were to expose and displace the skeletal material through normal coastal processes, exhumation was not necessary. Looting, on the other hand, tipped the balance of sentiment towards recovery of the remains. No federal or state agency with law enforcement jurisdiction in the area had sufficient resources to maintain full-time surveillance of McClamory Key. The island is visited regularly by passers-by in boats, and the LSA crew, in its various trips to McClamory Key, learned first-hand that some individuals frequent its beaches regularly to search for artifacts. Obviously some of these same individuals went beyond casual collecting and vandalized the graves.

Described in this chapter are the method and results of burial recovery at McClamory Key. Descriptions of the 25 individuals that were salvaged from the eroding beach face of the island are provided in Chapter 3, and subsequent chapters detail the test excavations and analysis of material culture. Before delving into the details of burial recovery, this chapter summarizes the results of earlier trips to the island to assess the condition of the exposed human remains.

AUGUST 2012 SITE VISIT

At the request and with the authority of the Florida State Archaeologist, staff of the LSA visited McClamory Key on Saturday, August 18, 2012 to document exposed human remains. A crew consisting of Micah Monés, Andrea Palmiotto, Ginessa Mahar, and Ken

Figure 2-1. View of the area of exposed human remains (marked by flags) facing north, August 18, 2012, McClamory Key (8LV288). The burials coincide with a dark, peaty deposit that likely formed over the interments as water encroached over the site.

Sassaman launched canoes from the Shell Mound Boat Landing at ~8:00 a.m. in anticipation of a low tide at ~9:00 a.m. Many pre-Columbian burials on other, nearby islands have been exposed only at low tide, indicative of a pervasive erosional process at the shore faces of intertidal water. The crew arrived at McClamory Key at ~8:30 a.m. and soon located human skeletal remains in the intertidal zone of the southern aspect of the island (Figure 2-1).

The LSA crew was authorized to locate and document exposed human remains, but not to remove any bone. The window of opportunity for observing exposed bone proved to be short. As a storm gathered strength with southerly winds, tidal water encroached far sooner than normal, inundating the remains by ~9:45 a.m.[1] (Figure 2-2). Before then, the crew located exposed human bone in a six-meter long area just above the low-tide level. The remains of at least nine and as many as 11 individuals were evident at the surface (Figure 2-3). As can be seen in Figure 2-1, the area of burials consists of a dark, peaty soil, underlain by clean sand. It was not clear if the burials were interred in the sand, the peat, or both, although it seems likely that the peat formed over the burials as the site became inundated.

[1] It is worth noting that the low tide that morning was a modest one, and it was countered by strong winds moving in the opposite direction. Under more "normal" tidal and wind conditions, bone is exposed for longer spans of time, and thus more vulnerable to looting.

Figure 2-2. View facing east-northeast of storm winds bringing early encroachment of tide over exposed human remains, August 18, 2012, McClamory Key (8LV288).

Crania were the most prevalent elements observed, with those of nine adults exposed as either fully intact or truncated vaults. A few long bones oriented vertically were also observed in association with crania, and other bone fragments and small elements were observed across the general area. Taken at face value, the individuals interred in this location appear to have been emplaced in an upright, "seated" position. The LSA crew observed no articulation between elements, making it likely that interments were secondary (although the opportunity to make such observation was very limited). It is conceivable that some of the individuals were represented by only skulls.

The individuals whose graves were eroding appear to have been part of a discrete mortuary program, perhaps even interred at the same time. With two exceptions, crania were spaced about one meter apart in an arc paralleling the shore (Figure 2-3). The exceptions are an isolated individual in the center of the arc (Burial 7), and a cluster of three crania at the south end of the arc (Burials 9–11). No doubt other individuals went undetected, having been either not yet exposed or long since washed away. A boater who stopped to look for artifacts mentioned that other clusters of burials have appeared in the recent past, and he noted that multiple crania had vertically-oriented long bones associated with them. He mentioned finding shell beads occasionally.

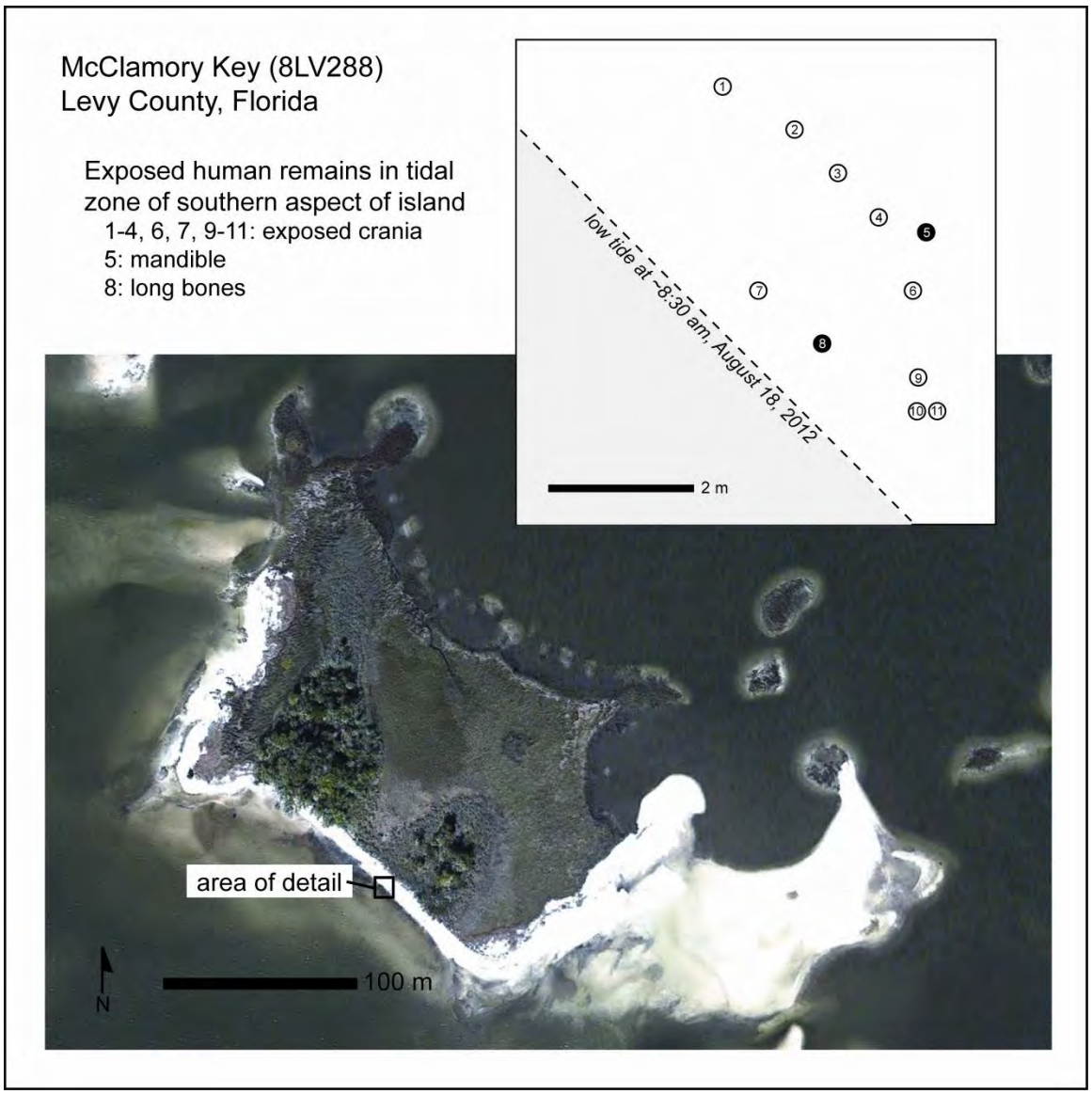

Figure 2-3. 2012 Google Earth image of McClamory Key with inset map showing details of exposed human remains along the southwest beach of the island. The forested landform to the northwest of the burials is the location of a ~50-cm thick Weeden Island shell midden recorded in the Florida Master Site Files as 8LV288.

All individuals observed on this first visit were apparently adults and in a relatively good state of preservation. A few molars and premolars exposed at the surface showed attrition consistent with established patterns for nonagricultural pre-Columbian people (high degree of wear, but no caries). Despite better direct evidence for affiliation, given the larger context of the site (i.e., an adjacent ~50-cm-thick shell midden of apparent Weeden Island age), the burials were clearly Native American. A Weeden Island affiliation (ca. A.D. 200–900) for these burials seemed likely at the time, however the low elevation of the burials would suggest interment at times of lower sea level, generally before 2,000 years ago.

A few of the crania appeared to be fully intact, but most were fragmented from trampling and perhaps illicit digging. No direct evidence of looting was observed during this visit, although the matrix surrounding two of the exposed crania appeared to have been dished out and refilled with sand by wave action. It is worth noting that burials have been exposed by a transgressive process involving an upper zone of frequently reworked material, including redeposited shell and associated artifacts from the Weeden Island-age midden to the north. Without removing the reworked material that blankets the burials and much of the intertidal zone, it was impossible to determine much at all about the orientation and completeness of the burials.

After making a sketch map and taking photographs of the exposed bone, the LSA crew scanned the beach front and erosional escarpments of the greater site area to locate diagnostic artifacts. Observed most frequently were sherds of the Weeden Island tradition, including types, such as incised and punctated, often associated with non-domestic (usually mortuary) activities. Plain sand-tempered sherds were likewise prevalent, and a few Pasco plain sherds were observed. Only one possible Deptford sherd was located. Most of the pottery was concentrated in the area of the eroding shell midden, about 40 m northwest of the burials. On balance, the assemblage of pottery from the site points to a substantial Weeden Island presence. This was corroborated by a single shovel test in the central portion of the shell midden (see Chapter 4).

Through indirect association with pottery, the burials were assumed initially to be Weeden Island in age. However, the burials are actually in closer proximity to the East Hammock on the island, which had yet to be investigated and did not reveal as much artifactual evidence at the eroding beach face as did the shell midden of the West Hammock. It was worth considering that the more proximate landform was the remnant of a mortuary mound. If Weeden Island in age, the archaeological deposits of this landform would be expected to contain pottery caches and other ritual deposits, as well as additional burials.

As noted, the low elevation of the burials is hard to square with a Weeden Island age simply because sea level was, on average, lower in the millennia before the Weeden Island period. However, reversals in an overall trend toward higher seas are known to have occurred over the past two millennia. The magnitude of such reversals is not well known. Sea level would have to have been about one meter lower than present for the burials to be interred above the water table. Of course, interments could have been fully or partially subaqueous. We left the field on August 18, 2012 with no definitive evidence of the age of the burials.

SEPTEMBER 2012 SITE VISIT

A report on the August 18, 2012 visit to McClamory Key was issued to BAR with the recommendation that some limited test excavations be conducted in the hammock adjacent to the exposed human remains in order to ascertain the age of the burials. If the East Hammock proved to be the remnant of a mortuary mound, chances were great that associated grave goods would be prevalent and thus be an inducement for looters to dig into the graves.

BAR issued to the LSA a 1A-32 permit (1213.003, September 5, 2012) to conduct limited testing of the East Hammock. As reported in Chapter 4, a 1-x-1-m test unit in the center of the hammock revealed a thin subsurface shell midden of post-Weeden Island age, plus a possible Late Archaic stratum beneath. Nothing in the results of this work suggested that the hammock adjacent to the burials was a mortuary facility, nor did it contain a counterpart to the Weeden Island component observed in the shell midden to the northwest. The relationship of the burials to the East Hammock remained inconclusive.

On this same site visit the LSA crew established two temporary datums for the purpose of site mapping with a Nikon DTM-310 Total Station. As the tide receded at midday the crew observed many of the same burials that were exposed the month before, plus an additional 8 to 10 individuals. A total of 20 crania were mapped with the Total Station on September 7, 2012. In the section below on estimating the total number of exposed burials, we compare the results of the first two mapping efforts and ultimately the distribution of recovered burials, but for now simply note that with only two exceptions, the skeletal population observed in August had remained undisturbed over the three-week period between trips. The addition of 8 to 10 individuals to the inventory was likely a matter of ongoing shoreline erosion, as opposed to looter activity.

DECEMBER 2012 SITE VISIT

After severe storms in mid- to late December 2012, staff of the LSA again visited McClamory Key to evaluate recent impacts. Observed on this trip were many large fallen trees along the escarpment of the shell midden, as well as abundant shell and artifacts strewn about the beach (Figure 1-4). Burials to the southeast of the midden were exposed as before, if perhaps a bit more scoured. The crew did not map burials on this visit but did make note of three hafted stemmed bifaces in and amongst the exposed skeletal remains (Figure 2-4). Two of the bifaces were lying in the peaty soil, while the third was lying on sand. The association of these bifaces with particular individuals could not be determined as they were evidently dislodged and potentially displaced by the surf.

Two implications arose from discovery of the hafted bifaces. First, even though the form of these artifacts is not terribly diagnostic of specific archaeological phases, they are of the general design and size of Archaic biface technology, notably that of the Late Archaic period (ca. 5000–3000 B.P.). A Late Archaic age would place the McClamory Key burials in the same timeframe as those from Bird Island (8DI52), about 35 km to the northwest (Stojanowski and Doran 1998), and would help to explain why the burials at both sites eroded from the modern tidal zone because sea level during the Late Archaic period was lower than it is today. The second implication is that with artifacts emerging from the burials the potential for looting was enhanced. Again, direct evidence for looting on this particular visit was not observed.

The three bifaces were collected from the surface, photographed and then reburied together in proximity to the burials. Nothing was collected from the site on this visit.

FEBRUARY 2013 SITE VISIT

Another short visit to McClamory Key by LSA staff took place on February 16, 2013. Observed on this trip was definitive evidence for looting of at least one burial. Several other holes cut through the peaty soil and into the sand were presumed to be from looting, and the keel scars of boats were apparent as well (Figure 2-5). Unfortunately, one of the probable locations of looting was the very location where the three bifaces found in December were reburied.

By the time of the February 16 site visit, consultations were already underway between BAR and Native American tribal representatives to remove the exposed burials and relocate them to a secure location. Coupled with the earlier discovery of artifacts in association with the graves, definitive evidence for looting observed that month underscored the urgency of the situation and the need to take action swiftly.

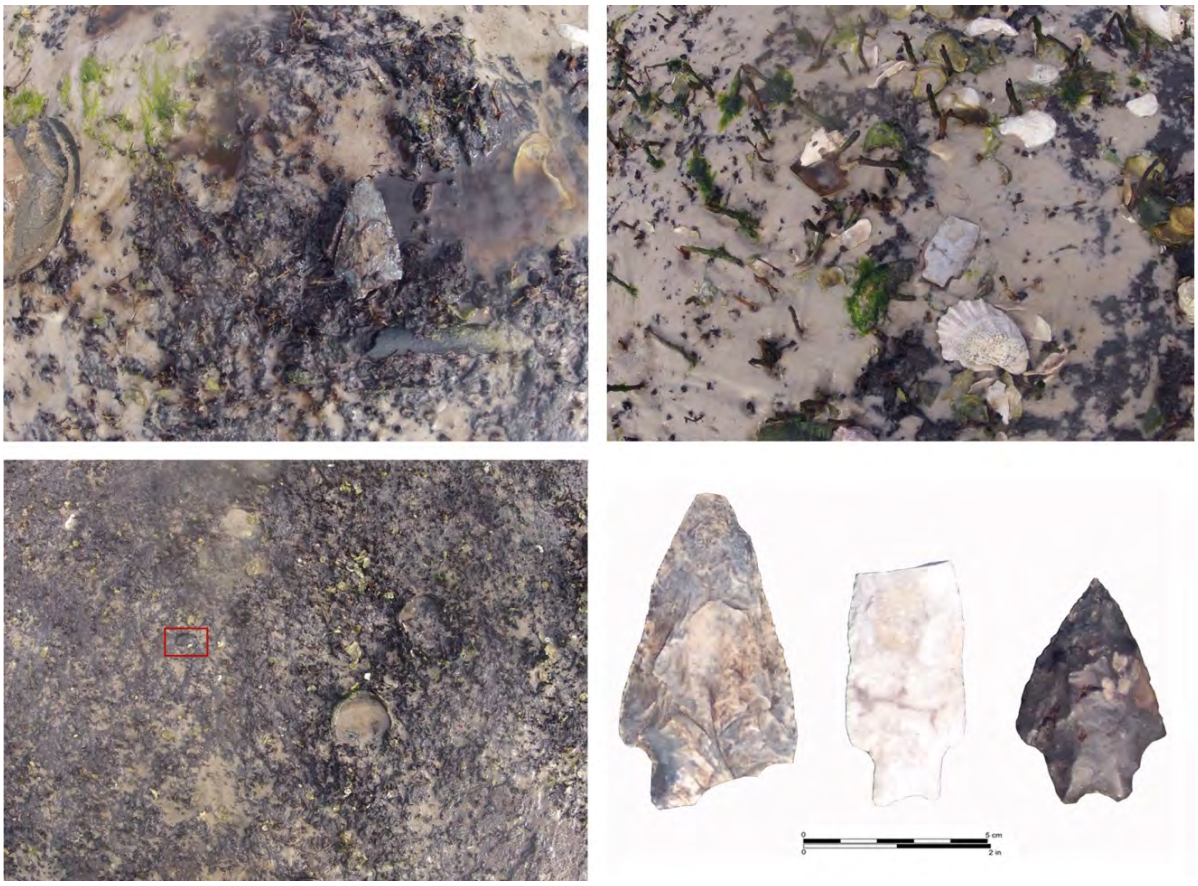

Figure 2-4. Hafted bifaces observed in vicinity of human remains on south shoreline of McClamory Key on December 28, 2012. Upper left: stemmed hafted biface with fine serrations along blade edges (the specimen on left in bottom right photograph); upper right: stemmed biface with tip removed (the specimen in center in bottom right photograph); lower left: whole stemmed hafted biface (outlined in red box) with indented base (the specimen on right in bottom right photograph).

Figure 2-5. View facing southeast on February 16, 2013 along south shoreline of McClamory Key in the vicinity of human remains. Various-shaped pock marks in dark, peaty soil of foreground are presumed to be the result of looting, while the linear scars in the background were formed by the keels of boats pulled to shore.

MARCH 2013 BURIAL RECOVERY

Dr. Daniel Seinfeld of Florida BAR initiated consultations with representatives of the Seminole Tribe of Florida and the Miccosukee Tribe of Indians of Florida to recovery human remains from McClamory Key before they could be further damaged by looters and tidal erosion. After reaching agreement on the terms of the recovery project, the 1A-32 issued to LSA in September 2012 was extended and a crew consisting of LSA, BAR, and National Park Service archaeologists and bioarchaeologists, along with a bioarchaeologist from the Seminole Tribe of Florida, spent three days in early March, 2013 removing the remains of 25 individuals and conducting some limited subsurface testing of the nearby Weeden Island midden. The sections that follow below summarize the method and results of the recovery operation. Osteological analyses of the skeletal remains are reported in Chapter 3, and the method and results of test excavations follow in Chapter 4.

Methods of Burial Recovery

The plan for burial recovery at McClamory Key was designed to not only address the immediate need to spare human remains from imminent destruction, but to also determine the likelihood for additional human interments, plus develop better context for interpreting the mortuary assemblage, especially in relation to other archaeological deposits on the island. Consistent with the overall research design of the ongoing Lower Suwannee Archaeological Survey (Sassaman et al. 2011), field investigations at McClamory Key were guided by the need to recover information from a rapidly disappearing record. As reviewed in Chapter 1, the island is rapidly eroding and is not expected to last beyond a few more decades.

The foremost challenge in removing human remains from McClamory Key was the tide. As previous visits showed, skeletal remains were visible along the shoreline of the island only at low tide. Given the low gradient of offshore terrain, tides both expose and flood vast areas quickly, cutting short opportunities for recovery to just a couple of hours twice a day. Coffer dams, water pumps or other sorts of infrastructure to remove or hold back the tide were not feasible, so we had to take advantage of low tides and hope for weather that did not accelerate the return of high water. We planned for a three-day operation that coincided with two low tides during daylight hours.

In an effort to slow the rate of submergence and soften the wave energy of returning tides, we constructed a berm of sand bags around the burials upon arriving at McClamory Key on March 8, 2013 (Figure 2-6). To some extent, the placement of the berm had to await the receding tide and marking of exposed human remains. As water began to recede by early afternoon, crew members flagged bone exposed at the surface with pin flags as the berm was assembled. Installed around the area of burials and the berm was a grid 10 x 10 m in size, oriented square with the shoreline and thus with a grid-north declination of about 45 degrees east of magnetic north. The four corners of this grid were marked with 4-ft sections of ½-inch rebar. Cloth tapes were pulled between each pair of adjacent corners and pin flags were placed every meter to create points of reference for an internal grid. The intent was to use this grid as a system of recovery, with each 1-x-1-m square assigned a unique alpha-numeric provenience (Figure 2-7).

As some crew members continued to inspect the emerging shoreline for additional burials and dislodged bone, others started to remove the surface stratum of individual squares and pass the matrix through ¼-inch hardware cloth. This surface stratum consisted generally of tide-worked shell and sand, with occasional pieces of bone (human and nonhuman) and pottery. All bone and pottery was bagged by square and level, although none of the units was excavated far below the surface stratum. The intent, rather, was to expose the peaty soil that capped the burials and inspect that surface for exposed bone. As some crew members followed this procedure for units along the north (landward) side of the grid, those who were inspecting the emergent shoreline continued to locate burials. By mid-afternoon on the first day it became clear that we would need to exhume the already exposed individuals and thus we shifted the unit of recovery from grid squares to individual burials. Grid proveniences continued to be useful as units of recovery for ambient bone fragments and occasional

Figure 2-6. View facing south of the semi-circular berm of sand bags emplaced around human burials on the south shoreline of McClamory Key.

artifacts, but they were not used to track the recovered materials of individual graves. From this point forward crew members, sometimes working in pairs, were assigned burials that were numbered in sequence of discovery (Burial 1, Burial 2, etc.) and recovery followed much like it would for any archaeological feature (Figure 2-8).

The conditions of burial recovery were far from ideal as crew members struggled to get bone exposed, recorded, and retrieved before high tide returned (Figure 2-9). The standard procedure was to remove matrix surrounding bone to expose in plan the basic outline of elements. In many cases, crania were highly fragmented and associated long bones disarticulated and incomplete. Very few of the burials showed clear evidence of articulation, although in some cases the lack of articulation was likely a post-depositional consequence and in others indicative of secondary burial. In no case was a crew member afforded sufficient time to fully expose all skeletal elements of a burial and pedestal those elements so that they could be drawn in detail. Instead, informal sketches of exposed elements were recorded on standardized forms and plan views photographed just prior to inundation. Notes on the condition and orientation of the skeletal remains were recorded on the forms and all

Figure 2-7. View facing west of the area of exposed human remains at McClamory Key, showing 1 x 1-m units of a 10-m grid installed around the work area.

matrix surrounding the bones was collected and passed through ¼-inch hardware cloth. Bone elements, fragments, and any other archaeologically relevant material captured in the screen were bagged by burial provenience, or in some cases, grid squares.

After exposed bone was photographed, crew members removed elements as carefully as possible, bagging crania and other elements in individual bags that were labeled by grid square and burial number. Despite a high level of fragmentation, bone was actually in good state of preservation. To prevent further damage in the field, many elements, especially crania, were collected en masse, with adhering soil matrix left in place.

In the field, a total of 22 individuals was identified and recovered by the time most of the crew departed McClamory Key on March 10, 2013. As high tide encroached late that morning the crew dismantled the sandbag berm and dumped the sand over the burial area (Figure 2-10). Two additional burials (Burials 12A and 12B) along the eastern margin of the enclosed berm remained to be collected, so the crew constructed a smaller berm and BAR archaeologists Dan Seinfeld and Zan Rothrock awaited the next low tide that afternoon for recovery efforts.

Figure 2-8. View facing east of the burial recovery operation underway, south shoreline of McClamory Key.

Figure 2-9. View facing west of the burial recovery operation as high tide encroaches on the south shoreline of McClamory Key.

Figure 2-10. View facing west of the burial recovery operation as the crew dismantles the sandbag berm across most of the work area, creating a smaller berm for the recovery of two additional burials.

All remains, skeletal and otherwise, were returned to the Laboratory of Southeastern Archaeology for cleaning and analysis. All bone was immediately soaked repeatedly in baths of fresh water to remove salts and then allowed to air dry slowly to prevent cracking and exfoliation.

Results of Burial Recovery

All told, skeletal remains of at least 24 individuals were recovered from the south shoreline of McClamory Key. The burial count is imprecise because, frankly, field conditions did not lend themselves to precision. The exact locations of each skull and a few other elements were collected through the use of the Total Station, but scaled drawings were not possible and most crew members were unable to ascertain which, if any, postcranial elements were present in any given burial, let alone determine if they belonged to the individual represented by the skull. Based on identified skulls, the minimum number of individuals recovered is 22 and it is these elements that serve as points of reference for the locations of all burials. As we discuss in Chapter 3, the determination of the minimum number of individuals is a laboratory task that involves more than cranial elements alone.

Photographs of individual burials are provided in Figures 2-11 through 2-13. The disarticulated and oftentimes fragmentary nature of the burials is evident in most of the photographs. In several cases—notably Burials 1–3, 4 and 5, and 17 and 18—individuals were grouped together, although we could not establish in any particular case whether individuals in groups were interred together or sequentially. Likewise, long bones associated with skulls were often parallel and tightly grouped, as if "bundled," but it was not clear if such bundles were interred with skulls at the same time. Overall, burials appear to include both primary (in-flesh) and secondary interments, but this distinction proved ambiguous in the field (see Chapter 3 for laboratory results).

The only burial recovered in March with a clearly associated artifact was Burial 15, which contained a large stemmed hafted biface placed beneath the mandible (Figure 2-13). As noted earlier, at least three other bifaces were found in proximity to burials in December 2012. All four bifaces are stemmed forms consistent with the technology of the Late Archaic period.

Determining the Total Number of Burials Exposed since August 2012

Burials exposed in the intertidal beach face of McClamory Key were mapped on each of three visits to the site. When the LSA crew first visited McClamory Key on August 18, 2012, elements of at least nine individuals were observed, exposed at low tide (Figure 2-14). Nine skulls (Burials 1–4, 6, 7, 9–11), one isolated mandible (Burial 5), and a cluster of long bones (Burial 8) were mapped with compass and tape; no permanent datums were established. None of the bones were removed on this occasion.

The assemblage of individuals mapped on this first visit appear to have been aligned in two rows parallel to the shoreline, with perhaps two or three individuals bridging the lines at the southeast end of a ~15 m^2 area.

On a second visit to the site three weeks later (September 7, 2012), the remains of at least 20 individuals were observed. On this occasion, two temporary datums were established at the top of the beach face and a Nikon DTM-310 Total Station was used to map in the skulls of each individual (Figure 2-15). The temporary datums were shot in with a hand-held GPS device.

All but two of the 11 individuals observed in August were relocated on the second visit in September. The two exceptions are the cluster of long bones (Burial 8) and one of the nine skulls (Burial 9). The additional 11 individuals observed in September include three (Burials 1, 2, 6) that extend the landward, shore-parallel line to the southeast; another member of the original landward line (Burial 11); an isolated individual (Burial 19) to the north of this line; and six (Burials 3, 10, 13–15, 18) located seaward that essentially obliterate any semblance of linearity. Again, none of the bones were removed on this occasion.

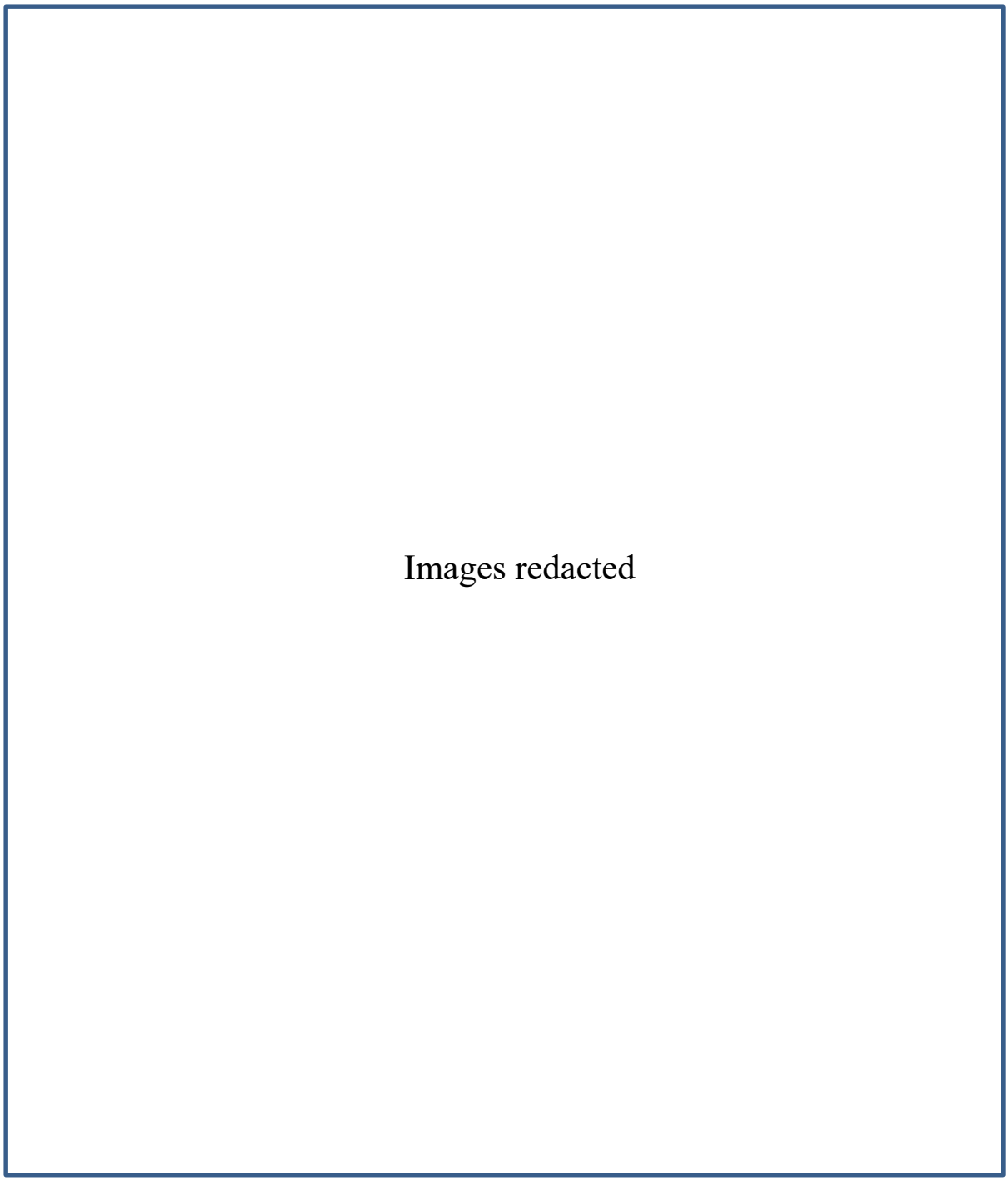

Figure 2-11. Photographs of Burials 1–8, McClamory Key (20-cm long arrow points to magnetic north).

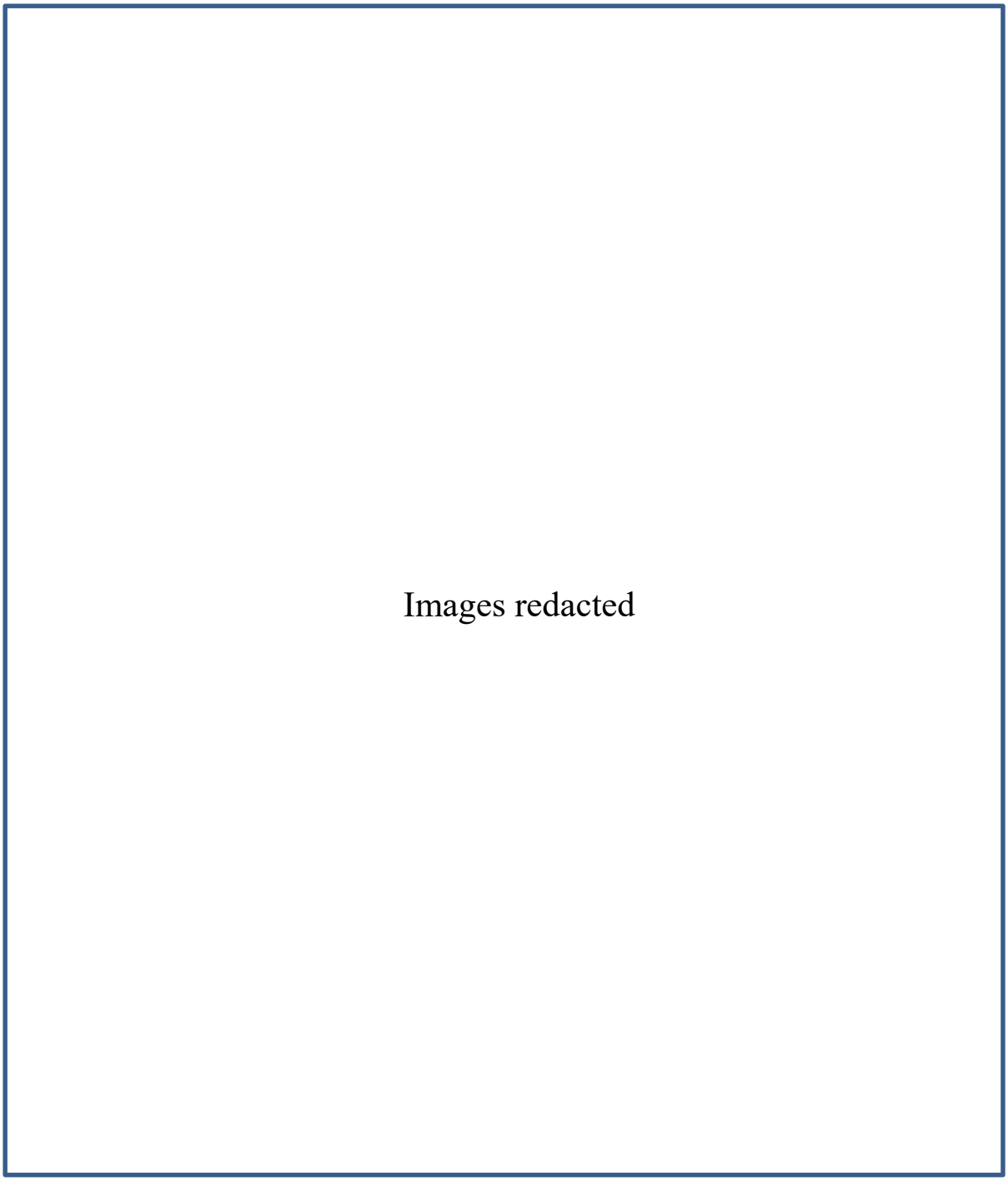

Figure 2-12. Photographs of Burials 9–12A and 14, McClamory Key (20-cm long arrow points to magnetic north; Burial 13 was not photographed).

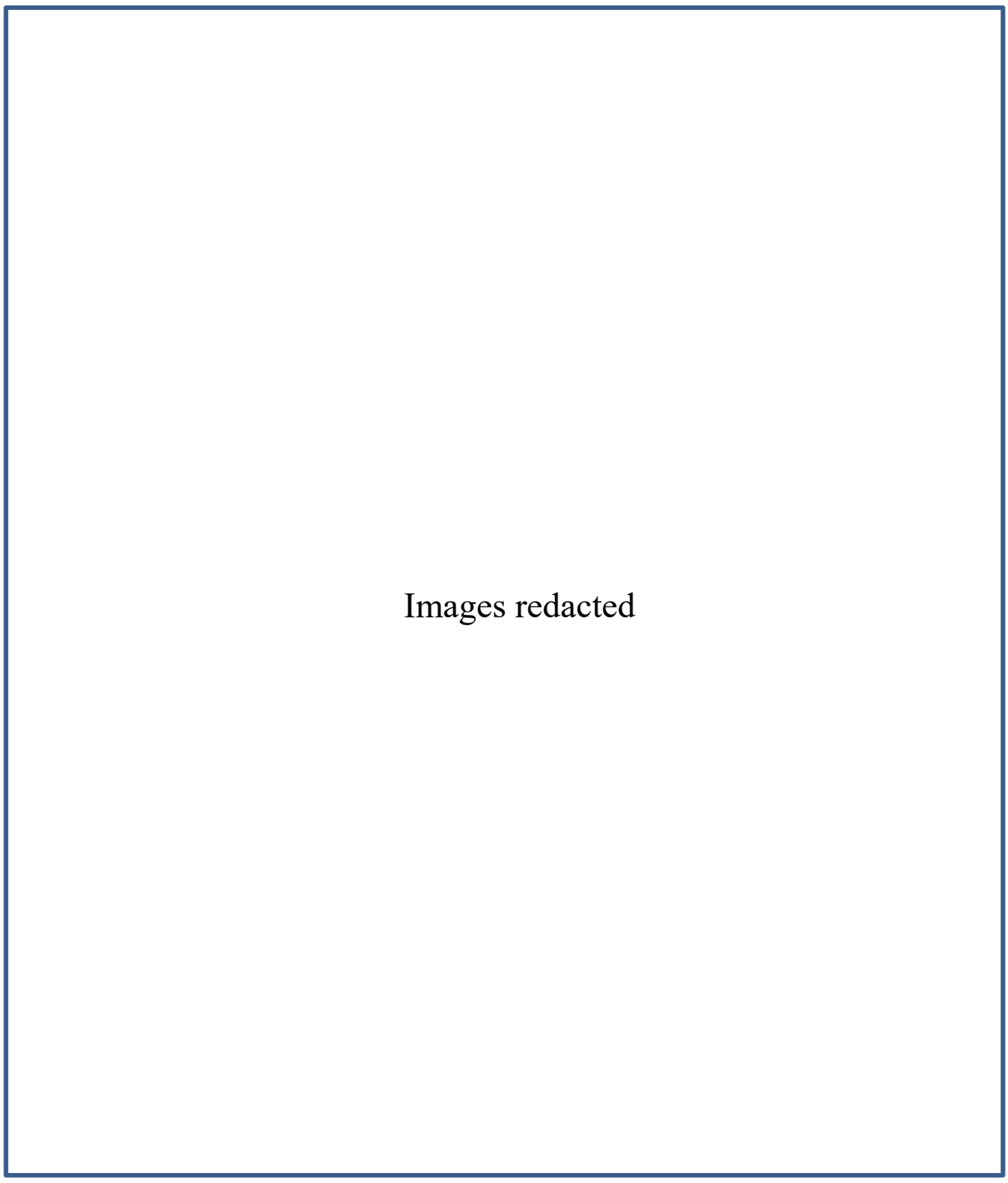

Figure 2-13. Photographs of Burials 15–20, McClamory Key, with close-up of hafted biface in association with Burial 15 (upper right) (20-cm long arrow points to magnetic north).

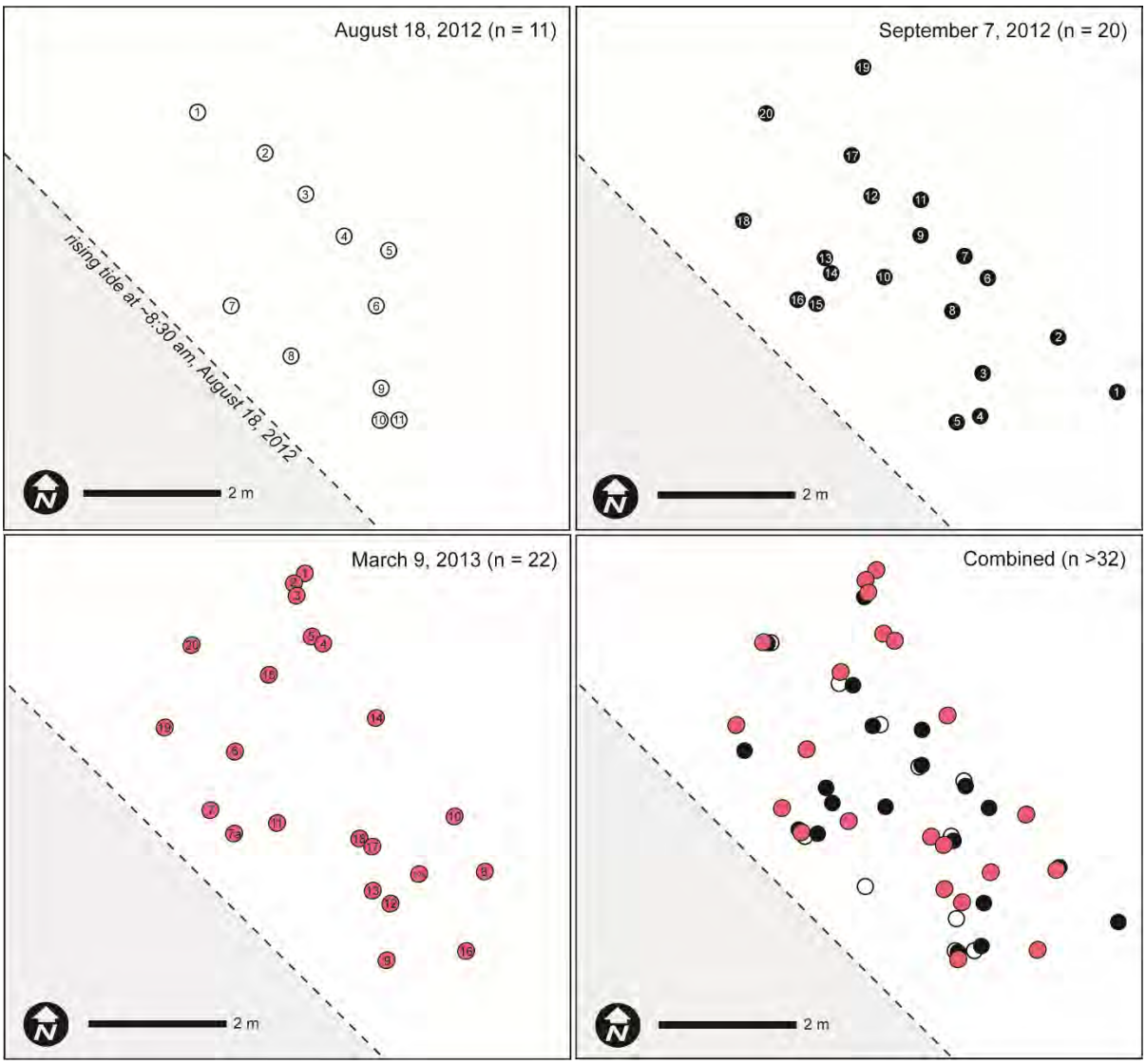

Figure 2-14. Plan distributions of human burials at McClamory Key (8LV288) observed on August 18, 2012 (upper left), September 7, 2012 (upper right), and March 8–10, 2013 (lower left). The composite plan map at the lower left shows a minimum of 32 human burials, at least eight of which were not observed during the March 8–10, 2013 recovery project.

The third visit to McClamory Key was for the express purpose of recovering burials before any further erosion or looting occurred. On March 8–10, 2013 the remains of at least 24 individuals were observed, mapped, and recovered. A grid was established over the burials and two permanent datums emplaced landward of the grid, both located with a hand-held GPS unit. Georeferencing the mapped burials of March with those mapped earlier, the correspondence is only about 50 percent. Ten to 12 of the burials mapped in September 2012 could not be relocated and an additional 12 to 14 burials presented themselves in March. Most of the burials in the central portion of the landward, shore-parallel line were missing, as were several to the southwest of this line, essentially in the center of the burial distribution. One of the March burials (Burial 6) was clearly impacted by looting and several other locations to the south and

east of this burials showed signs of shallow excavation. LSA crew visiting McClamory Key prior to the recovery operation observed damage to Burial 6, as well as other possible looter damage.

Discrepancies in the number and location of human burials among the three plan maps of Figure 2-14 make it difficult to ascertain how many individuals had been exposed recently in the erosion and illicit digging at McClamory Key. Some of the discrepancy may be due to mapping error. Besides the fact that the August distribution was produced by compass and tape, the second and third maps were tied to different data and the respective locations of these data could not be rectified to submeter accuracy with GPS readings. Additional, minor error was likewise introduced by variations in the placement of the prism pole while mapping individual elements. We aimed to take readings from the center of each skull, but in some cases fragmentation made it difficult to determine a precise center point. Despite these sources of possible error, concordance between the August and September distributions lends credence to the assertion that discrepancies between the first two maps and the March map is due primarily to the removal of bone by erosion and looting.

On balance, we are confident that at least 32 individuals were interred in the area of McClamory Key from which the remains of 24 individuals were salvaged in March 2013. A burial population of at least 32 is similar to the estimated 36 minimum number of individuals salvaged from Bird Island (8DI52), about 35 km to the northwest (Stojanowski and Doran 1998). Undoubtedly additional burials were missed before and since our field efforts, and more individuals may be protected by sands that have yet to erode. However, like those at Bird Island, burials at McClamory Key would appear to be tightly clustered, seemingly in a dedicated location for interment. As we discussed in Chapter 1, the location and arrangement of burials at McClamory Key, Bird Island, and at least one other site in the area (Cat Island) suggest a Late Archaic mortuary tradition structured by spatial and temporal relationships between cemeteries, places of dwelling, constantly changing sea level, and the movement of celestial bodies.

CONCLUSION

A seven-month-long process of monitoring McClamory Key for impacts to burials culminated in a three-day emergency field operation in March 2013 that resulted in the recovery of human skeletal remains from at least 24 individuals. Skeletal elements of other individuals observed on earlier visits to the island by LSA staff were not accounted for in the March recovery operations, bringing the minimum number of interments at the site to 32. Hafted bifaces found in and among the graves place the interments, tentatively, in the Late Archaic period. Absolute dating will be needed to corroborate this assessment of age, but it is noteworthy that the program of burial on the south shoreline of McClamory Key is consistent that observed at Late Archaic cemetery on Bird Island to the northwest. Although many of the McClamory Key burials appear to have been secondary, certain postcranial elements suggest that primary interments were practiced too. Analyses of the skeletal remains reported in the chapter that follows provides further insight on the disposition of the individuals buried at McClamory Key.

CHAPTER 3
OSTEOLOGICAL ANALYSIS

Reported in this chapter are the results of osteological analyses of the human remains recovered from McClamory Key (8LV288) on March 9–10, 2013. The analysis was conducted by bioarchaeologist Dr. John Krigbaum of the Department of Anthropology, University of Florida (UF) with the assistance of Ph.D. candidate Ellen Lofaro. Prior to delivering the assemblage to Dr. Krigbaum at his lab, the bones were cleaned, dried, inventoried, and re-bagged at the Laboratory of Southeastern Archaeology (LSA). During excavation a minimum of 22 individuals was identified; post-recovery inventorying at LSA suggested that more individuals could be expected from detailed analysis. Thus, in addition to making estimates of the age, sex, and health of the persons interred at McClamory Key, a major goal of the osteological analysis was to determine authoritatively the minimum number of individuals (MNI) recovered. Assessment of the skeletal material was taken with great care and was completely non-destructive. No glues or adhesives were used during analysis.

Discrepancies between the provenience information assigned to burials in the field and the numerical system reported below owe primarily to the commingled nature of postcranial remains in particular, as reported in Chapter 2. For most of the burials with a large number of skeletal elements associated, recovered remains were bagged by cranium, postcranial, and "mixed" elements. However, associated teeth and cranial fragments were often included in postcranial and mixed-labeled bags. Technically, a cranium includes the skull but not the mandible, so the more appropriate term would be "skull" corresponding to all craniodental remains recovered. Importantly, other than positively identified dental remains, boney elements within each bag were kept in their original bag to maintain context and integrity of each individual feature. New plastic bags within each context were added, as warranted, to help organize identified elements by burial feature/individual.

As noted in Chapter 2, several groups of burials were clustered spatially as they were encountered in the field, giving the impression that they were somehow interred collectively or in close sequence. To simplify the discussion that follows and to improve resolution of assessed MNI of this assemblage, group numbers were assigned to five such clusters (Groups I–V; Figure 3-1). These groupings are not meant to imply simultaneous inhumation, but rather to clarify assignment of recovered individuals whose proximity may have led to commingling of cranial and/or postcranial elements of two or more individuals. Descriptions of burial features not assigned to groups are reserved for non-group burials presented at the end of this chapter.

Other analytical notes bear mention. Procedures followed and scores reported of key age and sex markers are based on Buikstra and Ubelaker (1994). Age cohorts in the descriptions that follow are coded as follows: child, 3–13 years of age; adolescent, 12–20 years of age; young adult, 20–35 years of age; middle adult, 35–50 years of age; and old adult, 50+ years of age (White et al. 2012). Subadult age estimates, where provided, are based on observed development of associated dental remains. With respect to secondary burials that consist of skulls, it would be typical to expect some neck (cervical) vertebrae to be associated; additional

postcranial remains obviously would not be expected if only a skull was deposited. Conversely, representative parts of the postcranial skeleton lacking a skull recovered may indicate the removal of a skull from a particular burial feature identified.

An inventory of skeletal remains recovered and a separate inventory of teeth are provided in Appendix B. In order to provide a sense of scale with respect to recovered remains for each burial feature identified in the field, all boney elements assigned to particular burial numbers were weighed. Weight measurements reported here represent the total mass of human bone/teeth recovered per burial feature. These same values are used as a proxy to describe the relative mass of each burial feature (very small >250 grams; small 250–500 g; medium 501–1000 g; and large >1000 g). Absolute values are reported with the skeletal inventory in Appendix B, but referred to in only relative terms in the narrative below. To date, laboratory imaging (photography, scanning, radiography) of these remains has not been conducted.

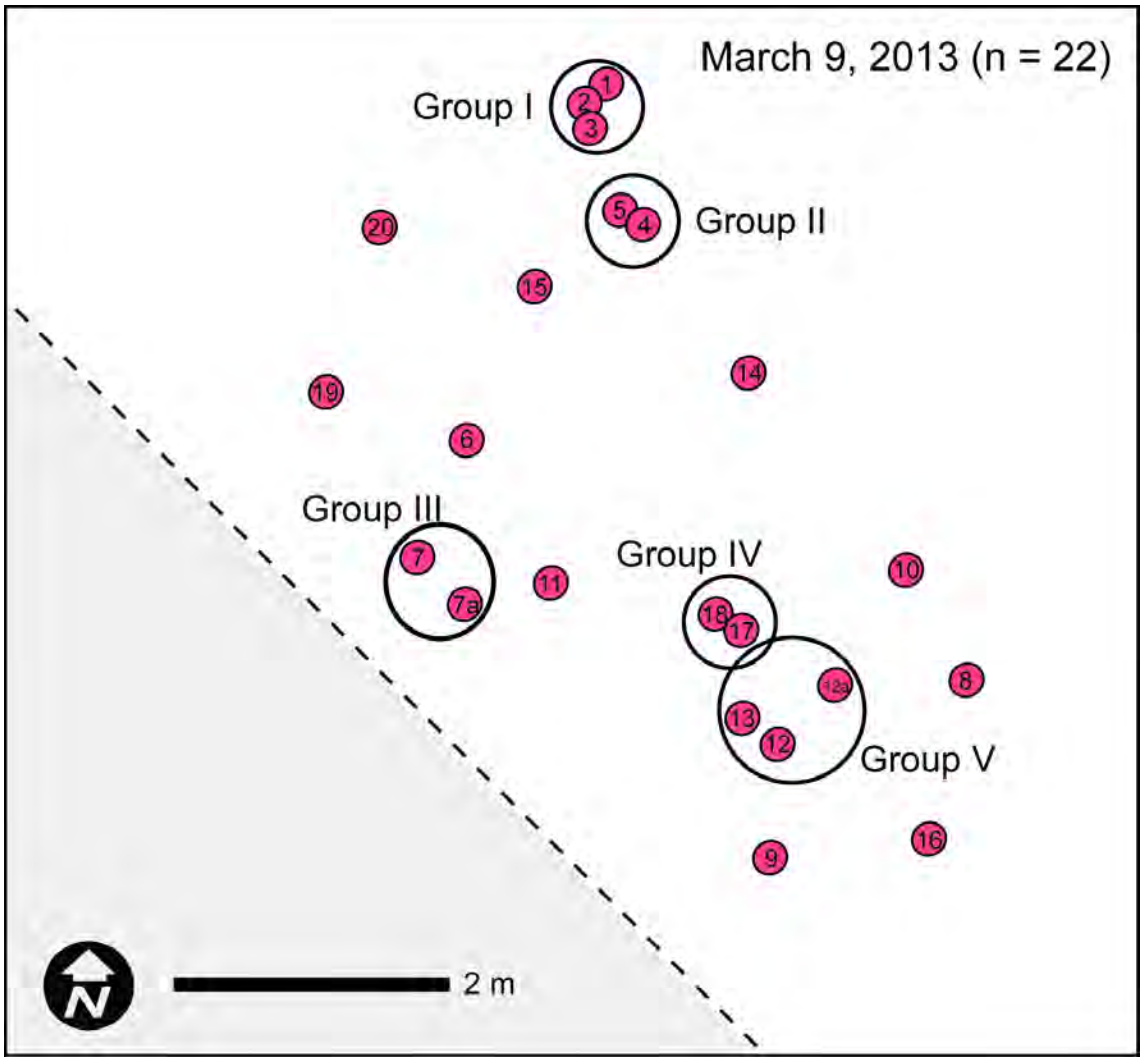

Figure 3-1. Plan map of the burials mapped by transit at McClamory Key on March 9, 2012 showing the groups assigned to clustered burials described in text.

GROUP I BURIALS

The Group I burial assemblage consists of three individuals based on the recovery of three crania, plus associated postcranial remains. Burial 1 and 2 consist of skulls only, whereas Burial 3 consists of a skull and postcranial remains bagged as "Burial 1, 2, 3 associated long bones." Postcranial elements were not assigned to a particular burial in the field, due to unclear association during excavation.

Burial 1

This small burial feature is represented by a skull and two small vertebral fragments, including a fragment of the second cervical vertebra ("dens") with slight osteoarthritis (score = 1). The skull is that of a young adult, probably a female and this feature likely represents a secondary interment. Recovered teeth (n = 20) are well represented and the young adult age estimate is based on the light to moderate dental wear observed on the molars, and dental wear on one of the two upper third molars (roots complete) on the fully formed (roots complete). Some parietal and temporal bone fragments exhibit "sharp" sutures, patterning that supports the young adult age estimate. Both left and right temporal fragments identified do not yield clues to biological sex as they lack a complete mastoid process. Occipital fragments observed are gracile and support a probable sex of female. Very slight linear enamel hypoplasia (LEH) or more accurately faint hypoplastic pits are observed on upper incisor and canine crowns (n = 3). LEHs are discrepancies in crown formation during mineralization of the tooth enamel, and reflect "arrests" in enamel development presumably due to sickness during childhood. Severe LEH tends to be expressed as wide bands of depressed enamel, and reflects a more severe stress episode experienced by the individual during childhood.

Burial 2

This medium-sized burial feature is represented by a well-represented albeit fragmentary cranium. The skull is that of a middle adult male, almost certainly a secondary burial. As observed with Burial 1, the only postcranial fragments associated with this individual include a second cervical vertebral fragment ("dens"). Recovered teeth are very fragmentary (n = 20+) and include a portion of the anterior mandible symphysis with incisors broken at their root. There is also a left mandible fragment, with the lower left second and third molars (LM_2 and LM_3) in situ, both exhibiting moderate wear. (This mandible fragment could be LM_1 and LM_2 with the LM_3 absent; however, this scenario is unlikely as third molar agenesis is rare amongst contemporaneous populations in the pre-Columbian Southeast; further analysis would confirm this assessment.) Dental wear is moderate compared to that observed in Burial 1 (and Burial 3) and consistent with an age estimate of middle adult. This estimate is supported by a fair degree of ectocranial suture closure observed on several cranial elements, including preserved temporal and occipital fragments.

In terms of biological sex, the right temporal fragments recovered include a complete mastoid process that is robust (score = 4) supporting male sex assignment. Further, the mandible fragment is robust and a frontal bone fragment has a rounded superior portion of the orbital rim, which supports male designation. The size and robusticity of observed occipital

fragments also are consistent with male sex assignment for this individual. Of pathological note is an orbital fragment exhibiting "healing" cribra orbitalia, a nonspecific stress indicator. Although its etiology is unknown, this pathological condition clearly shows that this individual had been stressed earlier in adulthood.

Burial 3

This is a medium-sized burial feature of a young adult female individual, and is most likely associated with the postcranial remains recovered from unit D3, Level C (bagged together as "Burials 1, 2, 3 associated long bones"). The cranium of Burial 3 is poorly preserved and associated teeth (n = 24) exhibit light to slightly moderate occlusal wear suggesting young adult age, an age estimate supported by fresh suture margins on a preserved left temporal fragment. A sex estimate of female is based principally on a frontal bone fragment with a sharp orbital rim and gracile brow (score = 1).

All postcranial remains recovered are consistent with a single, gracile individual and include elements of the axial skeleton (scapula fragment, vertebral fragments), wrist and hand bones, and many long bone fragments including identified tibia and femur fragments. The overall size and gracility of recovered postcrania are consistent with the female sex estimate for this individual. Most cranial remains and teeth included in the "Burials 1, 2, 3 associated long bones" bag are consistent with Burial 3 assignment, and this supposition is based on the observed dental wear of associated teeth. However, there is also the likelihood that all three individuals have teeth included in this feature, which does complicate the analysis. Detailed imaging of the occlusal "chewing" surfaces of the recovered dentition should clarify presumed association. Cranial fragments in the "Burials 1, 2, 3 associated long bones" bag are also most consistent, in terms of size and representation, with the young adult female represented by Burial 3.

Given the poor to moderate representation of the postcranium and the fairly large number of hand bone fragments, including phalanges, coupled with associated craniodental remains, a primary burial is posited for this feature. Thus Burial 3 is the only primary interment recovered in Group I, associated with two secondary interments, Burials 1 and 2. No pathologies are observed for this individual.

GROUP II BURIALS

Two individuals were recovered in Units E4/E5 and are included in Group II, based on two recovered skulls and associated postcranial remains. Burial 4 and Burial 5 were identified as "cranial" remains in the field, but Burial 4 is consistent with recovered postcrania.

Burial 4

This is a medium-sized burial feature of a middle adult female, principally represented by a skull, however, recovered postcranial remains in the bag labeled "Burial 4, 5 postcranial" are consistent with this individual as opposed to Burial 5, an adolescent. The skull is well represented albeit fragmentary, and is clearly adult. The third molars associated are moderately

worn, and recovered teeth (n = 15) support an age estimate of middle adult. Right and left temporal fragments show a slight mastoid process (score = 2), confirming female sex designation for this individual. Associated postcranial fragments are few but include two small phalange fragments and some unidentified long bone fragments. No significant pathologies are observed; however, there is slight remodeling on the glenoid fossa of the mandible, corroborating the middle adult age estimate.

The bag labeled "Burial 4, 5 postcranial" included postcranial and craniodental remains associated with both burials 4 and 5. However, the postcranial remains, including hand bones and fragments of femur and tibia, are that of a fully adult individual and more developed than would be expected for a subadult (Burial 5). Most teeth and cranial fragments identified in this context are a clear match for teeth and cranial fragments associated with Burial 4, including a mandibular condyle that matches an identified mandible fragment. Postcrania remains suggest a match with Burial 4 and not Burial 5, and thus Burial 4 could be considered a primary interment based on this assessment.

Burial 5

This small burial feature is that of an adolescent that is represented by only craniodental remains and a 1st cervical vertebra fragment, and thus is best assigned as a secondary burial. The skull was identified in the field as an "isolated mandible" but additional cranial remains recovered include the petrous portions of both right and left temporal bones. The size of these fragments and other associated cranial remains and loose teeth (n = 31) are clearly that of an adolescent. Recovered teeth suggest an age estimate of ca. 15–16 years old (M3s with incomplete root development, and an M2 with root just complete). Biological sex for this individual could not be assessed based on recovered remains, although the cranial fragments are quite gracile in overall form, which may suggest female. A significant pathology observed with this individual is the presence of severe LEH on its upper central incisors (I1), canines, and first molar crowns. This is clear evidence for a stress-related event experienced earlier in childhood (ca. 5 years of age).

GROUP III BURIALS

Group III burials include two features excavated in Unit F7, Burial 7 and Burial 7A.

Burial 7

This is a small burial feature represented by one bag of "mixed bone" remains. In terms of individual representation, it does not seem to be associated with the adult individual represented by Burial 7A. Burial 7 includes the remains of a young adult female individual represented by skull (mandible and maxilla fragments), and associated postcranial elements (unidentified long bone fragments). The dentition is well represented with two right mandible fragments that include a RPM_3 and RM_1 to RM_3 in situ and a LPM^3 in situ. The light degree of dental wear on all preserved teeth (n = 24) and the RM_3 fully erupted but unworn supports a young adult age estimate. With respect to sex, both right and left temporal fragments are present with gracile mastoids (score = 2) that support a female sex assignment.

Based on the presence of long bone fragments, all unidentifiable, this could be a primary inhumation, however, no hand or feet bones are present. There is one deciduous molar (a 'stray') included in this assemblage that does not belong to this individual, but does not seem to warrant an MNI of two for this burial feature. They may be "mixed" from a neighboring feature, but do not seem to be the individual represented in Burial 7A in this same unit.

Burial 7A

This small burial feature includes associated postcranial and cranial remains recovered. In terms of skull fragments, there is a single parietal fragment and two moderately worn mandibular premolars of similar wear to those preserved in Burial 7, thus warranting a distinct burial/individual for this group. Not enough evidence exists with this burial to confidently assign age or sex, but aspects of the skeleton (skull, upper and lower limb bones, feet fragments and would suggest this burial was a primary interment. However, field observations in 2012 in the vicinity of this feature suggest it truly is a mixed assemblage that includes elements from several individuals. At this point an MNI of 1 is warranted, with the caveat that most of the remains from this context are assigned as adult of unknown sex, although these remains seem more robust than those of Burial 7, the young adult female. Of interest is the broad similarity in preservation of cranial and postcranial elements between burials 7 and 7A

GROUP IV BURIALS

This is a complex group of individuals that may have been co-mingled based on the disparate contexts of material recovered in the field. For example, "mixed bone" for Burial 12 includes a tooth associated with the individual identified as Burial 12A, however, both Burials 12 and 12A individuals are distinctly different from individuals represented by Burials 12B and 13. Thus, for these four defined burial features, there are four individuals represented based principally on recovered dental remains and associated mandible fragments. The postcranial remains recovered for burial features in Group IV are minimal per assigned individual, and require further analysis to clarify what may or may not be associated with recovered craniodental remains for these individuals.

Burial 12

This very small burial feature is moderately well represented, especially by craniodental remains and teeth (n = 25). In terms of age, the individual is an adolescent, 15–16 years of age, based on light degree of tooth wear and root closure of preserved M3s. This age estimate is consistent with the fresh sutures evident on the moderately large cranial bones present. No sex estimate is possible based on recovered remains. There are some postcranial remains (femur, ulna fragments) including hand phalanges represented, which suggests primary interment. No pathologies are observed.

Burial 12A

This medium-sized burial feature is that of a young adult male individual represented by craniodental remains including a left mandible fragment (LP1-LM3 in situ) and teeth (n =

5) and some postcranial remains, however, there are many small, unidentifiable fragments. This material would support possible primary interment. The mandible is robust with large molars and a moderately square jaw (score = 4), which supports a sex estimate of male. In terms of age, dental wear is slight, however, the M3 roots are completely formed, consistent with a young adult age estimate.

Burial 12B

Not shown in Figure 3-1, Burial 12B was recognized by Dan Seinfeld and Zan Rothrock in the course of recovering Burial 12A. This recovery took place after most of the crew completed their work on the morning of March 10 and left the island. Seinfeld and Rothrock remained on the island into the afternoon in anticipation of low tide ~5:30 p.m. Upon exposing the bones of Burial 12A, they observed another skull immediately to the southwest of Burial 12A. They mapped the location of this skull relative to Burial 12A at 46 cm from the transit reading of Burial 12A at an azimuth of 250 degrees. This location is encompassed by the circle in Figure 3-1 that marks the location of Burial 12A.

Burial 12B is a medium-sized burial feature of a young adult female individual well represented by craniodental remains, including teeth (n = 30), and associated maxillary and mandibular fragments. There are some postcranial remains associated, including the atlas (2nd cervical vertebra), rib, and femoral fragments. In terms of sex estimate, what is evident from the mandible fragment (chin = 2) suggests a possible female and this is consistent with the overall size of the dentition, and more importantly two frontal fragments with a slight to moderate supraorbital torus (score = 2). In terms of age, slight to moderate dental wear is consistent with young adult age status, as are the fresh cranial sutures present on observed parietal fragments.

Burial 13

This medium-sized burial is that of a single individual, a possible female of middle adult age. The skull fragments are well preserved and is an excellent candidate for reconstruction. Recovered teeth (n = 28) are very worn, which supports the middle age estimate. With respect to sex, a right temporal fragment exhibits a partial mastoid process (score = 2) that suggests female. Further support for female sex is the small and gracile frontal bone with preserved supraorbital torus (browridge). Postcranial remains identified include portions of the scapula and humerus, and thus this feature may be a primary interment,

GROUP V BURIALS

Burial 17

This is a medium-sized burial of an adult individual that includes craniodental remains and postcranial remains (upper and lower limbs). In terms of recovered remains, this burial is particularly noteworthy for the number of postcranial fragments recovered, supporting a primary interment. All remains recovered are consistent with a single adult individual. With respect to sex, a male estimate is based on the presence of a moderately robust chin and

smoothed and rounded supraorbital margin. Cranial fragments preserved are thick. With respect to age, the associated teeth (n = 14) are very worn, but perhaps consistent with an old adult individual. Further, cranial remains exhibit advanced sutural closure, consistent with this estimate. There are no signs of pathology.

Burial 18

This is a very small burial feature, and indeed the smallest burial recovered during field excavation. The individual is represented by craniodental remains only that include a partial mandible, a fragment of maxilla, and worn teeth (n = 4+). The mandible fragment is the alveolus associated with the left M3 and extends to the right I_2/right C_1, however, many of the teeth for this individual were lost antemortem. The LM_3 and LC_1 may have been lost postmortem, and the LC_1 is associated with a periapical abscess that seems to be mirrored on the right side as well (associated with the RC_1), but this cannot be verified. There is a moderate mental eminence (score = 3), which suggests male. The worn teeth are consistent with old adult age. As this is a skull only feature, it may be classified as a secondary burial.

BURIALS NOT ASSIGNED TO GROUPS

Burial 6

This medium-sized burial feature was recovered from Units E6, E7 and F6, F7 in the vicinity of burials 7 and 7A, which were assigned to Group III. Remains recovered are consistent with a single adult individual. This individual is represented by craniodental remains and postcranial remains. Skull remains include a number of identifiable fragments, many with fresh sutures consistent with young adult age status. Recovered teeth (n = 4) are moderately worn, however, the degree of observed wear coupled with observation of cranial sutures (e.g., temporal bones) are consistent with an estimated age of young adult. A left temporal bone exhibits a gracile mastoid (score = 1) which supports a female sex designation. With respect to postcranial remains, these are fragmentary but include both upper (humerus, radius, ulna) and lower (femur, tibia, fibula) long bones. In addition, carpal, metacarpal, and phalangeal fragments were recovered for this individual. The cross representation of the postcrania for this single individual supports primary burial interment.

Burial 8

This small burial feature was recovered in unit I5. The remains are consistent for a single individual, and is likely the same individual identified during the 2012 surveys (see Chapter 2). The skull has teeth (n = 18) well represented including a left mandibular fragment with LM_1 and LM_2 in situ and an anterior mandibular fragment (with LPM_4, LPM_3, LC_1, LI_2, LI_1, RI_1 in situ). Dental wear is moderate, especially on molars, but consistent with young adult age, although likely towards the upper limit of this age cohort for this population. The left temporal exhibits a gracile mastoid process (score = 2), which supports female sex assignment. This designation is confirmed by the relatively gracile mandible preserved (chin = 2). Postcranial remains are highly fragmentary but do include additional cranial fragments, upper

and lower limb fragments, and hand bones. The presence of these remains supports primary inhumation for this individual.

Burial 9

This small burial feature was clustered with several burials identified in the August 2012 and September 2012 surveys of the site. As such, an MNI = 2 is likely a true reflection of this complex unit. Remains recovered include fragmentary craniodental remains, including many teeth (n = 25+) of a single subadult (12–13 years) of unknown sex (9-2). There is also a middle adult individual (9-1) represented by craniodental remains, including recovered teeth (n = 9), with observed heavy wear on some molars supporting a middle adult age estimate. Postcranial elements are also that of an adult individual and include tibia and femur fragments. So, this burial feature likely includes one primary adult interment, and a secondary subadult represented by only a skull. The general vicinity of Burial 9 was evidently looted prior to the March 2013 recovery operation, and may factor in to the difficult interpretative nature of this multiple burial feature.

Burial 10

This large burial feature was recovered in units H4 and H5 and consists of the very fragmentary remains of a middle adult female. With respect to the age of this individual, well represented dental remains (n = 28) exhibit moderate wear consistent with middle adulthood. In terms of estimated sex, a preserved frontal shows a slight brow ridge (score = 1), and fragmentary mandible with preserved mental eminence (chin = 2) suggests this individual was a female. Postcranial remains are highly fragmentary, but reflect all aspects of the axial skeleton as well as the upper and lower limb, including hand and wrist bones. This degree of representation strongly supports this individual being a primary interment. Further reconstruction is required as many of the fragments are “mends” and could be reconstructed. One “stray” premolar was recovered in a mixed bone context of H4 and H5 but does not seem to warrant MNI status.

Burial 11 (and 11A)

This is a small burial feature that represents a single adult male, primary interment. The remains consist of fragmentary cranial material, including an anterior mandible fragment that is robust (score = 4) and suggests the individual was male. One moderately worn molar and an additional tooth fragment are not enough to discriminate between young and middle adulthood, so a nonspecific “adult” age estimate is the best designation possible at this stage of analysis. In terms of postcranial remains, most material included very fragmentary long bones (collected as Burial 11A in the field and encompassed by the area of the circle in Figure 3-1 for Burial 11) that likely do mend, including fragments of humerus, ulna and carpal bones of the upper limb, and femur and tibia of the lower limb.

Burial 14

This very small burial feature is that of an adult individual represented by cranial elements only (parietal, occipital). Overall size and developed musculature supports an

assessment of adult, however, a sex estimate is not possible, based on what was recovered. This feature is a secondary burial.

Burial 15

This medium-sized burial feature was near Group II, and near other burials identified in August 2012 and September 2012 visits to the site. An MNI of 2 is confidently established based on analysis of recovered remains. A young adult male is represented by postcrania and a well preserved mandible with dentition (n = 15). Although fragmentary, the extent of postcranial remains, including upper and lower limbs (ulna, radius, femur), axial elements and hand/feet elements support that this individual was a primary inhumation. Male sex is confidently assigned based on the robust nature of the mandible and square chin (score = 4), in addition to a preserved pelvis fragment with sciatic notch (narrow). In terms of age, tooth wear is moderate, consistent with a young adult estimate for this population. Other fragmentary postcranial remains identified include hand bones, ulna, radius, and femoral head. One stray lower premolar, not included in the MNI, does not belong to this individual or the young child discussed below.

The second individual identified in this features is a young child (~6 yrs.), based on preserved dentition (n = 17). Of note is the presence of slight LEH near the cemento-enamel junction on the permanent C. As this seems to only include craniodental remains, this individual may represent a secondary interment.

Burial 16

This is a large burial feature of a young adult male, with many fragmentary and unidentifiable craniodental and postcranial elements represented. Postcranial elements recovered include upper (humerus) and lower (tibia) limbs and support primary inhumation. Male diagnosis is based on the robust nature of the left and right mastoid process (score = 4) and the blunt and rounded right eye orbit and brow (score = 3). Age estimate is based on dental remains recovered (n = 31), exhibiting slight dental wear, with M3 in occlusion. No pathologies are observed. One stray juvenile canine was identified but is not considered in the MNI.

Burial 19

This is a large burial feature of a single individual well represented by craniodental remains, including teeth (n = 8+), and postcranial fragments that include both upper and lower limb bones. No phalanges are identified, but given other postcrania, a primary interment seems likely. In terms of sex estimate, the mental eminence of the mandible fragment is square and robust (score = 4), which supports male designation. This is likewise supported by a robust occipital fragment/nuchal crest (score = 4). Extreme dental wear observed with this individual supports an age estimate of old adult, although certainly advanced middle adult age could be argued; however, it is interesting to note the presence of RM_3 in full occlusion, with much enamel in contrast to its RM_1 and RM_2 which are virtually devoid of enamel, except along the labial margin. Of note is a possible periapical abscess associated with the area in the region of the RC_1 and a "pocket abscess" posterior to RM_3.

Burial 20

This small burial feature is represented by postcranial remains only; no craniodental remains were recovered. Included are right upper arm bones around the elbow and portions of the left hand (carpals, metacarpals and phalanges). Lower limb elements, include right and left talus and left corresponding calcaneus. There are also a fair number of hand and foot bones recovered in this feature which supports the contention of primary interment, although it is interesting to note the lack of a skull in this feature. An adult male is tentatively suggested by the morphology/robusticity of the arm bones, but age cannot be specified beyond the generic category of "adult."

DISCUSSION AND CONCLUSION

At least 25 individuals are represented in the skeletal remains recovered from McClamory Key in March 2013. This MNI is three more than the burial count assigned in the field ($n = 22$). The additional three consist of (1) the craniodental remains of an adolescent (12-13 years of age) associated with an adult in Burial 9; (2) the craniodental remains of a young child in association with a young adult male in Burial 15; and (3) the identification of a second skull and associated postcranial remains in close proximity to Burial 12A, which was recovered after all burials were mapped in the field and most of the crew departed. Given the observation of additional burials on two reconnaissance trips to McClamory Key in late 2012, an MNI of 25 underestimates the total cemetery population by at least seven individuals. No doubt others went undetected or were removed by erosion and looting before late 2012 or the interim between that period and the March 2013 recovery operation.

Although bone was generally in a good state of preservation, elements were friable and fragmentary, although this was minimized by repeated rinses and slow air drying. Estimations of MNI, type of interment, age, sex, and observed pathologies are clearly compromised by the fragmentary condition of the remains. Nonetheless, conservative estimates of burial type, age, and sex enable some tentative inferences about the mortuary practices represented in the cemetery and those individuals interred therein.

First, it would seem safe to conclude that the burials at McClamory Key were interred in a true cemetery, meaning that they were interred in a dedicated mortuary space. The 25+ individuals observed were grouped together in a relatively small space, and several clusters of individuals suggest either simultaneous or closely sequenced interment. Both primary and secondary burials are indicated. Some of the burials interpreted as "primary," notably Burials 16 and 19, lack axial elements or the small bones of hands and feet, and could thus be secondary "bundle" burials that included only skulls and long bones. Other secondary burials apparently include only skulls, although the conditions of recovery were not ideal for locating all postcranial remains, especially small elements.

Primary and secondary burials crosscut all age groups and both sexes. At least 11 and perhaps 13 interments were primary and they are roughly evenly divided between the sexes. At least six and perhaps eight interments are likely to be secondary, and they too are evenly divided between the sexes. As for groupings, all but one of the secondary burials is included

in groups containing primary interments. By extension, those not assigned to groups are generally primary interments, as well as indeterminate, although the addition of the seven or more "missing" individuals may alter this assessment.

The burial groups designated in this analysis vary in membership along lines of age and sex. Groups include both male and female (Groups I and IV), just males (Group V), and just females (Group II), although, again, sampling issues compromise the reliability of this observation. Only Group V is age-specific, consisting of two old adult males; all other groups include individuals from at least two age groups.

The observed LEH and "healed" cribra orbitalia indicate a non-specific stress, that may be dietary or metabolic, experienced in childhood for a few individuals observed. Minor evidence of arthritis reflect degenerative responses to mechanical stress, usually correlated with age. The overall robusticity of several individuals, generally males, compares favorably with the morphology of individuals interred at Bird Island (Stojanowski and Doran 1998) and deviates from other Florida populations of Late Archaic age or older (Kles 2013). The significance of this pattern eludes interpretation for lack of better samples, but does point to the possibility that individuals interred at McClamory Key, as well as Bird Island, have proximate ancestry outside of the immediate region.

One interesting non-metric trait scored is what has been termed the Uto-Aztecan premolar (Morris et al. 1978), or distosagittal ridge (Turner et al. 1991) of the first upper premolar (UP3). This dental trait is unique to Native Americans, where the UP3 exhibits buccal cusp displacement with the presence of a fossa adjacent to distal marginal ridge. It is a rare trait (compared to something like "shoveling" which occurs at quite high frequencies among Native American populations) and was first noted in specific populations in the Southwest (thus its name), however, Powell (1995:164) noted exceptionally high frequencies in Florida Archaic populations including Bird Island (16.7%), Tick Island (8.8%) and Windover (10.4%). Dental wear can complicate the scoring (presence/absence) in individuals with preserved UP3s and a lower incidence (3%) of the trait at Windover has been recently reported (Stojanowski and Johnson 2015:352). Its presence at Windover is nonetheless significant, but the frequency reported differs due to interobserver error and complications of accurately recording the trait due to differences in dental wear. The elevated frequency of the distosagittal ridge at Bird Island, however, is noteworthy (Stojanowski, pers. comm.), and suitable to compare to the McClamory population. Of the 25 individuals represented at McClamory, fourteen adults had UP3s preserved, and of these four had the confirmed presence of the trait (28.6%), which is exceptionally high. This result will of course need to be further verified, due to the complications of wear, however, it lends support to the age of this site in that the reported frequency of this trait in later Holocene populations is reportedly much lower (Powell 1995). The high frequency of the distosagittal ridge observed at Bird Island and McClamory Key supports some degree of genetic continuity between the two populations.

CHAPTER 4
METHOD AND RESULTS OF TEST EXCAVATION

In conjunction with the recovery of human interments from the intertidal zone of McClamory Key, subsurface tests were excavated in both of the hammock remnants of the island, as well as the beach just landward of the burials (Figure 4-1). This chapter reports the results of these excavations, starting with the larger of the two hammocks (STP1 and Test Unit 2), at the west end of the island, followed by the smaller of the two hammocks (Test Unit 1) and the unit on the beach (Test Unit 3). Testing revealed that the West Hammock holds what is left of a 50-cm-thick Weeden Island component, whereas the East Hammock encases a small 12-13th century component overlying a thin Late Archaic stratum. The beach unit exposed reworked, bedded sands overlying a small intact portion of midden of indeterminate age.

Figure 4-1. Aerial image of McClamory Key (8LV288) showing the locations of excavation units and the location of eroding burials.

WEST HAMMOCK

The southwest-facing beach of McClamory Key truncates two hammocks. The one exposed at the west end of the island is the larger of the two, a remnant some 50 x 75 m in plan and with a ~45-m long cutbank. The hammock is vegetated with mature hardwood trees and occasional pines. Many large oak trees have toppled from the cutbank in recent years as storm surge, boat wake, and tidal water continue to erode the shoreline (Figure 1-4). With the root balls of these trees come substantial portions of a midden exposed in the cutbank. Found routinely on the beach in this location are sherds of Weeden Island affiliation, along with nondiagnostic pottery, vertebrate and invertebrate fauna, and occasional worked shell. Subsurface testing of the midden was limited to a single shovel test and one 1 x 2-m test unit.

Shovel Test Pit 1

On our first visit to McClamory Key on August 18, 2012, we excavated a single shovel test (STP1) in an intact portion of the midden, approximately 5 m into the interior of the hammock. All fill was passed through ¼-inch hardware cloth and all recovered artifacts and bone bagged with provenience information. The goal of this initial test was to establish the subsurface context of the hammock.

We encountered a 50-cm-thick shell midden dominated by oyster, with occasional crown conch, a trace of hardshell clam, and moderate quantities of vertebrate fauna. A total of 29.7 g of bone was collected from the screen and bagged. Showing no evidence of modification, shell from the ¼-inch screen was not bagged. However, a bulk sample of midden pulled from the wall of the unit at 30–50 cm below surface contained both invertebrate and vertebrate faunal remains that are reported in Chapter 6.

A total of 45 pottery sherds was recovered from STP1, mostly plain sand-tempered sherds but also a few diagnostic sherds, notably two with incised rims and seven punctated sherds, most of which are consistent with a Weeden Island cultural affiliation (see Chapter 5). Two of the punctated sherds, however, bear similarity to examples from Test Unit 1, on the East Hammock, which evidently date to the twelfth-thirteenth century. No lithic artifacts were encountered in STP1.

The water table was struck at 84 cm below the surface (10:19 a.m., with tide rising). Inorganic sand was encountered below the midden and extended well below the water table. A possible stratigraphic break in the midden was indicated by an increase in organic matter at about 35 cm below surface, although at the time we considered this to have simply been a moisture gradient. Stratigraphic break or not, the entire 50-cm thick profile appears to have formed during the Weeden Island period, a few later period sherds notwithstanding. A sample of charcoal pulled from a bulk sample taken from the wall of the shovel test returned an AMS assay of 1330 ± 30 B.P., which calibrates at two-sigma to A.D. 650–770 (see Appendix A for details).

Test Unit 2

During the March 2013 burial recovery operations, the crew excavated a single 1 x 2-m test unit in the West Hammock, a few meters northeast of STP1. This operation was conducted during periods of high tide, when it was not possible to work on the burial recovery. A local datum was established at the ground surface of the southeast corner of the unit prior to excavation.

Test Unit 2 (TU2) was excavated in 10-cm arbitrary levels to a maximum depth of ~65 cm below datum (hereafter cm BD). All fill was passed through ¼-inch hardware cloth and all artifacts and bone collected and bagged by level. Bulk samples were taken from defined strata and processed back at the LSA using a Dausman flotation machine. Line drawings and photographs of the west and north profiles of Test Unit 2 are given in Figure 4-2, and descriptions of the strata provided in Table 4-1. An inventory of the artifacts and bone recovered from TU2 is given in Table 4-2.

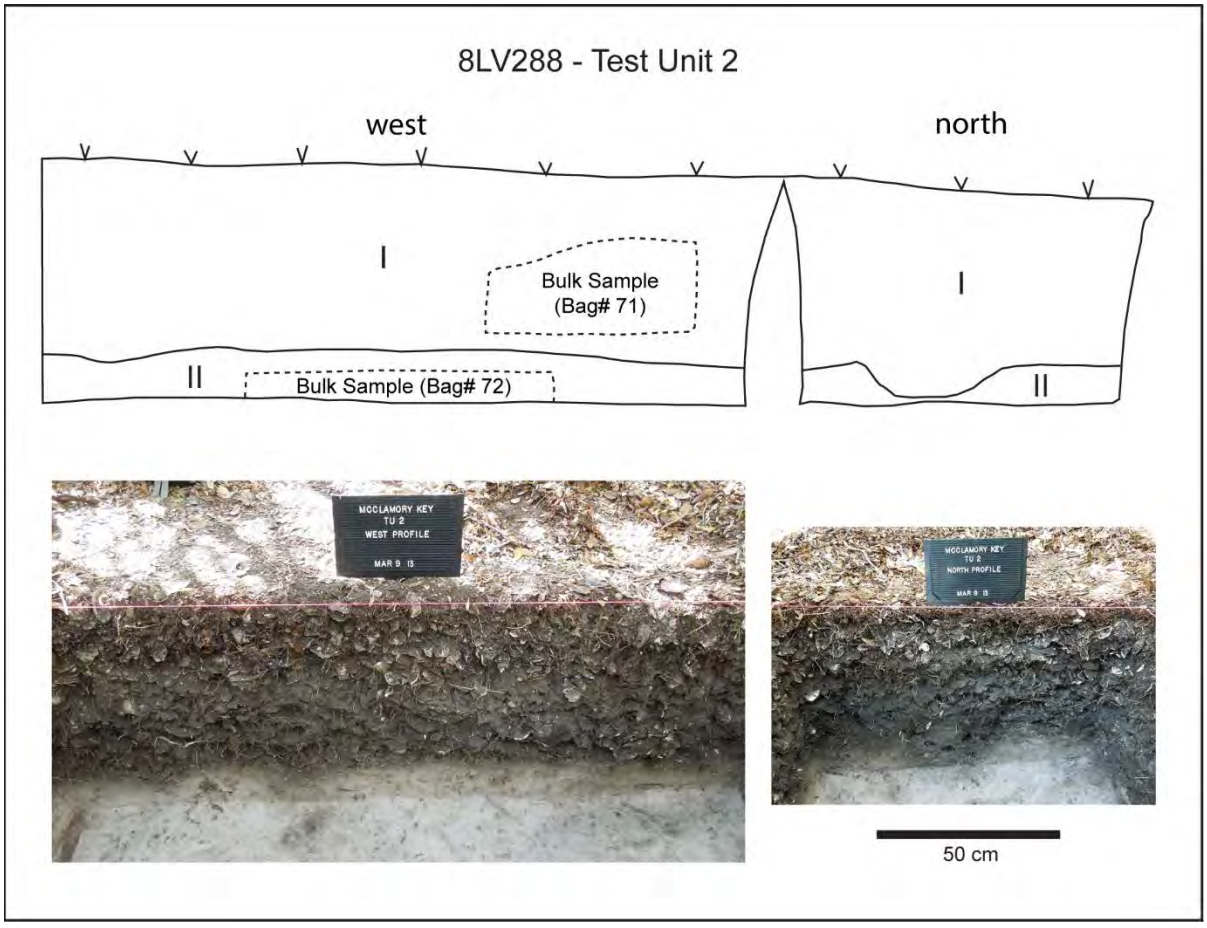

Figure 4-2. Line drawings and photographs of the west and north profiles of Test Unit 2, McClamory Key (8LV288).

Table 4-1. Stratigraphic Units of Test Unit 2, 8LV288.

Stratum	Max. Depth (cm BD)	Munsell Color	Description
I	56	10YR3/1	Very dark gray fine sand with dense oyster shell and crown conch, decreasing in density with depth.
II	66	10YR6/1	Gray medium sand with occasional roots but no shell.

Table 4-2. Inventory of Artifacts Recovered from Test Unit 2, by Level, McClamory Key (8LV288).

Level	Pottery (n)	Lithics (n)	Modified Shell (n)	Vertebrate Fauna (g)	Metal (g)	Other[1] (g)
A	224	7	2	74.0	212.2	
B	221	7	5	132.5	27.8	
C	304	11	2	249.7	3.8	
D	236	5		238.8	1.0	1.8
E	68		3	116.8	0.7	
F	7	2		7.4		
Total	1,060	32	12	819.2	245.5	1.8

[1] fired clay

At the time of excavation, only two distinct strata were identified and recorded in TU2. Stratum I, extending down to 56 cm BD, consisted of very dark grey fine sand with dense oyster shell decreasing in density with depth. Numerous crown conchs (*M. corona*) were identified in excavation while only sparse fragments of hard clam (*M. merceneria*) and bay scallop were noted. Vertebrate fauna was also encountered in the excavation of Stratum I where fishes are the most dominate taxa. Opening levels of the unit revealed a considerable amount of historic debris in the form of corroded iron fragments. Several of the proximate coastal islands in the region were fish camps or family residences over the last century, so this was not surprising. Stratum I became less disturbed with depth and produced material of aboriginal manufacture including pottery, lithics, and modified shell (Table 4-2). Although the lithic and shell tools (mainly gastropod hammers) are generally nondiagnostic, some of the pottery bore temper and/or surface treatments indicative of specific ceramic traditions. Stratum I was dominated by plain sand- and limestone-tempered sherds with trace amounts of spicule- and fiber-tempered sherds. Decorated sherds included a variety of Weeden Island types (e.g., Carabelle Punctated, Weeden Island Plain with embellished rims) and Wakulla Check-Stamped, as well as more of the sand-tempered punctated sherds attributed to the twelfth-thirteenth centuries (see Chapter 5) that were observed in STP1.

With depth (>30 cm BD) the sediments of Stratum I became slightly darker and moister and the shell density decreased (~30 cm BD). As noted for STP1, this darker stratum at the time of excavation was attributed by the crew to a moisture gradient. However, at this depth

the artifact content of the midden changes, with a rise in lithic materials and types and a shift in pottery featuring more incised sand- and plain limestone-tempered sherds. The artifact analysis of this unit, reported in Chapter 5, clearly shows this transition. Thus a second midden stratum is present in TU2. This is problematic not merely for the description of strata but for the integrity of the bulk sample (Bag 71) that was taken from the profile in an area that straddles these two stratigraphic units. Thus, material collected from this bulk sample are ill-suited for radiometric dating and characterization of faunal remains.

The second stratum recorded in the field, Stratum II, is comprised of gray medium sand with no shell extending from 56 to 66 cm BD. The transition from recorded Stratum I to Stratum II is abrupt, as was the immediate drop in artifact content. Excavation was terminated at 66 cm BD due to this drop in material culture and the disappearance of any midden shell. No features or major disturbances were recorded for this unit.

EAST HAMMOCK

The smaller of the two hammocks, the East Hammock is ~40 x 50 m in plan and in closer proximity to the area of the eroding burials than is the West Hammock. Like the West Hammock, the East Hammock supports a stand of hardwood and an occasional pine tree intermixed with low-lying scrub. A single 1 x 1-m test unit, Test Unit 1 (TU1), was placed in the center of the landform. Excavation and analysis revealed a post-Weeden Island component overlaying a cryptic Late Archaic stratum.

Test Unit 1

Located approximately 30 m northeast of the eroding burials, TU1 was excavated to determine the relationship of the midden of the East Hammock to the interments eroding out of the nearby beach face. A datum was established at the ground surface of the southeast corner of the unit prior to the initiation of excavation.

Test Unit 1 was excavated in 10-cm arbitrary levels to a maximum depth of ~59 cm BD. All fill was passed through ¼-inch hardware cloth and all artifacts and bone collected and bagged by level. Bulk samples were taken from defined strata and processed back at the LSA using a Dausman flotation machine. Line drawings and photographs of the north and east profiles of TU 1 are given in Figure 4-3, and descriptions of the strata provided in Table 4-3. An inventory of the artifacts and bone recovered from TU1 is given in Table 4-4.

Three distinct strata were identified in TU1. Stratum I is defined by dark gray fine sand and a dense oyster midden. Other mollusks reported from the midden include scallop, hard clam, mussel, periwinkle, crown conch, and lightning whelk. Towards the base of the stratum the number of gastropods increased, mostly crown conch and lightning whelk. Vertebrate fauna was also recovered with fishes dominating the assemblage and trace amounts of turtle. Materials of aboriginal manufacture include pottery, lithics, and modified shell. Pottery recovered from Stratum I was mainly comprised of sand-tempered plain sherds followed by punctated and then incised sherds of the same temper. Modified shell includes hammers, a cutting edge tool, and a bead blank, among other nondescript tools. Lithics were mainly

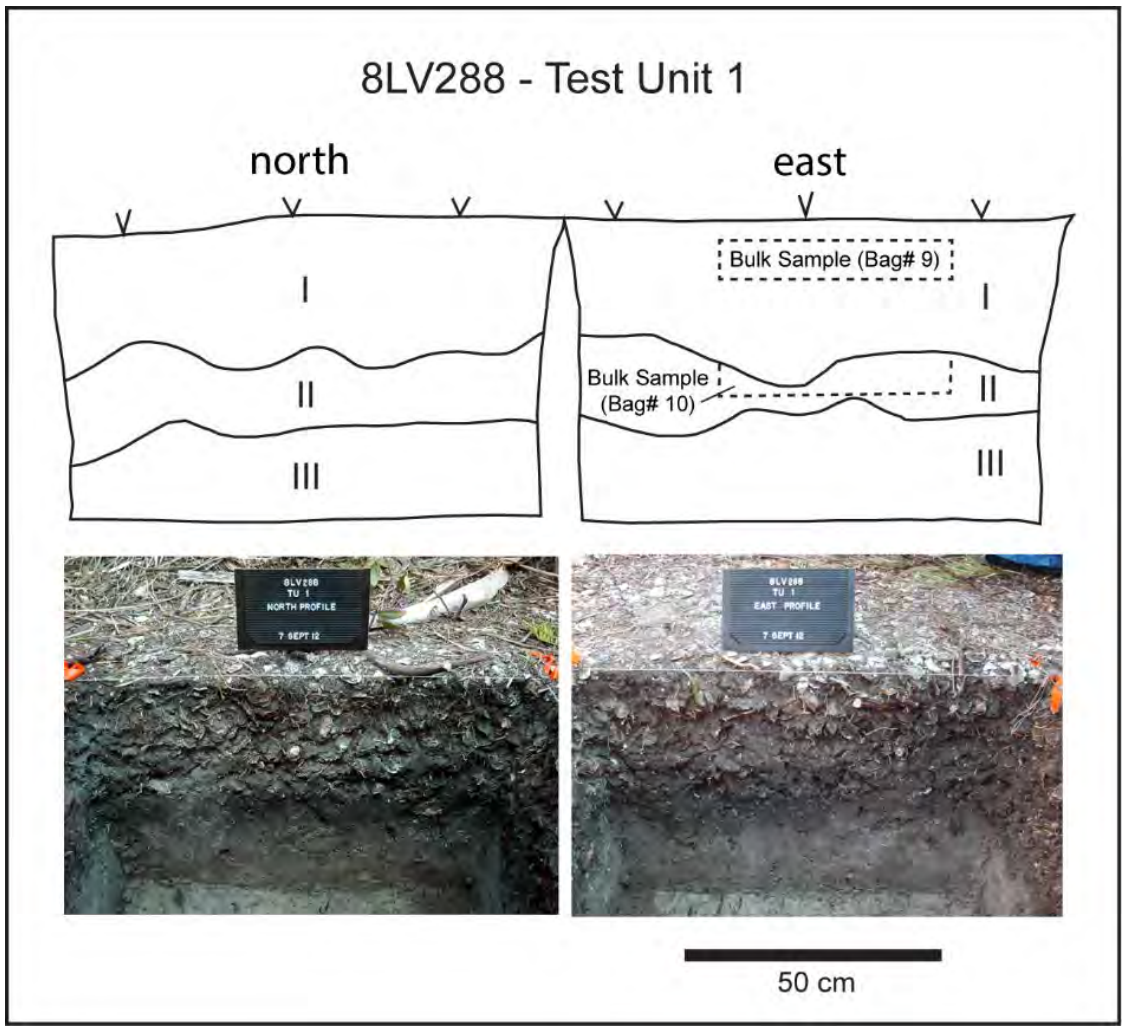

Figure 4-3. Line drawings and photographs of the north and east profiles of Test Unit 1, McClamory Key (8LV288).

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Table 4-3. Stratigraphic Units of Test Unit 1, 8LV288.

Stratum	Max. Depth (cm BD)	Munsell Color	Description
I	34	10YR4/1	Dark gray fine sand with dense oyster, increasing density of crown conch and whelk at base.
II	45	10YR3/1	Very dark gray fine sand with sparse shell.
III	59	10YR5/1	Gray medium sand, increasing moisture with depth

Table 4-4. Inventory of Artifacts Recovered from Test Unit 1, by Level, McClamory Key (8LV288).

Level	Pottery (n)	Lithics (n)	Modified Shell (n)	Vertebrate Fauna (g)	Charcoal (g)
A	41	2	1	15.2	
B	25	7	7	54.5	
C	43	2	3	111.6	0.5
D	16			3.9	
E	4			3.8	
F	14	3		0.2	
Total	143	14	11	189.2	0.5

represented by flakes. Analysis of the artifacts from TU1 is reported in Chapter 5. A sample of wood charcoal from Stratum I was submitted to Beta Analytic for AMS dating. The 2-sigma calibrated assays indicate an Early Mississippian age, cal. A.D. 1160 to 1260 (Appendix A).

Stratum II is defined by very dark gray fine sand with sparse shell and a lower artifact density. Shell content included sparse oyster, crown conch, and lightning whelk. Fishes dominate the vertebrate fauna assemblage although in much lesser amounts than in Stratum I. Artifacts of aboriginal manufacture include pottery and lithics—no shell tools were recovered from this stratum. Both the lithic and pottery artifacts of Stratum II are nondiagnostic, comprised of flakes and sand-tempered plain wares.

Stratum III is defined as gray medium sand with little cultural material. The sand became moister with depth, as the excavation approached the water table. Little to no shell was present in this stratum and vertebrate fauna was just as rare. No shell tools were observed and the only lithic artifacts recovered were a few flakes. Pottery, low in frequency, was once again dominated by sand-tempered sherds including both plain and incised surface treatments. Notably however, the final level of TU1 also produced plain fiber-tempered sherds, suggesting a Late Archaic association for the basal stratum of this unit, possibly coeval with the burials.

BEACH UNIT

As burials were being recovered from the eroding beach face, a single 1 x 1-m unit was excavated immediately landward of the cemetery. The goal of excavating Test Unit 3 was to determine if the stratigraphic placement of the burials could be revealed in a proximate location. Intruding water precluded an assessment of stratigraphy in the immediate area of the burials. A local datum was established at the northwest corner of the unit before excavation proceeded.

Test Unit 3 (TU3) was excavated to a depth of 50 cm BD in 10-cm arbitrary levels, except for the upper level (Level A), which was removed as a 20-cm level. All fill was passed through ¼-inch hardware cloth and all artifacts and bone collected and bagged by level. The only bulk sample retrieved came from a concentration of oyster shell in the northwest corner of the unit, near the base. A line drawing and photograph of the west profile of TU3 are given in Figure 4-4, and descriptions of the strata provided in Table 4-5. An inventory of the artifacts and bone recovered from TU3 is given in Table 4-6.

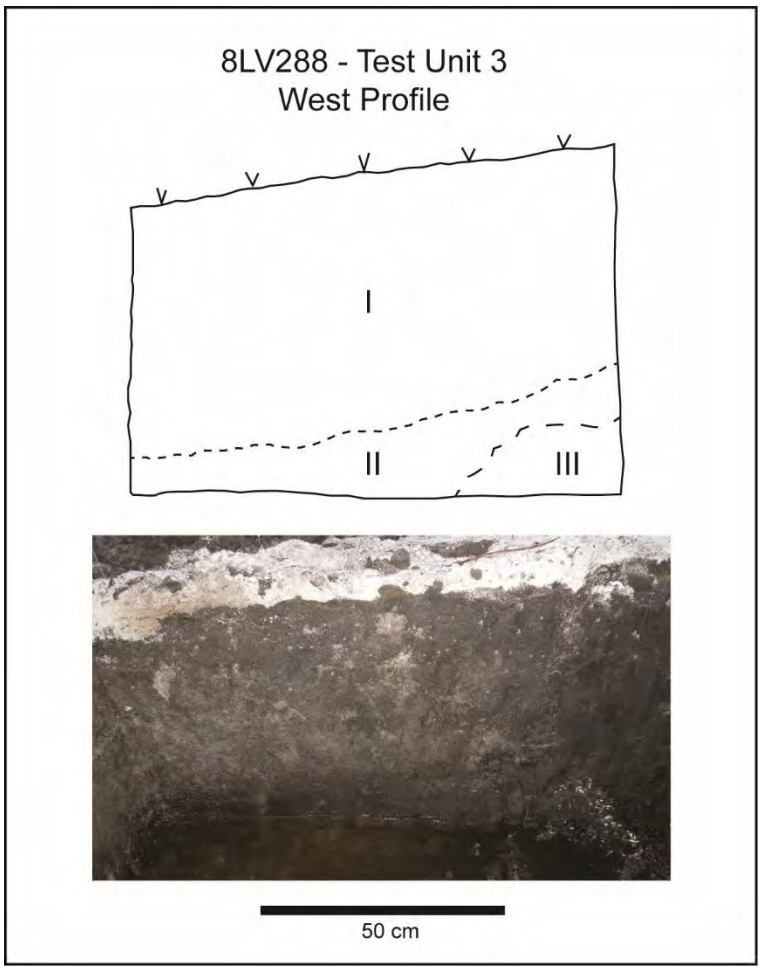

Figure 4-4. Line drawing and photograph of the west profile of Test Unit 3, McClamory Key (8LV288).

Table 4-5. Stratigraphic Units of Test Unit 3, 8LV288.

Stratum	Max. Depth (cm BD)	Munsell Color	Description
I	40	10YR3/1	Cross-bedded fine sand with stingers of 10YR8/2 sand and 10YR5/2 mottled sand
II	50	10YR2/1	Fine sand, saturated
III	50	10YR3/1	Redeposited (?) oyster shell midden with small, assorted sherds

Table 4-6. Inventory of Artifacts Recovered from Test Unit 3, by Level, McClamory Key (8LV288).

Level	Pottery (n)	Lithics (n)	Vertebrate Fauna (g)
A	11		0.3
B	16		1.8
C	6		1.7
D	2		5.0
E		1	
Total	35	1	8.8

Three strata presented themselves in the profiles of TU3. Stratum I is a massive stratum of crossbedded sands, evidently the outcome of beach face erosion and infilling over an unspecified period of time. Pottery sherds were generally small and worn, consisting almost exclusively of sand-tempered plain and eroded sherds, along with a few spicule-tempered eroded sherds. The contact between Stratum I and the underlying Stratum II assumed a dip conformant with the slope of the beach, giving the impression of a scoured surface. However, we cannot be certain that Stratum II is intact and not also redeposited sand. Its darker color and more homogeneous structure, compared to Stratum I, would also seem to suggest that Stratum II is intact, but further excavation is needed to substantiate this assessment. Water encountered at the base of the unit precluded deeper excavation.

A third stratum was recorded as a pocket of oyster midden in the northwest corner of the unit, near the base. Stratum III was left pedestalled from Level D to the base of the unit and removed in its entirety as a bulk sample. We were hopeful that this portion of presumably intact midden would provide organics suitable for radiometric dating and thus give at least an indirect age association for the burials. However, sherds from the midden remnant included not only a small fiber-tempered sherd, but also sand-tempered plain and a rim sherd with punctations or dentations similar to sherds dating to the twelfth-thirteenth century from TU1. Stratum III, evidently, was likewise redeposited.

CONCLUSION

A modest program of subsurface testing at McClamory Key resulted in the documentation of a Weeden Island-age midden on the West Hammock, a twelfth-thirteenth-century midden on the East Hammock, and the trace of a Late Archaic component beneath this late-period midden. An effort to document the stratigraphic position of the burials in the eroding beach face failed to yield evidence for an undisturbed profile. Additional testing of McClamory Key is warranted to not only seek stratigraphic context for the burials, but to also resolve the relationship between the Weeden Island and later period middens on the respective hammocks.

CHAPTER 5
MATERIAL CULTURE

Artifacts and other cultural materials spanning at least 4,000 years of human activity on McClamory Key were recovered from three distinct contexts: (1) the eroding beach face of the southwest shore; (2) in association with human interments eroding from the same shoreline; and (3) limited subsurface testing in what remains of two hammocks of inhabitable land. The first two contexts are intertwined in ways that cannot be fully resolved. The eroding beachface of McClamory Key, as discussed in Chapter 1, has not only exposed an apparent Archaic mortuary, but a midden of Weeden Island age that includes a diversity of pottery and shell tools. Another midden deposit to the southeast contains artifacts and faunal remains dating to the twelfth and thirteenth centuries A.D.

This chapter is organized by material category, starting with the bifaces recovered from eroding graves, followed by pottery, shell tools, and other lithic artifacts. Vertebrate and invertebrate fauna identified in bulk samples are reported in Chapter 6.

BIFACES IN MORTUARY CONTEXT

Four hafted bifaces were found in association with human interments eroding from the beach at McClamory Key (Figure 5-1). As noted in Chapter 2, three of these were observed by LSA crew members in December 2012 (Figure 5-1a–c). Although these items were not found in direct association with burials, we have no reason to doubt that they were interred as mortuary offerings. All three were photographed in the field and then reburied in the vicinity of the burials. When the LSA crew return to the site to prepare for recovery operations in March 2013, these bifaces could not be relocated and are presumed to have been removed by the same individual or individuals who disturbed the graves between December and March.

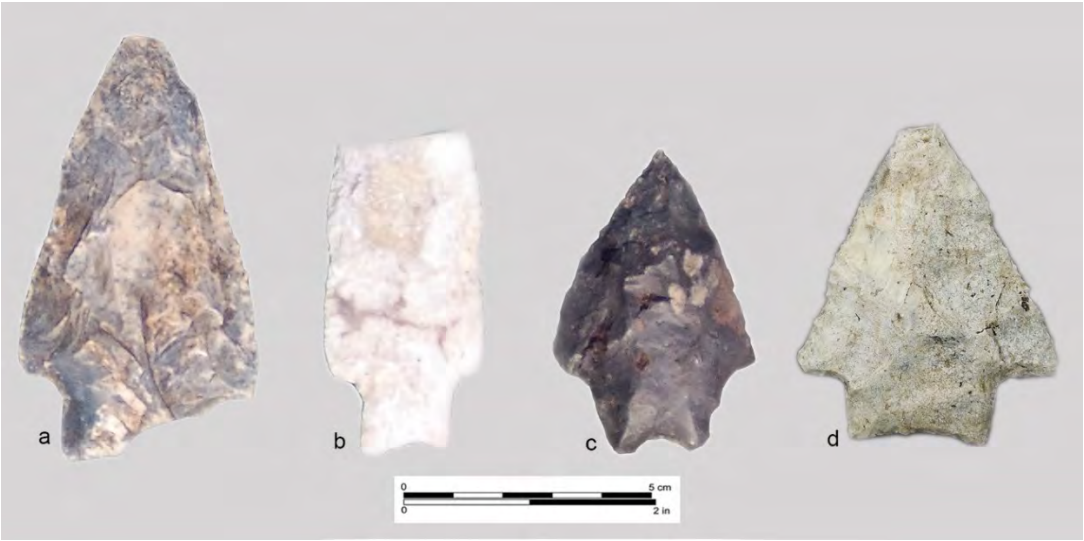

Figure 5-1. Hafted bifaces in association with human interments eroding from beach at McClamory Key (8LV288): (a-c) three stemmed hafted bifaces found in vicinity of eroding human remains in December 2012; (d) stemmed hafted biface found in direct association with Burial 15 in March 2013.

The fourth biface (Figure 5-1d) was found in direct association with Burial 15 during the March 2013 recovery operation. It is a whole, broad stemmed biface with a triangular blade and slightly indented base. The shoulders are well-defined and the blade margins finely retouched. It seems likely that this tool underwent considerable use and resharpening before being interred in the grave. Its maximum length is 61.5 mm, maximum width is 50.1 mm (which is width at shoulders), width at stem attachment is 29.3 mm, width at base is 26.8 mm, length of stem is 13.1 mm, and maximum thickness is 9.1 mm.

Although the four bifaces differ in size and shape, they each have a stemmed haft element and indented base. All but one has parallel stem margins; the exception (Figure 5-1c) has tapered stem margins. Typologically, all of the bifaces fall within the generic category of *Florida Archaic Stemmed*, which includes, among others, the subtypes Putnam, Levy, Marion, and Alachua, according to Bullen (1968:29). Subtypes of this cluster are also likened by Bullen to the types Culbreath, Kirk Serrated, Newnan, Sumter, and Savannah River. Temporal specificity of any of these types is not certain, but most are attributed to the Late Archaic period (~5700–3200 cal B.P.). Of the four specimens recovered from McClamory Key, the two largest (Figure 5-1a, d) approximate the widespread Savannah River Stemmed type, as defined by Coe (1964) from work in North Carolina, but whose namesake traces to the Stallings Island site in the middle Savannah River, which divides the states of Georgia and South Carolina. Hundreds of these broad-stemmed bifaces were recovered from Stallings Island and were presumed for a long time to be associated with fiber-tempered pottery at the site. Modern chronology places this type locally in the Mill Branch phase, dating roughly 4700–4200 cal B.P. (Sassaman et al. 2006). Although this period overlaps entirely with the use of fiber-tempered pottery in the middle Savannah region, Mill Branch communities did not routinely make and use pottery. Thus, the occurrence of the Florida counterpart to this type does not imply an association with pottery, although the chronology in Florida would certainly allow it. That is, by the time this type appears in the greater Southeast, fiber-tempered pottery was beginning to be made and used in parts of Florida. As we will see below, fiber-tempered sherds were recovered from limited contexts at McClamory Key, but none was found in association with any of the burials.

The raw material diversity of the McClamory bifaces is noteworthy. Each of the bifaces is made from chert, but of highly variable color and texture. No two bifaces were made from the same material. This variation may be a function of time, but given the context and the general morphological affinity of the forms, variation is more likely synchronic, which implicates communities or individuals accessing toolstone from different parts of the region. Overall the bifaces appear to be utilitarian items that were interred in graves after a period of use and maintenance. The fractures on two of the bifaces (Figure 5-1a, b) may be postdepositional, but if so, the corresponding fragments were not observed.

POTTERY

Pottery sherds from McClamory Key have been collected by private citizens from the eroding beach for years. Two such collections were donated to the LSA, one from Si Campbell, and another from Hedy Havel. Both collections were made over multiple visits over years; the one donated by Havel represents five visits spanning November 2006 to January 2012, each kept separate. Our own surface collections of the beach suggests that the majority of the

material has eroded from the midden of the West Hammock. As discussed in Chapter 1, erosion of this hammock did not begin until well after 2004, but the East Hammock was already impacted by that time. What remains of the East Hammock today does not feature a midden escarpment like that of the West Hammock. If artifacts collected from the receding shoreline over the years came from the East Hammock, as well as the West Hammock, a midden may well have draped the area of the burials. All collections made to date indicate that the overwhelming majority of the pottery is relatively late in time, with only a small fraction predating the late Weeden Island era of post-A.D. 750, and a sizeable fraction dating to the 12th and 13th centuries A.D. Complicating matters of provenience are the longshore currents of the area, which transport artifacts and sediment in a southeasterly direction.

Given the ambiguity of surface collections in connecting components to landforms, we first describe the assemblage of pottery that was recovered from subsurface tests. A total of 1,303 sherds was recovered from one 1 x 2-m unit (TU2), two 1 x 1-m units (TUs 1 and 3), and a single shovel test (STP1). Cross-tabulated by unit of recovery and type, an inventory of the sherds is given in Table 5-1 and a photograph of select sherds is shown in Figure 5-2. Sherds less than ½-inch in maximum dimension (n = 729) are classified in Table 5-1 as "crumb" sherds and are excluded from typological and technological analyses.

The entire inventory of sherds from excavated context was examined to determine the minimum number of vessels represented. This procedure began by sorting the assemblage into paste categories (fiber-, sponge spicule-, limestone-, and sand-tempered), then isolating rim sherds of distinctive morphology and surface treatment. Crossmends among sherds were sought and taken into account in assigning sherds to vessel lots. Body sherds lacking a corresponding rim sherd were counted as a vessel lot only if they expressed attributes not seen among any of the rim sherds. This process was deliberately conservative, almost certainly resulting in fewer vessel lots than is actually represented in the total inventory of 1,303 sherds. Ultimately, a total of 50 vessels was identified. Vessel wall thickness (mm) at 3 cm below the rim and orifice diameter was measured for any vessel lot with sufficiently large portions of the rim. Thirteen such vessel lots met this criterion. The shape of the rim profiles (e.g., straight, incurvate, excurvate) was recorded when possible (n = 7), but rim profiles were not drawn for these vessel lots given the small sample size.

The discussion that follows is organized chronologically, starting with the oldest ware, Orange Fiber-Tempered pottery. As discussed in detail below, the regional typology of the Weeden Island pottery tradition may include types that actually date to the Mississippian era, that is, post A.D. 1000.

Orange Fiber-Tempered Pottery

Only six sherds of fiber-tempered pottery were recovered from subsurface contexts at McClamory Key, all but one in TU1. Five sherds in the basal level (Level F; 50–60 cm BD) of TU1 included two body sherds with incised surface treatments, one of which is shown in Figure 5-1a. These were accompanied by three additional body shreds with eroded surfaces.

Table 5-1. Inventory of Pottery Sherds Recovered from Subsurface Contexts at McClamory Key (8LV288) by Temper and Surface Treatment.

	Sand-Tempered						Limestone-Tempered			Spicule-Tempered	Fiber-Tempered			
	Plain	Punctated	Incised	Check-stamped	Comp. stamped	Eroded	Plain	Punctated	Eroded	Eroded	Incised	Eroded	Crumb	Total
STP1	18	6	3			4							18	49
TU1														
A	4	9				9							16	38
B	2	3				2							16	23
C	10		2			2							24	38
D	6					4							6	16
E	2					2								4
F						1					2	3	9	15
Str. I (bulk)		1											6	7
Str. II (bulk)													3	3
Subtotal	24	13	2			20					2	3	80	144
TU2														
A	43	23		5		21							129	221
B	33	21		2		20	1						144	221
C	72	30	6			13	1						179	301
D	84	8	8			4	17	1		2			110	234
E	9	3	2			1	9	1	1	1			35	62
F	4					1							2	7
Str. I (bulk)	1	1				1	2						8	13
Subtotal	246	86	16	7		61	30	2	1	3			607	1,059
TU3														
A						8							3	11
B					1	8				2			5	16
C						3							3	6
D	2													2
Shell pocket (bulk)	1	1										1	13	16
Subtotal	3	1			1	19				2		1	24	51
TOTAL	291	106	21	7	1	104	30	2	1	5	2	4	729	1,303

Figure 5-2. Diagnostic pottery sherds recovered from various contexts at McClamory Key (8LV288): (a) Orange Incised [TU1-F-1]; (b) Weeden Island Plain, embellished [TU2-D-6]; (c-f, l) Carabelle Punctated [c-f. TU2-D-8; l. TU2-D-3]; (g) Carabelle Incised [beach surface at West Hammock]; (h, i, k, m-o) Weeden Island Plain [h, i, k, m, o. TU2-D-1; n. TU2-C-3]; (j) Indian Pass Incised [TU2-C-4]; p. Weeden Island Plain rim with Ruskin Dentate/Hillsborough Shell Stamped (?) body [TU2-E-1]; (q) Wakulla Check Stamped [TU2-A-1]; (r-u) Ruskin Dentate/Hillsborough Shell Stamped (?) [r, left half of s. TU2-B-2; right half of s. TU2-A-3; t. TU1-A-1; u. TU2-A-5].

The only other fiber-tempered sherd from subsurface context came from the shell-midden remnant at the base of Test Unit 3. It is a small eroded sherd or nondescript form. It is worth noting that the incised body sherds from TU1 contain abundant sand and not much fiber.

Fiber-tempered pottery in Florida is generally given to the Orange series, currently dating from about 4600–3500 cal B.P. (Gilmore 2014). As originally conceived by Bullen (1972), the Orange series began with plain surface treatments, which over time came to include a variety of mostly incised decorated surfaces, followed by a transition into the spiculate pastes of the St. Johns pottery tradition. This unilineal sequence does not hold up to modern data. Incised wares extend back to nearly the beginning of pottery making in the state (Sassaman 2000), and much of the early Orange pottery contains sponge spicules, as well as fiber, in the paste (Cordell 2004). Still, fiber-tempering remains a diagnostic trait of the oldest pottery tradition in Florida, as is true for much of the lower Southeast U.S. and the sherds from McClamory Key occupy a stratigraphic position that is inferior to all other components at the site. None of the Orange sherds from McClamory Key were directly associated with the burials, so cross-dating that context with pottery is not possible. However, the cemetery at Bird Island purportedly contained either Orange sherds or what Phelps (1965) called Norwood, a fiber-tempered ware centered on the panhandle of Florida with more sand than fiber, like the two incised sherds from TU1. Recent excavations at Bird Island by McFadden identified a Late Archaic stratum with one age estimate in the range of ca. 4400–4200 cal B.P. (McFadden and Palmiotto 2012). Although the context of this estimate does little to secure the age of the burials at Bird Island, it provides the only reliable age estimate for fiber-tempered pottery in the greater study area and is the only reasonable benchmark for similar material at McClamory Key. It is reasonable, at this stage of research, to accept the age estimate as a *terminus ante quem* for burials at both sites. Notably, the Bird island cemetery also contained a large assemblage of soapstone vessels whose age is estimated by one AMS assay on adhering soot to range from ca. 4100–3700 cal B.P. (Yates 2000). This range accords with the chronology for soapstone vessels throughout the greater Southeast (Sassaman 2006), suggesting that the ones at Bird Island were deposited in the vicinity of the cemetery well after the burials were emplaced. No soapstone vessel sherds are known from McClamory Key.

St. Johns Spicule-Tempered Pottery

As noted above, the addition of freshwater sponge spicules to clay (or, alternatively, the use of spiculate clays) began in the Orange tradition. However, the longstanding typology for spicule-tempered pottery (Milanich 1994:247) in Florida places the onset at about 2500 B.P. (~500 B.C.), the beginning the namesake St. Johns period. The practice of tempering with spicules or using spiculate clays continued to European contact, with changes in form and surface treatment recognized as chronologically-sensitive subdivisions of the period. Bullen (1959) proposed a "Transitional Period" of ca. 1200-500 B.C. to bridge the Orange and St. Johns periods, during which a combination of fiber- and spicule-tempered pottery purportedly was made.

Besides the fact that much of the established St. Johns chronology and typology warrants refinement, the application of these types outside of northeast Florida, where they were first established, is suspect. Certainly the practice of tempering with spicules resulted in

wares that are highly distinctive not only in look, but in feel. Spicule-tempered pottery has been recovered from nay sites in the Lower Suwannee study area, although almost always as a minority ware. This holds true for McClamory Key, where only five sherds were recovered, three from TU2 and two from TU3. Those from TU2 were in deeper levels (D and E); while the two from TU3 were retrieved in the remnant of shell midden at the base of the unit. In both cases, a relatively early timeframe is implicated. All sherds of this ware have eroded surfaces, although none bear traces of surface treatments known to post-date A.D. 750, such as check stamping.

It bears mentioning that the period Bullen regarded as "transitional," ca. 1200-500 B.C. is very poorly represented in the greater study area, as are the preceding few centuries. However, soot from a plain St. Johns vessel emplaced with burials at Palmetto Mound (8LV2/7), some 2 km directly north of McClamory Key, returned an AMS assay of 2670 ± 30 B.P. (calibrated at two-sigma range to BC 890–800 (Neill Wallis, personal communication, 2014). The occurrence of St. Johns pottery at McClamory Key may also date to this interval.

Pasco Limestone-Tempered Pottery

Pottery with crushed limestone for temper is common in the Lower Suwannee area and it appears to have enjoyed a long history, starting as early as the onset of the Deptford period, ca. 500 B.C. and continuing through at least the middle part of the first millennium A.D. Limestone-tempered pottery is usually given to the Pasco series, as defined by Goggin (1948). Willey (1949:446–447) placed the series in the Weeden Island period, but noted the possibility of a wider timeframe, which seems to be the case. In the Lower Suwannee study area, Pasco Plain sherds are very common in assemblages from Shell Mound (8LV42) dating from ~A.D. 400–650. Pottery assemblages from the roughly coeval mound complex known as Garden Patch (8DI4), some 35 km up the coast from Shell Mound, are dominated by sand-tempered plain sherds, with Pasco sherds in the minority (Wallis and McFadden 2014). With origins possibly tracing to the limestone-tempered Perico wares of the Tampa Bay area (Willey 1949:364–365), Pasco sherds are known to drop in frequency north along the Gulf coast, particularly north of the mouth of the Suwannee River (Milanich 1994:210–211).

Pasco sherds from McClamory Key were confined to TU2 and all but four of 30 total sherds were recovered from Levels D and E of that unit. They are thus associated with the larger assemblage of plain sand-tempered sherds, but also a variety of Weeden Island types (see sand-tempered pottery below). The cal A.D. 650–770 age estimate for the Weeden Island component in STP1 would appear to be a reasonable estimate for the Pasco sherds as well, although STP1 produced no Pasco pottery. By this time, Pasco pottery may have been on the wane as the dominant plain ware in the immediate area. At least three limestone-tempered vessels are represented by Pasco sherds in TU2, one of which has a line of incision running parallel to the rim, just below the lip, with a wall thickness of 7.6 mm.

Sand-Tempered Pottery

Sherds from vessels tempered with sand comprise the vast majority of the McClamory Key assemblage (n = 530). They account for 92.3 percent of sherds greater than ½-inch in size,

and of those with noneroded surfaces, 68.3 percent are plain. Punctated, incised, and check-stamped sherds account for the remaining third, mostly from TU2, and a single sherd of complicated stamped was recovered from TU3. Even though the frequency of "decorated" sand-tempered sherds is low (n = 135) compared to plain sherds (n = 291), the repertoire of punctations and incisions is diverse. Most, if not all, of this repertoire fits comfortably among types of the Weeden Island tradition, a long-lived (locally ca. A.D. 400–1000), evolving, and diverse pottery tradition (Milanich 1994:155–241; Willey 1949:396–452). However, a subset of sherds with punctated or dentated surfaces at McClamory Key are in the upper portion of middens in both hammocks, which has an age estimate of cal A.D. 1160–1260, a good bit past the accepted end date for the Weeden Island tradition. Two other sites in the area, discussed briefly below, have comparable ages for associated pottery that challenges local taxonomy.

Before discussing the Weeden Island assemblage, a brief note on the absence of earlier sand-tempered wares at McClamory Key is warranted. On the northern Gulf Coast of Florida, sand-tempering may extend back to the beginnings of pottery making, notwithstanding the addition of fiber to clay, which is decidedly early. However, as a pervasive tradition, sand tempering starts with the Deptford tradition of ca. 500 B.C–A.D. 200. Deptford pottery is absent from any of the McClamory Key subsurface samples, or in the surface collections of the LSA, but a few are observed in the Campbell surface collection. If there were a substantial Deptford component at McClamory Key, it was washed away long ago. The Little Bradford site (8DI32) at the mouth of the Suwannee River has a Deptford component dating ~A.D. 20–330, that is nearly inundated at high tide, suggesting it was occupied at times of lower sea level. A much older component estimated to date from cal B.C. 760–410 is documented at a shell ring (8LV76) on the north end of Deer Island (Wallis 2012), an elevated landform. The pit from which the sample of charcoal yielding this age estimate came included only a single sherd, a large plain rim sherd with an incised line running parallel to the lip, which is typical of Weeden Island plain. A few Deptford Linear Check-Stamped sherds came from a depth in the profile of the unit that contains this feature (TU5), thus bolstering the chance that wood charcoal in this feature is associated with Deptford period activity at the site; the Weeden Island-like sherd possibly reflects an intrusive into older strata. Two other "upland" sites contain Deptford components, one at Bird Island estimated to date from cal B.C. 360–170 (McFadden and Palmiotto 2012), and at the base of Shell Mound, which has yet to be adequately dated (Sassaman et al. 2013). These sites range across the entire expanse of the Lower Suwannee study area, thus the record of Deptford-period settlement is pervasive, if not dense. It was apparently an especially dynamic time environmentally, ending ca. A.D. 200, when the shoreline at Wacassa Bay, about 10 km southeast of Cedar Key, transgressed 2–4 km (Goodbred et al. 1998).

Coincident with this pulse in sea level rise was the local influx of material culture and practices of the Swift Creek tradition of the lower Southeast (ca. A.D. 100–800), long regarded as an affine of the Hopewell tradition on the lower Midwest (ca. 200 B.C.–A.D. 500). Hopewell influences were evidently experienced centuries before by local Deptford communities of the greater region, including those of Crystal River (Pluckhahn et al. 2010), to the south. The first clear evidence for Swift Creek influence involving mound construction in the greater study area is at Garden Patch (8DI4), to the north, near Horseshoe beach (Wallis and McFadden 2014). Several mounds were erected between ca. A.D. 200 and 500. Intensive occupation of

Shell Mound (8LV42) ensued during the last century of mound-building at Garden Patch, resulting in an assemblage of pottery that includes occasionally Swift Creek sherds (Sassaman et al. 2015). A faint trace of Swift Creek pottery is seen at McClamory Key in the disturbed context of TU3 and in a single sherd in one of the private surface collections donated to LSA. As with Deptford, if McClamory Key housed a significant component, it was long ago washed away. The first substantial assemblage of sand-tempered pottery at McClamory Key dates to the latter half of the Weeden Island period, after ca. A.D. 650, when Garden Patch, Shell Mound, and Crystal River apparently were abandoned.

Weeden Island Pottery. Sherds from McClamory Key that can be confidently given to Weeden Island types include plain, Weeden Island Incised, Indian Pass Incised, and Carabelle Punctated. Plain vessels with folded rims or, more common locally, a single line of incision running circumferentially just below the lip are distinctively Weeden Island (Weeden Island Plain), but most of the truly plain vessels are likely coeval based on frequency distributions across levels (i.e., the frequency of truly plain sand-tempered sherds covaries with the frequency of sherds of distinctively Weeden Island types, both peaking in levels C and D of TU2). Sherds that arguably could be classified as Weeden Island forms (Ruskin Dentate and Hillsborough Shell Stamped) are concentrated in upper levels of TUs 1 and 2, from which charcoal returned an AMS assay calibrated to A.D. 1160–1260.

A total of 45 vessel lots are among the sherds of sand-tempered pottery from subsurface contexts at McClamory Key. Table 5-2 provides a breakdown of vessel lots by type, as well as metric and use-alteration observations on rim portions sufficiently large to measure wall thickness 3 cm below the lip (n = 12) and orifice diameter when it accounted for at least 10-percent of the circumference of the orifice (n = 9). Although vessel lots with large rim sherds are far too few to draw generalizations about morphological or functional variations by type, they contribute to a growing study-wide database that will eventually provide statistically robust samples.

Sherds from (generic) plain vessels (n = 291) comprise at least 17 vessels, nine of which were distributed in Levels C and D of TU2, where Weeden Island sherds also prevail. Straight and everted rim profiles are observed among plain rim sherds. Only three lots have sherds sufficiently large to measure. Two from Weeden Island levels in TU2 are small open bowls, with orifice diameters estimated at 12 and 14 cm, and no evidence for soot on exterior walls. The third vessel lot was from Level A of TU2 was larger, with an estimated orifice diameter of 36 cm and traces of soot. It is noteworthy that all three of the plain vessels expressing soot were recovered from Level A of TU2 and are possibly post-Weeden Island in age. Wall thickness of the few plain vessel lots that could be measured varies from 7.2 to 8.8 mm and does not covary with orifice diameter.

Sherds classified as Weeden Island Plain account for 10 vessel lots (Table 5-2). Eight of the lots consist of sherds from Levels C and D of TU2; the other two are from the nearby shovel test (STP1). Despite variation in the excecution of incisions around the rim (including two examples of “embellished”), vessels of this type are consistent in wall thickness (6.5–7.2 mm) and orifice diameter (24, 26 cm), although sample size is woefully small. Rim sherds of two of the Weeden Island Plain vessel lots bear traces of soot on exterior walls.

Table 5-2. Metric and Use-Alteration Observations on Sand-tempered Vessel Lots in Subsurface Contexts at McClamory Key (8LV288).

Type (number of vessel lots)	Wall Thickness (mm)	Orifice Diameter (cm)	Sooted?
Plain (*n* = 17)	7.2	14	n
	7.8	36	y
	8.8	12	n
Weeden Island Plain (*n* = 10)	6.5	-	n
	6.9	26	n
	7.2	24	y
Carabelle Incised (*n* = 1)	-	-	-
Indian Pass Incised (*n* = 2)	-	-	-
Carabelle Punctate (*n* = 6)	4.4	10	n
Other punctated/dentated (*n* = 7)	6.2	18	n
	7.8	24	y
	8.0	-	y
Wakulla Check Stamped (*n* = 1)	7.9	40	n
eroded (*n* =1)	9.4	-	-
Total (*n* = 45)			
mean	(7.34)	(22.67)	-
st. dev.	(1.29)	(10.39)	-

Incised sand-tempered sherds from McClamory Key (*n* = 21) are mostly from Levels C and D in TU2, with a pair each in level E of TU2 and Level C in TU1; three more were found in STP1. Vessel-wise, one Carabelle Incised and two Indian Pass Incised vessel lots are observed. One additional Carabelle Incised vessel is represented by a rim sherd from the surface collection of the West Hammock (Figure 5-2g), but it is not included in the counts from table 5-2 because of its uncertain provenience. Still, it is worth noting the recurvate profile of this small vessel, which is duplicated in form among Carabelle Punctated vessels (see below). Not much can be said about the incised vessel lots other to note that none of them show traces of soot.

Sherds classified as Carabelle Punctated account for six vessel lots, all but one from level D of TU2; the exception is from STP1. Only one lot has a rim sherd of sufficient size to measure: a recurvate rim with a wall thickness of 4.4 mm and orifice diameter of 10 cm (Figure 5-2l). This form compares favorably to the Carabelle Incised rim sherd from the beach, as

noted above. Collectively vessel lots of Carabelle Punctated, like those with incising, show no traces of soot. Both Carabelle types, incised and punctated, plus those classified as Indian Pass, appear to be dominated by small bowls, likely serving bowls, that were not place directly over fire.

Other punctated sherds from McClamory Key deviate from this pattern and they have a different stratigraphic position in the site. Shown in Figure 5-2r–u are examples of sherds that are concentrated in the upper two levels of TUs 1 and 2. Most of these sherds fall into either the Ruskin Dentate or Hillsborough Shell Stamped types, although some seem to fall in between the two. That is, several sherds have crescent-shaped punctations that have the appearance of the edge of a scallop shell, but each punctation is orientated 90 degrees from the expected plane of stamping if they were applied with a scallop shell or some such bivalve. Others express square, rectangular, or small triangular punctations, common to Ruskin Dentate, but with form and technology that matches sherds with crescent-shaped punctations. Given the concentration of either form in the upper levels of both test units, it seems reasonable to assign these to a later component of the site, evidently post-Weeden Island, if the end of this period is set at A.D. 1000.

Vessels classified as "other punctated/dentated" in Table 5-2 number seven, all but one from Levels A and B in both test units; the exception is from level C in TU2. Only three provided rim sherds of sufficient size to measure. Vessel walls of this small group vary from thin (6.2 mm) to thick (8.0 mm). One has an orifice diameter of 18 cm, the other 24 cm. Profiles are generally straight to slightly incurvate. Two of the vessel lots have rim sherds with external soot.

As mentioned earlier, other contexts in the greater study area have produced wood charcoal dating to the 11-13th centuries in association with varieties of punctated or dentated wares not unlike those from McClamory Key. Raleigh and Richards islands are among the best examples (Micah Monés, personal communication, 2015), although they both are dominated by sherds with surfaces fitting the Ruskin Dentate type rather than Hillsborough Shell Stamped. These same contexts also produced evidence for the manufacture of shell beads, as did TU1 at McClamory Key, albeit in the form of a single bead blank (see below). Evidence is mounting for an early Mississippian-era presence in the Lower Suwannee region with elements of the Weeden Island pottery tradition and involvement in shell-bead exchange networks, but without adopting the more definitive attributes of Mississippian culture. Future work in the study area will aim to resolve this typological confusion.

Finally, a single example of a Wakulla Check Stamped vessel is represented by a large rim sherd from Level A of TU2 (Figure 5-2q). This 40-cm-diameter vessel has vessel walls 7.9 mm thick and lacks traces of soot. A few other check-stamped sherds in Levels A and B of TU2 may come from this same vessel, and their absence in deeper levels secures a late-period timing for the type at this site. One other vessel listed in Table 5-2 has an eroded exterior surface. This thick-walled (9.4 mm) vessel is identified from sherds in level B of TU1.

MODIFIED SHELL

Marine shell was drafted into a variety of tools by inhabitants of the northern Gulf coast. Most common to the region are "hammers" made from the shells of the crown conch (*Melongena corona*). Hafted adzes and hammers were also made from shells of *Busycon*, and a variety of nonspecific tools were crafted from shells of hard clams (*Mercenaria*), when available. Because the raw materials for these various tools come from species that were presumably collected to be eaten, we cannot always determine if any particular shell was drafted into use as a tool. Modifications such as perforation and the use wear of battering or cutting provide definitive evidence of use, but many such modifications are nonspecific and some may relate to the extracting and processing of the shellfish for consumption.

An inventory of modified shell from subsurface contexts of McClamory Key is given in Table 5-3 and examples shown in Figure 5-3. Six of the tools are shells of crown conch with at least one perforation of the whorl and/or a notch in the lip of the aperture and most with substantial battering of the siphon end. Luer et al. (1986) and Marquardt (1992) are credited with the typology that describes such crown conch tools as "Type G Shell Hammers." A recent experimental study by Menz (2012) aimed to test the idea put forth by Marquardt (1992) that Type G hammers were expedient tools. Menz concluded that the majority of Type G hammers analyzed from the Roberts Island site near Crystal River were used to process oyster, and that they were not expedient but instead maintained and even recycled for alternative uses.

The degree of wear on the siphon end of crown conchs from McClamory Key is consistent with the notion that shells were modified for hafting and used to pound/hammer other shell, and perhaps bone and wood. Alternative uses cannot be ruled out, however. Since 2013, projects of the LSAS have collected not only all gastropod shells with evidence of modification or attrition, but also those without traces of modification. The intent in doing this is to establish the ratio of modified to unmodified shell, and to determine if shells selected for modification and use deviate in any significant fashion from a random sample of shell. This effort emanates from the ongoing dissertation research of Ginessa Mahar, who is investigating alternative fishing technologies in the study area. Mahar is looking into the possibility that perforated crown conch shells may have been used as net weights. Crown conch shells with perforations in the whirl but lacking evidence of battering or attrition on the siphon end are not at all uncommon (e.g., Figure 5-3a). Shells may have been perforated to remove the meat, although crown conch shells without perforations or any sign of modification or use generally outnumber modified shells in all contexts thus far examined. Quantitative data on the frequency and ratio of crown conch shells is forthcoming.

Another shell tool type in the McClamory Key assemblage consists of modified lightning whelk (*Busycon contarium*). These include hammers not unlike the Type G made from crown conch, but also cutting-edged tools, with beveled ends at the siphon and at least one perforation in the whorl and usually a second at the lip, essentially a notch. Marquardt (1992) subdivides cutting-edged gastropod tools into several subtypes, but given the small sample from McClamory Key, few are observed. Only one of five modified lightning whelks in the assemblage is beveled at the end (Figure 5-3d). It is a relatively small specimen (67.0 mm long), not much bigger than most of the crown conch hammers, and shorter than one.

Table 5-3. Inventory of Modified Shell from Subsurface Contexts at McClamory Key (8LV288).

Provenience	Species	Type (*n*)	Length (mm)	Width (mm)	Notes
TU1, Lev. A	UID	bead blank	11.1	11.1	2.02 mm thick
TU1, Lev. B	lightning whelk	hammer/adze	92.2	90.8	1 hole 17 mm diam.; notched lip; attrition
	hard clam	fragments (3)	-	-	angular
	crown conch	hammer?	-	-	perforated, no attrition
	UID	collumella (2)	-	-	
TU1, Lev. C	crown conch	hammer	57.6	46.7	2 holes, heavy attrition
	lightning whelk	hammer/adze	67.0	64.9	2 holes, one at lip; beveled; heavy attrition
	UID	collumella	-	-	
TU2, Lev. A	crown conch	hammer	55.7	45.6	perforated, attrition
	lightning whelk	hammer/adze	-	-	perforated, attrition
TU2, Lev. B	queen conch	adze fragment	-	-	
	hard clam	fragment	-	-	
	crown conch	hammer	60.4	50.6	perforated, attrition
	lightning whelk	hammer/adze			two holes, one at lip heavy attrition
	lightning whelk	fragment	-	-	
TU2, Lev. C	hard clam	fragment	-	-	angular
	crown conch	hammer	69.0	57.0	2 holes, heavy attrition
TU2, Lev. E	crown conch	fragment	-	-	perforated, no attrition
	UID	collumella (2)	-	-	

The other lightning whelk shown in Figure 5-3 (e) is the largest in the assemblage, and it has a battered siphon end that may have obscured a once-beveled edge. Like most tools of this type, it has a hole in the whorl and a notch on the lip.

One additional item in the McClamory Key assemblage is likely a fragment of a cutting tool. As shown in Figure 5-3f, this is what appears to be the butt end of a shell adze. Cut from the whorl of a thick shell, this broken tool was possibly made from a queen conch (*Strombus gigas*), a species that is not native to the local area but common to south Florida. This identification remains tentative, although adzes of this form (cut from thick whorl of gastropods) are usually made from queen conch. The missing portion of this tool is the bit, which, like the edges of whelk siphons, would have been beveled.

Figure 5-3. Modified shell from various contexts at McClamory Key (8LV288): (a) perforated crown conch, no attrition to siphon [TU1-B-12]; (b) crown conch hammer [TU2-C-13]; (c) crown conch hammer [TU1-C-7]; (d) lightning whelk hammer/adze [TU1-C-12]; (e) two views of lightning whelk hammer/adze [TU1-B-5]; (f) obverse and reverse of proximal end of conch adze [TU2-B-13].

Five collumella from whelks and/or conchs are possibly tools (Table 5-3), although nothing about these items is distinctively modified (other than being removed from the whorl) or the result of attrition from use. Diverse columella tools are among the types of modified shell in Marquardt's (1992) typology, but the examples from McClamory Key, like so many elsewhere, are ambiguous as to form and function, owing partly to the weathered nature of the shell.

Five angular fragments of hard clam (*Mercenaria* spp.). Are included in the inventory of worked shell although we cannot be certain these were the result of tool making or use. Hard clam shell was occasionally drafted into a variety of uses, and its shell makes a useful anvil for any task requiring impact resistance. Angular pieces such as these may simply be the outcome of impacts to shell anvils.

Finally, a single disk of marine shell was recovered from Level A of TU1 at McClamory Key (Figure 5-4). The species of shellfish from which this disk was cut is uncertain, but most likely a lightning whelk. From work elsewhere in the greater study area, we know such disks to be blanks for the manufacture of shell beads. Raleigh Island, in particular, has multiple examples of bead blanks, as well as the stone tools used to shape and drill beads (Monés 2015). Richard's Island, just east of McClamory Key, also has produced the by-products of bead manufacture. All three locations of bead manufacture have been dated to the eleventh-thirteenth centuries A.D., the time of Mississippian chiefdoms throughout the Southeast that consumed beads by the thousands. Bead production in the Lower Suwannee area may well have been geared toward export given what little evidence we have seen for bead consumption locally.

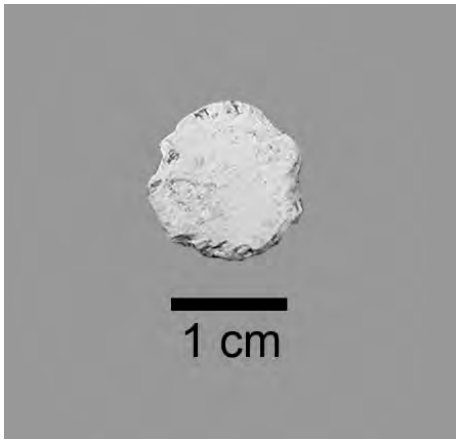

Figure 5-4. Shell bead blank (TU1-A-6).

OTHER LITHIC ARTIFACTS

Besides the four bifaces found in mortuary context and described earlier, 47 other lithic objects were recovered from the excavation of TUs 1 and 2. The bulk of these are chert flakes, some of which express the morphology of bifacial retouch, others are amorphous or blocky. One flake from Level C of TU2 has an edge that was modified by use. Another from Level F

in this same unit is a mafic, igneous material, possibly a spall from a stone celt. Five pieces are limestone distributed sparsely across most levels of TU2. These small, amorphous chunks may not have been involved in tool production or use, although, in some cases, they may reflect cortical material that was detached from chert cores. Several of the chert flakes in this unit bear traces of cortex.

CONCLUSION

The majority of material culture recovered from McClamory Key can be assigned to the Weeden Island period and stratigraphic testing substantiates this claim. Surface collections include many Weeden Island sherds, but also sherds not represented well, or at all, in our subsurface tests. Notably, the private collections we have observed contain a bit more Orange fiber-tempered pottery than the small assemblage recovered from the base of TU1, and they include sherds of Deptford Linear Check Stamped pottery, a type not seen at all in subsurface tests.

Four stemmed hafted bifaces found in association with human burials provide our only means of age estimation for the cemetery, estimated at ca. 4700–4200 B.P. based on type alone. Fiber-tempered pottery from McClamory Key may date to this interval as well, or more, likely, the ensuing few centuries. Either way, the context for fiber-tempered pottery, as well as Deptford, appears to have been largely destroyed as McClamory Key has succumbed to shoreline erosion over the past several centuries.

The assemblage of Weeden Island pottery is actually quite diverse for a component that presumably is domesticate. Sherds with incised and punctated surface treatments are in the minority, to be sure, but compared to a site like Shell Mound (8LV42), which has produced very few decorated sherds, McClamory Key received more than trace amounts of elaborate pottery. Small, open bowls predominate, paired perhaps by largely plain vessels, which occasionally bear signs of direct-heat cooking in the form of external soot.

Because of their late age estimate in TU1 and elsewhere, punctated or dentated sherds that otherwise would be given to Weeden Island types (Rushkin Dentate, Hillsborough Shell Stamped) raise issues of typological concern. Now that we have good evidence for eleventh through thirteenth-century occupations in the study area, are certain Weeden Island types lingering well past the accepted terminus of the period (ca. A.D. 1000), or have these types, in the local area, been simply misclassified as Weeden Island?

The modified shell and lithic inventory from subsurface context at McClamory Key is small but diverse. Among shell tools are hammers and adzes, and possibly punches or chisels, in the form of columella, as well as amorphous pieces of hard clam that may be the by-product of anvil use. Chert flakes tend to be small and generally bifacial, while one mafic flake is likely a spall from a stone adze. In general, the shell and lithic inventory, along with the more substantial sherd assemblages, point to a range of activities than would be expected transient use of the site, and instead points to substantial occupations during the Weeden Island and post-Weeden Island eras.

CHAPTER 6
VERTEBRATE AND INVERTEBRATE REMAINS

This chapter details analyses of 1 mm and larger faunal materials contained in three bulk samples from two test units (TU1 and TU2) and a shovel test (STP1) excavated at McClamory Key (8LV288), as described in Chapter 4. The analysis and reporting of vertebrate and invertebrate remains from these samples were undertaken by Andrea Palmiotto.

Eastern oysters (*Crassostrea virginica*) comprise the majority of the invertebrate remains in these samples. However, variations in assemblages suggest different resource procurement practices were employed by Weeden Island (STP 1 and TU2) and twelfth-thirteenth-century (TU1) occupants. Mammals, reptiles, and large gastropods were most common in the Weeden Island assemblages, and there is a significant lack of the commensal taxa that are commonly associated with eastern oysters in these assemblages.

METHODS

A small bulk sample (3.7 liter) from STP1 was collected in a gallon-size bag from the profile of a shell-dense stratum, Stratum I. A 14.0-liter bulk sample and a 10.0-liter bulk sample were collected from the unit profiles of TU1 and TU2, respectively (see Chapter 4 for provenience details). Bulk samples were processed with a Dausman flotation machine.

All invertebrate and vertebrate remains, 1 mm and larger, were examined. Fauna were identified to the lowest possible taxonomic level using the Environmental Archaeology comparative collections at the Florida Museum of Natural History (FLMNH) and the zooarchaeological comparative collections at the Laboratory of Southeastern Archaeology (LSA). The number of identified specimens (NISP), minimum number of individuals (MNI), and bone/shell weight per taxon were recorded. Results are discussed primarily in terms of MNI, which was determined based on element size and side.

Diversity and Equitability

Diversity and equitability values were calculated using vertebrate remains only (otherwise the skewing effect of oyster would obscure variation among other taxa). Diversity estimates provide a means of comparing the range of taxa represented in a sample. The following formula (from Reitz and Wing 2008) was used to calculate diversity:

$$H' = -\Sigma [(pi) (\ln (pi))],$$

where H' is the diversity value. Pi is calculated by dividing the MNI of each taxon by the total MNI of the sample. The diversity value is the absolute value of the sum of pi multiplied by the natural log of pi. Diversity values range between 0 and 5, where the higher the value, the higher the diversity.

Equitability measures how evenly a taxon is used with regard to other taxa in a sample. The following formula (from Reitz and Wing 2008:235) was used to calculate equitability:

$$V' = H' / \ln (S),$$

where V' is the equitability estimate. H' is the diversity value, and S represents the number of taxa for which MNI was determined. Equitability is the diversity value divided by the natural log of S. Equitability values range between 0 and 1, where the higher the value, the more evenly all taxa were used. An equitability value closer to 0 indicates an intense focus on one or few taxa.

Allometry

Allometry is a means of correlating the total size of an animal to its specific elements via regression plots (Reitz and Wing 2008:68). For example, the vertebra of a fish grows at a rate that is in relative proportion with the rate that the entire fish grows; therefore, the fish vertebra may be used to predict the total length of the fish. Allometric equations were compiled to predict the standard lengths (SL) of sea catfishes (Ariidae), jacks (Carangidae), porgies (Sparidae), drums/croakers (Sciaenidae), and mullet (Mugilidae) based on thoracic (precaudal for mullet) vertebra, atlas, and/or otolith maximum-width measurements using available FLMNH zooarchaeological comparative specimens. The following equation was used to determine predicted SL:

$$Y = aX + b, \text{ or}$$
$$Y = 10 \text{ ^ } (\text{Log } (X) * (\text{Y-intercept} + \text{Slope})),$$

where Y is the standard length, X is the width of the measured element, a is the slope, and b is the Y-intercept. Y-intercept and slope were calculated by measuring element widths of comparative specimens with known length. Regression analyses were computed in Microsoft Excel. The predicted SLs of archaeological specimens are examined between samples to examine relative differences in fish sizes to support seasonal and environmental inferences. The data used to compile the equations per species (for sea catfish, jacks, drums/croakers, and mullet) and element are discussed in the zooarchaeology chapter of Sassaman et al. (2013:61–64) (see also Table 6-1).

Table 6-1. Allometric Constants for Select Taxa.

Taxon	Element	n	Slope	Y-intercept	R2
Ariidae	Otolith	23	1.05679	1.317071	.942534
Ariidae	Vertebra	23	.733378	1.874626	.900990
Carangidae	Atlas	26	.889389	1.807117	.967415
Carangidae	Vertebra	22	.887489	1.710946	.987117
Sciaenidae	Atlas	67	.940866	1.744484	.960463
Sciaenidae	Otolith	55	.830223	1.525658	.765872
Sparidae	Atlas	32	.717948	1.883280	.744873
Mugilidae	Atlas	22	.655156	1.963348	.902740
Mugilidae	Vertebra	27	.792563	1.830681	.973103

The pinfish (*Lagodon rhomboides*, family: Sparidae) allometric data, however, is newly acquired and provided here. Maximum widths of intact vertebral centrums were measured on 32 pinfish atli of specimens in the FLMNH comparative collection that had recorded live standard lengths. Atli and SL measurements were compiled, resulting in the following regression equation: $Y = 0.72X + 1.88$ with an R^2 confidence interval of 0.74 (Table 6-1).

Total lengths (TL) of fishes are often used in biological studies to describe fish sizes rather than SL. Total length refers to the length of the fish from tip of the head to tip of the tail fins. Standard length refers to the length of the fish from tip of the head to tip of the last vertebra (but does not include fins). There is a slight incongruity because often SL is not reported in biological studies. However, insofar as inferring relative size or age differences between fishes in different strata or sites, these few millimeters should not skew results significantly.

RESULTS

From STP1, a total of 23 taxa and 123 individuals are identified (Table 6-2, 6-3). Eleven taxa, contributing 109 individuals, are identified among invertebrates. The most common taxon is the eastern oyster, followed by land snails (Polygyridae) and impressed odostomes (*Boonea impressa*). Twelve taxa, contributing 14 individuals, are identified among vertebrates. Silver perch (*Bairdiella chrysoura)* and sea catfish are the most commonly identified fishes. One deer (*Odocoileus virginiana*) is also identified in the assemblage based on a single phalange. Diversity is calculated at 2.44, and equitability is calculated at 0.98 (Table 6-2).

From TU 2, Stratum I, a total of 30 taxa and 364 individuals are identified (Table 6-4). Twelve taxa, contributing 343 individuals, are identified among invertebrates. The most common taxon is the eastern oyster, followed by land snails and crown conchs (*Melongena corona)*. Eighteen taxa, contributing 21 individuals, are identified among vertebrates. The most common fish is the pinfish, with no more than one individual identified per each of the other taxa. A marsh rabbit (*Sylvilagus palustris*) and a diamondback terrapin (*Malaclemmys terrapin*) are also identified. Diversity is calculated at 2.78, and equitability is calculated at 0.96 (Table 6-2).

Table 6-2. Summary of Results from STP1, TU1, and TU2, 8LV288.

Provenience	Bulk Vol. (l)	Invert. Taxa (n)	Invert. MNI	Vert. Taxa (n)	Vert. MNI	Diversity	Equiti-bility
STP1	3.7	11	109	12	14	2.44	.98
TU1	14.0	15	1,077	16	23	2.60	.94
TU2	10.0	12	343	18	21	2.78	.96

Table 6-3. Faunal Remains (1 mm and larger) Identified from STP1, Stratum I, 8LV288.

Taxon	Common Name	NISP	NISP%	MNI	MNI%	Wt (g)	Wt%
Invertebrata	UID Invertebrates					140.4	14.4
Mytilidae	Mussels	1	.3	1	.8		
Ostrea equestris	Crested oyster	2	.6	1	.8	.5	.1
Crassostrea virginica	Eastern oyster	275	82.6	75	61.5	833.6	85.4
cf. *Truncatella* sp.	Truncatella	1	.3	1	.8		
Melongenidae	Whelks/conchs	2	.6	1	.8	1.5	.2
Boonea impressa	Impressed odostome	15	4.5	15	12.3	.1	<.1
Gastrocopta pellucida	Slim snaggletooth	1	.3	1	.8		
Haplotrema concave	Lancetooth	10	3.0	10	8.2	.1	<.1
Hawaii miniscula	Minute gem	7	2.1	7	5.7		
Polygyra cereolus	Flatcone snail	6	1.8	6	4.9		
Balanidae	Barnacles	13	3.9	4	3.3		
Total Invertebrata		320	100.0	109	100.0	976.2	100.0
Vertebrata	UID Vertebrates					1.3	6.5
Odocoileus virgianus	White-tailed deer	1	.2	1	7.1	.8	4.0
Testudines	Turtles	1	.2	1	7.1	.1	.5
Chondrichthyes	Sharks/rays	1	.2	1	7.1		
Actinopterygii	Fishes	492	94.1			15.7	78.1
Lepisosteus sp.	Gar	2	.4	1	7.1		
Clupeidae	Shads/Herrings	2	.4	1	7.1		
Ariopsis felis	Hardhead catfish	12	2.3	2	14.3	1.7	8.5
Belonidae	Needlefishes	1	.2	1	7.1		
Caranx hippos	Crevalle jack	2	.4	1	7.1	.2	1.0
Lagodon rhomboides	Pinfish	1	.2	1	7.1		
Archosargus probatocephalus	Sheepshead	2	.4	1	7.1	.1	.5
Bairdiella chrysoura	Silver perch	2	.4	2	14.3	.1	.5
Mugil cephalus	Striped mullet	4	.8	1	7.1	.1	.5
Total Vertebrata		523	100.0	14	100.0	20.1	100.0
Grand Total		843		123		996.3	

From TU1, Stratum I, a total of 31 taxa and 1,100 individuals are identified (Table 6-5). Fifteen taxa, contributing 1,077 individuals, are identified among invertebrates. The most common taxon is the eastern oyster, followed by impressed odostomes, barnacles (Balanidae), and slippersnails (*Crepidula* sp.), all of which are small and colonize in oyster beds and on other solid substrates, and are therefore considered commensal. More than 50 land snails are also identified. Sixteen taxa, contributing 23 individuals, are identified among vertebrates. The most common fishes include pinfish, silver perch, sea trout (*Cynoscion* sp.), and sea catfishes. Diversity is calculated at 2.60, and equitability is calculated at 0.94 (Table 6-2).

Table 6-4. Faunal Remains (1 mm and larger) Identified from TU2, Stratum I, 8LV288.

Taxon	Common Name	NISP	NISP%	MNI	MNI%	Wt (g)	Wt%
Invertebrata	UID Invertebrates					400.2	11.0
Mytilidae	Mussels	1	.12	1	.29	1.0	<.1
Crassostrea virginica	Eastern oyster	694	85.8	266	87.6	3,002.0	82.3
Dinocardium robustum	Atlantic giant cockle	1	.1	1	.3	.3	<.1
Trachycardium sp.	Cockles	3	.4	1	.3	.8	<.1
Crepidula sp.	Slippersnails	6	.7	6	1.8		
Melongenidae	Whelks/conchs	4	.5	1	.3	2.5	.07
Busycon contrarium	Lightning whelk	1	.1	1	.3	33.8	.93
Melongena corona	Crown conch	12	1.5	11	3.2	202.1	5.54
Fasciolaridae	Tulip snails	1	.1	1	.3	1.9	.1
Oligyra orbiculata	Globular drop	9	1.1	9	2.6	.3	<.1
Polygyridae	Land snails	50	6.2	38	11.1	.9	<.1
Balanidae	Barnacles	28	3.5	7	2.0	.6	<.1
Total Invertebrata		810	100.0	343	100.0	3,646.4	100.0
Vertebrata	UID Vertebrates					3.8	6.7
Sylvilagus palustris	Marsh rabbit	2	.2	1	4.8	.4	.7
Serpentes	Snakes	1	.1	1	4.8	.4	.7
Testudines	Turtles	49	3.6			11.3	19.9
Emydidae	Pond turtles	3	.2	1	4.8	1.6	2.8
Malaclemmys terrapin	Diamondback terrapin	1	.1	1	4.8	.5	.9
Amphibia	Amphibians	1	.1	1	4.8	.2	.4
Chondrichthyes	Sharks/rays	1	.1	1	4.8		
Actinopterygii	Fishes	1,254	92.1			32.9	58.0
Lepisosteus sp.	Gar	7	.5	1	4.8	.3	.5
Elop saurus	Ladyfish	1	.1	1	4.8		
Ariidae	Sea catfishes	14	1.0			.9	1.6
Ariopsis felis	Hardhead catfish	1	.1	1	4.8		
Belonidae	Needlefishes	4	.3	1	4.8	.1	.2
Caranx sp.	Jack	2	.2			.1	.2
Caranx hippos	Crevalle jack	1	.1	1	4.8	.1	.2
Archosargus probatocephalus	Sheepshead	3	.2	1	4.8	.8	1.4
Lagodon rhomboides	Pinfish	7	.5	4	19.1	.1	.2
Bairdiella chrysoura	Silver perch	1	.1	1	4.8		
Cynoscion sp.	Sea trout	2	.1	1	4.8	.6	1.1
Leiostomus xanthurus	Spot	1	.1	1	4.8		
Mugil sp.	Mullet	4	.3	1	4.8	.3	.5
Diodontidae	Pufferfishes	1	.1	1	4.8	2.3	4.1
Total Vertebrata		1,361	100.0	21	100.0	56.7	100.0
Grand Total		2,171		364		3,703.1	

Table 6-5. Faunal Remains (1 mm and larger) Identified from TU1, Stratum I, 8LV288.

Taxon	Common Name	NISP	NISP%	MNI	MNI%	Wt (g)	Wt%
Invertebrata	Invertebrates					792.9	11.0
Mytilidae	Mussels	7	.3	1	.1	.4	<.1
Argopecten sp.	Scallops	5	.2	1	.1	2.3	<.1
Crassostrea virginica	Eastern oyster	1,247	53.6	586	54.4	6,387.2	88.34
Ostrea equestris	Crested oyster	15	.7	6	.6	8.8	.12
Dinocardium robustum	Atlantic giant cockle	2	.1	1	.1	3.0	<.1
Crepidula sp.	Slippersnails	48	2.1	48	4.5	2.0	<.1
Urosalpinx sp.	Oyster drills	1	<.1	1	.1	.7	<.1
Melongenidae	Whelks/conchs	2	.1	1	.1	4.1	.1
Boonea impressa	Impressed odostome	192	8.2	191	17.8	1.1	<.1
Polygyridae	Land snails	10	<.1	10	.9		
Hawaii miniscula	Minute gem	41	1.8	41	3.8	.2	<.1
Helicodiscus parallelus	Compound coil	1	<.1	1	.1		
Polygyra cereolus	Flatcone snail	2	.1	2	.2		
Balanidae	Barnacles	752	32.3	185	17.2	26.4	.4
Decapoda	Crabs	3	.1	1	.1	.9	<.1
Total Invertebrata		2,328	100.0	1,077	100.0	7,230.0	100.0
Vertebra	UID Vertebrates					1.3	3.7
Rodentia	Rodentia	1	.1	1	4.4		
Serpentes	Snakes	1	.1	1	4.4		
Testudines	Turtles	6	.4	1	4.4	.5	1.4
Chondrichthyes	Sharks/rays	1	.1	1	4.4		
Actinopterygii	Fishes	1,377	94.0			27.5	78.1
Lepisosteus sp.	Gar	13	.9	1	4.4	.2	.6
Clupeidae	Shads/Herrings	7	.5	1	4.4		
Ariopsis felis	Hardhead catfish	17	1.2	2	8.7	2.8	8.0
Fundulus sp.	Killifish	3	.2	1	4.4		
Caranx hippos	Crevalle jack	3	.2	1	4.4	.2	.6
Orthopristis chrysoptera	Pigfish	3	.2	1	4.4		
Archosargus probatocephalus	Sheepshead	1	.1	1	4.4	1.1	3.1
Lagodon rhomboides	Pinfish	19	1.3	5	21.7	.1	.3
Bairdiella chrysoura	Silver perch	3	.2	2	8.7		
Cynoscion sp.	Sea trout	2	.2	2	8.7	.3	.9
Mugil sp.	Mullet	7	.5	1	4.4	1	2.8
Paralichthyidae	Flounder	1	.1	1	4.4	.2	.6
Total Vertebrata		1,465	100.0	23	100.0	35.2	100.0
Grand Total		3,793		1,100		7,265.2	

Allometry

Several elements were measured for allometric estimates. One sea catfish otolith, two jack vertebrae, two silver perch otoliths, and one mullet vertebra were measured from STP1. Two pinfish atli were measured from TU1 (Table 6-6). The sea catfish has an estimated SL of 259 mm. The jack vertebrae provide estimated SLs of 260 and 263 mm. The two silver perch

have estimated SLs of 74 and 162 mm. The mullet has an estimated SL of 211 mm. The two pinfish from TU1 are estimated to be 65 mm and 188 mm SL.

DISCUSSION

Aerial images document the changing shape of the island in recent times, in response to sea level fluctuations, tidal erosion, and other human and non-human factors. Only one truncatella was identified among these samples (STP 1, Table 6-3) and no intertidal species, such as the periwinkle, were identified, but there is a prevalence of land snails in all three assemblages. Truncatella are indicative of high tide lines, therefore their relative absence and the high quantities of land snails enforce the interpretation that the island has diminished in size greatly, and that these samples were all deposited in the interior of the islands, well away from shorelines.

Table 6-6. Measured Elements for Allometric Comparison from 8LV288.

Provenience	Family	Taxon	Element	Side	Measure-ment (mm)
TU1	Sparidae	*Lagodon rhomboides*	Atlas	n/a	0.8
TU1	Sparidae	*Lagodon rhomboides*	Atlas	n/a	3.5
STP1	Ariidae	*Ariopsis felis*	Otolith	left	10.9
STP1	Carangidae	*Caranx hippos*	Vertebra	n/a	6.2
STP1	Carangidae	*Caranx hippos*	Vertebra	n/a	6.3
STP1	Sciaenidae	*Bairdiella chrysoura*	Otolith	left	6.7
STP1	Sciaenidae	*Bairdiella chrysoura*	Otolith	right	2.6
STP1	Mugilidae	*Mugil* sp.	Vertebra	n/a	4.2

Table 6-7. Comparison of Class Distribution of Taxa by Weight (g) for Bulk Samples from 8LV288.

	TU1		TU2		STP1	
Class	Wt (g)	Wt %	Wt (g)	Wt %	Wt (g)	Wt %
Bivalvia	6,401.7	99.5	3,004.1	92.5	834.1	99.8
Gastropoda	35.4	.6	242.1	7.5	1.7	.2
Total Invertebrata	6,437.1	100.0	3,246.2	100.0	835.8	100.0
Mammalia	-	-	.4	.8	.8	4.3
Reptilia	.5	1.5	13.8	26.1	.1	.5
Amphibia	-	-	.2	.4	-	-
Actinopterygii	33.4	98.5	38.5	72.8	17.9	95.2
Total Vertebrata	33.9	100.0	52.9	100.0	18.8	100.0
Grand Total	6,471.0		3,299.1		854.6	

Some differences between the Weeden Island and twelfth-thirteenth-century assemblages warrant mention. The Weeden Island age samples (STP1 and TU2) express more diverse resources (including higher quantities of gastropods [crown conchs], mammals, and reptiles) than the later sample. The Weeden Island samples contain few commensal species compared to the later sample, suggesting perhaps differences in procurement patterns. Notably, the lack of associated commensal species with eastern oysters in Weeden Island samples may indicate that the oysters were collected dead, for their shells, or that oysters were procured alive but cleaned of commensal taxa (i.e., biofoul) prior to deposition in the midden. Apart from oyster, diversity and equitability estimates vary little between assemblages (Table 6-2). It appears that fish resources were used evenly—no taxon was targeted specifically—and diversity was modest in all samples.

Faunal Characteristics

Eastern oysters are one of the most common large bivalves in the southeast U.S., found both inter- and subtidally. Oysters are filter-feeders, and as such, increase water quality and provide habitats for numerous fishes, gastropods, bivalves, and other fauna (SMS 2011).

Crown conchs are a common large gastropod in the lower Suwannee region. They prefer low-energy seagrass areas and oyster reefs. Some researchers (e.g., Hathaway and Woodburn 1961; Tiffany 1974) have suggested that crown conchs are evidence of estuaries with poor health, especially if other species, such as oysters or quahog clams, are scarce, but these studies have not been substantiated (SMS 2011).

Mature sea catfishes generally are larger than 133 mm TL (SMS 2011), which suggests an adult sea catfish is in the STP1 assemblage. Sea catfish prefer warmer temperatures, and are common inhabitants of estuaries in the southeast U.S. Sea catfishes spawn in the spring/early summer months (SMS 2011).

Mature jacks measure more than 635 mm TL (DNR 2011), which suggests a juvenile jack is in the STP1 assemblage. Jacks are schooling fish. As adults they are found often offshore, but juveniles can be found in estuaries and tidal creeks, mostly during warmer months. Although adults prefer higher salinity ranges (30+ practical salinity units), juveniles can tolerate wider ranges (DNR 2011).

The two pinfish from TU1 are estimated to be 65 mm SL and 188 mm SL. Hansen (1970) observed that mature pinfish on average were ~132 mm TL, once they reached two years of age, suggesting both juvenile and mature individuals were collected. Pinfish spawn primarily during cooler weather (Darcy 1985). They prefer minimal currents and abundant seagrasses and vegetation (Clark 1974).

Mature silver perch generally measure greater than 95 mm SL (Grammer et al. 2009), indicating that both juvenile and mature individuals were collected from STP1. Silver perch spawn during warmer months in estuaries, and are common in estuaries and tidal creeks (Grammer et al. 2009). Tolley and colleagues (Tolley and Volety 2005:1010; Tolley et al.

2005:135) observe that silver perch, pinfish, and sheepshead were caught in higher quantities during cool, dry weather. Sea trout, another species of sciaenid, are also common in estuaries. They prefer warmer temperatures and spawn during the warmest months (SMS 2011).

Young-of-the-year mullet measure up to 222 mm TL (SMS 2011), which indicates that a young mullet is in the STP1 assemblage. Adult mullet measure more than 400 mm TL. The larger mullet school in estuaries and river mouths in the fall before they migrate offshore. Smaller mullet school in estuaries during warmer months (SMS 2011).

The Weeden Island and twelfth-thirteenth-century samples from McClamory Key likely are indicative of occupations primarily during warmer weather. Only one spot (Table 6-4) and no red drum were identified, of which high quantities may be indicative of cooler weather occupations, based on present understanding of FWS (2012) data.

CONCLUSION

All three bulk samples from McClamory Key are dominated the shells of eastern oysters. Fish remains in all samples reflect collection during warmer weather. The Weeden Island assemblages indicates more emphasis on gastropods, mammals, and reptiles, while the twelfth-thirteenth-century assemblage indicates less deviation from fish- and bivalve-based diets. The scarcity of commensal species commonly associated with eastern oysters suggests that shells were processed and/or cleaned prior to deposition in Weeden Island midden. High quantities of land snails and the absence of small intertidal taxa, such as periwinkles and truncatella, suggest that middens were deposited on the island interior, not near the shoreline, despite its proximity to the shore today.

CHAPTER 7
CONCLUSIONS AND RECOMMENDATIONS

Since 1994 the gulf-facing shoreline of McClamory Key has retreated ~50 m, and an unknown portion of the island was erased by erosion well before then. Over the past two decades, archaeological deposits have been exposed in the erosional cutbanks of two hammocks on the island. Dating as early as 4,500 years ago, artifacts, shell, and bone have been dislodged and displaced along the beach and tidal flats of the island, some picked up by passers-by. In recent years, human skeletal remains have also emerged from the denuding beachface. As these burials became increasingly conspicuous, concerned citizens alerted the Florida Bureau of Archaeological Research (BAR). After it became evident that burials were being looted for artifacts, staff of BAR, in consultation with the Seminole Tribe of Florida, determined that recovery of the human remains was warranted. In March 2013 staff of the Laboratory of Southeastern Archaeology (LSA), University of Florida, together with staff of BAR and the National Park Service, removed the skeletal remains of an estimated 25 individuals. Associated artifacts place the burials chronologically in the early part of the Late Archaic period, estimated at about 5000–4500 cal B.P. Aside from the burials themselves, archaeological deposits of this age occur in only trace amounts in the remnants of the hammocks of McClamory Key, although local citizens have found artifacts of this era among redeposited materials on the beach. Intact midden in the hammocks date to the late Weeden Island period (cal A.D. 650–770) and post-Weeden Island era (cal A.D. 1160–1260). Subsurface tests of these two hammocks was conducted in an effort to provide context for the burials and to salvage what is arguably the last intact deposits of a rapidly disappearing landform. The broader purpose of the Lower Suwannee Archaeological Survey of the LSA is to salvage eroding sites in the area and build a research context for interpreting the past 5,000 years of dwelling on the northern Gulf Coast of Florida.

SUMMARY OF INVESTIGATIONS

Burial Recovery and Analysis

As detailed in Chapter 2, tidal flooding challenged the recovery operation by limiting "dry" access to the burials to only a few hours twice a day. Adding to the challenge was the fragmentary and comingled nature of most of the individuals. Mapping of exposed burials on two occasions before the March 2013 recovery operation suggest that as many as 32 individuals were interred in an area as small as 21 m^2. Erosion and looting took their toll before recovery could ensue, leaving an estimated 22 individuals in place at the time of recovery. Laboratory inventory of recovery remains increased the minimum number of individuals to 25.

Given the disposition and spatial clustering of human interments at McClamory Key, the mortuary feature appears to be a true cemetery, meaning a dedicated place for burial of the deceased. As detailed in Chapter 3, about one-half of the inhumations were primary, and about one-third secondary, with the balance indeterminate. Primary and secondary burials crosscut all age groups and both sexes, which themselves were evenly divided between male and female, young and old. Clusters of burials can be inferred from the spatial proximity of certain

individuals, although no doubt in some cases proximity resulted from sequential, not simultaneous interment. To the extent clusters were indeed simultaneous inhumations, they vary in terms of group membership, with some containing only males, some only females, and others both. Only one of five possible clusters was age specific (two old adult males). Sampling issues limit the veracity of these observations.

Pathologies observed on the bones of McClamory Key burials are relatively few and minor, indicative of either dietary insults in childhood or degenerative factors associated with aging. The robusticity of several males compares favorably with the morphology of individuals from Bird Island (Stojanowski and Doran 1998) and deviates from other Florida populations of Late Archaic age or older (Kles 2013). This pattern points to the possibility that individuals interred at these sites have proximate ancestry outside of the immediate region.

Direct dating of the McClamory Key burials has not been attempted because of restrictions on destructive analysis. However, associated bifaces place the burials in the Late Archaic period. This accords with the estimated age of burials from Bird Island, itself in need of better absolute dating. Sea level at 5000–4500 cal B.P. was considerably lower than today and the shoreline a few kilometers seaward. Thus, the McClamory Key and Bird Island cemeteries were established landward of the coast, on what was then high and dry land. As reviewed in Chapter 1, one theory for the landward placement of cemeteries is that coastal communities, having experienced rising sea for many generations, anticipated the inundation of the coast and relocated their cemeteries before water rose. This is one explanation for secondary burials at McClamory Key, although given that the cemetery also has primary interments, it was not established for the sole purpose of relocating remains of the dead. At Bird Island, the Late Archaic occupations appears to post-date the cemetery by a few centuries. We have no basis for inferring the sequence of Late Archaic site use at McClamory Key, but if settlement by the living followed the emplacement of human burials, it stands to reason that at least part of the cemetery was occupied by those who were first interred at coastal locations vulnerable to inundation.

Testing of the West Hammock

A single shovel test (STP1) and 1 x 2-m unit (TU2) were excavated in the West Hammock of McClamory Key, a landform that has been severely eroded by tidal action and the mass wasting attending the collapse of large hardwood trees. A ~50-cm-thick oyster shellmidden was dominated by artifacts of the Weeden Island period, although some punctated and dentated sherds concentrated in the upper 20 cm of the midden appear to post-date the Weeden Island component by a couple of centuries. A sample of charcoal taken from the profile of STP1 returned an AMS age estimate of 1330 ± 30 B.P., which calibrates at two-sigma to A.D. 650–770.

Many of the decorated surface treatments of the Weeden Island tradition are represented in the subsurface and surface collections of the West Hammock. Early Weeden Island contexts in the area (e.g., Shell Mound, Komar) are dominated by plain limestone- or sand-tempered pottery. McClamory Key has its share of plain pottery, but a much higher proportion of decorated wares compared to slightly earlier assemblages. Whether this is a

sampling error or a meaningful trend toward increased ceramic diversity remains to be seen. As is the case with earlier Weeden Island components in the area, ornate ceramics, including effigy vessels, are restricted to mortuary complexes, such as the burial mound on Hog Island, just west of Shell Mound.

Aside from what appears to be an embellished Weeden Island inventory of pottery from the West Hammock, the assemblage of lithic and shell tools and associated faunal remains is unremarkable, all indicative of domestic activities. Warm-weather occupation is indicated by the fish remains recovered, and the dearth of commensal species commonly associated with eastern oysters suggests that shells were processed and/or cleaned prior to deposition.

Testing of the East Hammock

A single 1 x 1-m unit (TU1) was excavated in the East Hammock to determine the relationship of its subsurface remains to the presumed Late Archaic cemetery. A trace of Late Archaic pottery was located beneath a 35-cm-thick oyster shell midden, but nothing can be inferred about the stratigraphic relationship of these finds to the cemetery. The midden proved instead to be a twelfth-thirteenth-century deposit with punctated and dentated sherds that otherwise would be given to Weeden Island types. Given the occurrence of sherds like these at two other post-Weeden Island middens in the greater study area, it would appear that types hitherto assigned to the Weeden Island period truly are later in age, or at least a "carryover" of tradition into the early Mississippian era. Notably, all three contexts for this variety of pottery (Raleigh and Richards islands, and McClamory Key) have produced evidence of shell bead manufacture.

A second 1 x 1-m unit (TU3) was excavated proximate to the Late Archaic cemetery in a second attempt to resolve its stratigraphic position in the East Hammock, but to no avail. The profile of this unit expressed the reworked sands of an alternatively eroding and aggrading beachface.

RECOMMENDATIONS

The primary recommendation for additional work at McClamory Key is regular monitoring of the beach for additional burials. Others burials have appeared since March 2013, according to unsubstantiated sources. Lacking the means to monitor the site continuously, we recommend visits after particularly aggressive storms, when the chances of exposure are greatest. Additional burials, should they appear, must be recovered before looting ensues. Unfortunately, looters would appear to frequent the island far more often than do those with a better sense of civic duty.

If opportunity arises for the burials from McClamory Key to undergo analysis involving the sampling of small pieces of bone and teeth, we recommend direct dating of at least three individuals. This is considered a minimum number of assays to establish the general contemporaneity of interments. More would be needed to examine the contemporaneity of individuals within clusters. Of course, the usual statistical limits of radiometric dating may mask the sequencing of burials, but enough precision should be possible to test the proposition

that secondary burials were individuals who were relocated from primary contexts. Coupled with radiometric dating, isotopic analyses of certain elements in tooth enamel will enable inferences to be made about the geographic biographies of individuals. For example, strontium isotope ratios (87Sr/86Sr) can be used to determine if an individual was buried in roughly the same environment in which they dwelled during the time their molars formed (Quinn et al. 2008). This assay measures the uptake of groundwater directly as potable liquid and indirectly in the growth and development of foods individuals consumed.

As for additional subsurface testing of the hammocks, it would be useful to sample further the East Hammock to secure more information on the twelfth-thirteenth-century component, notably to seek additional evidence for shell bead manufacture. Relatedly, better contexts for the ambiguous punctated and dentated pottery are desirable. In the meantime, some of these sherds have carbon preserved on exterior surfaces that can be dated directly with AMS. If we find that this type of pottery is exclusively early Mississippian in age, we will have to return to the drawing board of local taxonomy and reclassify many of the late Weeden Island assemblages. A local political economy involving shell bead production during Mississippian times is a chapter of northern Gulf Coast history yet to be conceived, let alone written.

Unfortunate circumstances led to the salvage of 25 individuals buried at McClamory Key when the island was part of the mainland, several kilometers from the shore. Through the authority of BAR and the cooperation of the Seminole Tribe of Florida, we were able to rescue the burials from imminent destruction and to develop some knowledge about an island whose time is drawing to a close. There are many more places like McClamory Key that grow increasingly vulnerable each year. We strongly recommend that all government agencies with statutory responsibilities in the area not await the imminent destruction of such places before allowing outfits like LSA to take action.

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APPENDIX A:

RADIOCARBON DATA

Prov.	Material	Beta Lab Number	Measured 14C Age BP	13C/12C Ratio (o/oo)	Conventional 14C Age BP	2-sigma Cal AD	2-sigma Cal BP
TU1 – STR I	wood charcoal	331116	850 ± 30	-25.3	850 ± 30	1160-1260	800-690
STP1	wood charcoal	329225	1330 ± 30	-24.9	1330 ± 30	650-710 750-770	1300-1240 1200-1180

APPENDIX B:

OSTEOLOGICAL INVENTORY

Human Skeletal Remains - Inventory

McClamory Key (8LV288), Levy County, Florida

Burial/Feature #: 1							
	Left / Middle	**Right**	**notes**		**Left / Middle**	**Right**	**notes**
Frontal	++			Hyoid			
Parietal	++			Sternum			
Temporal	+	+		Manubrium			
Occipital	++			Ribs			
Sphenoid				**Cervical**	+		*'dens'
Ethmoid/Vomer				Thoracic			
Lacrimal				Lumbar			
Nasal				Sacrum			
Zygomatic				Clavicle			
Maxilla				Scapula			
Palatine				Humerus			
Ear Ossicles				Radius			
Mandible	+			Ulna			
Max I1		+ (loose)		Metacarpals			
Max I2	+ (loose)	+ (loose)		Scaphoid			
Max C		+ (loose)		Lunate			
Max P3	+ (loose)	+ (loose)		Triquetral			
Max P4	+ (loose)	+ (loose)		Pisiform			
Max M1	+ (loose)	+ (loose)		Trapezium			
Max M2				Trapezoid			
Max M3	+ (loose)	+ (loose)		Capitate			
				Hamate			
				Hand Phalanges	P I	D	
				Os Coxa			
				Femur			
				Patella			
Mand I1	+ (loose)	+ (loose)		Tibia			
Mand I2				Fibula			
Mand C				Metatarsals			
Mand P3	+ (loose)			Talus			
Mand P4	+ (loose)			Calcaneus			
Mand M1	+ (loose)	+ (loose)		Cuboid			
Mand M2	+ (loose)	+ (loose)		Cuneiform med			
Mand M3				Cuneiform int			
				Cuneiform lat			
				Scaphoid			
				Foot Phalanges	P I	D	
				* slight osteoarthritis observed (score=1)			

=unsided P=proximal, I=intermediate, D=distal

Human Skeletal Remains - Inventory

McClamory Key (8LV288), Levy County, Florida

Burial/Feature #: 2							
	Left / Middle	Right	notes		Left / Middle	Right	notes
Frontal	++		*cribra orb.	Hyoid			
Parietal	++			Sternum			
Temporal				Manubrium			
Occipital	++			Ribs			
Sphenoid				**Cervical**	+		'dens'
Ethmoid/Vomer				Thoracic			
Lacrimal				Lumbar			
Nasal				Sacrum			
Zygomatic				Clavicle			
Maxilla				Scapula			
Palatine				Humerus			
Ear Ossicles				Radius			
Mandible	+		mends?	Ulna			
Max I1				Metacarpals			
Max I2		+ (loose)		Scaphoid			
Max C		+ (loose)		Lunate			
Max P3	+ (loose)	+ (loose)		Triquetral			
Max P4		+ (loose)		Pisiform			
Max M1	+ (loose)	+ (loose)		Trapezium			
Max M2		+ (loose)		Trapezoid			
Max M3	+ (loose)	+ (loose)		Capitate			
				Hamate			
Teeth are very fragmentary				Hand Phalanges	P I	D	
				Os Coxa			
				Femur			
				Patella			
Mand I1				Tibia			
Mand I2				Fibula			
Mand C				Metatarsals			
Mand P3	+ (loose)	+ (loose)		Talus			
Mand P4	+ (loose)	+ (loose)		Calcaneus			
Mand M1	+ (loose)	+ (loose)		Cuboid			
Mand M2	+ (in situ)	+ (frag.)		Cuneiform med			
Mand M3	+ (in situ)			Cuneiform int			
				Cuneiform lat			
				Scaphoid			
				Foot Phalanges	P I	D	

=unsided P=proximal, I=intermediate, D=distal

Human Skeletal Remains - Inventory

McClamory Key (8LV288), Levy County, Florida

Burial/Feature #: 3							
	Left / Middle	**Right**	**notes**		**Left / Middle**	**Right**	**notes**
Frontal	+			Hyoid			
Parietal	++			Sternum			
Temporal	+			Manubrium			
Occipital	+			Ribs			
Sphenoid				**Cervical**	+		
Ethmoid/Vomer				**Thoracic**	+		
Lacrimal				Lumbar			
Nasal				Sacrum			
Zygomatic				Clavicle			
Maxilla				**Scapula**		+	
Palatine				Humerus			
Ear Ossicles				Radius			
Mandible	+			Ulna			
Max I1	+ (loose)	+ (loose)		Metacarpals			
Max I2	+ (loose)	+ (loose)		Scaphoid			
Max C				Lunate			
Max P3	+ (loose)	+ (loose)	*UP3 trait	Triquetral			
Max P4	+ (loose)			Pisiform			
Max M1	+ (loose)	+ (loose)		Trapezium			
Max M2		+ (loose)		**Trapezoid**		+	
Max M3	+ (loose)	+ (loose)		Capitate			
				Hamate			
				Hand Phalanges	P + I +	D	
'stray' upper premolar (wear=6)				Os Coxa			
				Femur	= +		
				Patella			
Mand I1	+ (loose)	+ (loose)		**Tibia**	= +		
Mand I2				Fibula			
Mand C	+ (loose)			Metatarsals			
Mand P3	+ (loose)	+ (loose)		Talus			
Mand P4	+ (loose)			Calcaneus			
Mand M1	+ (loose)	+ (loose)		Cuboid			
Mand M2		+ (loose)		Cuneiform med			
Mand M3	+ (loose)	+ (loose)		Cuneiform int			
				Cuneiform lat			
				Scaphoid			
				Foot Phalanges	P I	D	

=unsided P=proximal, I=intermediate, D=distal

Human Skeletal Remains - Inventory

McClamory Key (8LV288), Levy County, Florida

Burial/Feature #: 4							
	Left / Middle	**Right**	**notes**		**Left / Middle**	**Right**	**notes**
Frontal	+			Hyoid			
Parietal	++			Sternum			
Temporal	++	++	mastoid=2	Manubrium			
Occipital				Ribs			
Sphenoid				Cervical			
Ethmoid/Vomer				**Thoracic**	+		
Lacrimal				Lumbar			
Nasal				Sacrum			
Zygomatic				Clavicle			
Maxilla				Scapula			
Palatine				Humerus			
Ear Ossicles				**Radius**	= +		
Mandible	+		mends	**Ulna**	= +		
Max I1	+ (frag.)	+ (loose)		**Metacarpals**	= +		
Max I2	+ (loose)	+ (loose)		Scaphoid			
Max C	+ (loose)	+ (loose)		Lunate			
Max P3		+ (loose)	*UP3 trait	Triquetral			
Max P4	+ (loose)	+ (loose)		Pisiform			
Max M1	+ (loose)	+ (loose)		Trapezium			
Max M2	+ (loose)	+ (loose)		Trapezoid			
Max M3	+ (loose)	+ (loose)		Capitate			
				Hamate			
				Hand Phalanges	P I	D	
				Os Coxa			
				Femur	= +		
				Patella			
Mand I1				**Tibia**	= +		
Mand I2				Fibula			
Mand C	+ (loose)	+ (loose)		Metatarsals			
Mand P3	+ (loose)	+ (loose)		Talus			
Mand P4	+ (loose)	+ (loose)		Calcaneus			
Mand M1	+ (in situ)	+ (loose)	Left	Cuboid			
Mand M2	+ (in situ)	+ (loose)	Mandible	Cuneiform med			
Mand M3	+ (in situ)	+ (loose)	Fragment	Cuneiform int			
				Cuneiform lat			
				Scaphoid			
				Foot Phalanges	P I	D	

=unsided P=proximal, I=intermediate, D=distal

Human Skeletal Remains - Inventory

McClamory Key (8LV288), Levy County, Florida

Burial/Feature #: 5							
	Left / Middle	**Right**	**notes**		**Left / Middle**	**Right**	**notes**
Frontal	+		Very	Hyoid			
Parietal	+	+	Fragmentary	Sternum			
Temporal	+	+	Subadult	Manubrium			
Occipital	+		Skull	Ribs			
Sphenoid				**Cervical**	+		dens'
Ethmoid/Vomer				Thoracic			
Lacrimal				Lumbar			
Nasal				Sacrum			
Zygomatic				Clavicle			
Maxilla				Scapula			
Palatine				Humerus			
Ear Ossicles				Radius			
Mandible				Ulna			
Max I1	+ (loose)	+ (loose)	* LEH	Metacarpals			
Max I2	+ (loose)	+ (loose)		Scaphoid			
Max C	+ (loose)	+ (loose)	* LEH	Lunate			
Max P3	+ (loose)	+ (loose)	*?UP3 trait	Triquetral			
Max P4	+ (loose)	+ (loose)		Pisiform			
Max M1	+ (loose)	+ (loose)	* LEH	Trapezium			
Max M2	+ (loose)	+ (loose)		Trapezoid			
Max M3		+ (loose)		Capitate			
				Hamate			
				Hand Phalanges	P I	D	
				Os Coxa			
				Femur			
				Patella			
Mand I1	+ (loose)	+ (loose)		Tibia			
Mand I2	+ (loose)	+ (loose)		Fibula			
Mand C	+ (loose)	+ (loose)		Metatarsals			
Mand P3	+ (loose)	+ (loose)		Talus			
Mand P4	+ (loose)	+ (loose)		Calcaneus			
Mand M1	+ (loose)	+ (loose)		Cuboid			
Mand M2	+ (loose)	+ (loose)		Cuneiform med			
Mand M3	+ (loose)	+ (loose)		Cuneiform int			
				Cuneiform lat			
				Scaphoid			
				Foot Phalanges	P I	D	

=unsided P=proximal, I=intermediate, D=distal

Human Skeletal Remains - Inventory

McClamory Key (8LV288), Levy County, Florida

Burial/Feature #: 6							
	Left / Middle	**Right**	**notes**		**Left / Middle**	**Right**	**notes**
Frontal				Hyoid			
Parietal	+	+		Sternum			
Temporal	+		mastoid=1	Manubrium			
Occipital				Ribs			
Sphenoid				Cervical			
Ethmoid/Vomer				Thoracic			
Lacrimal				Lumbar			
Nasal				Sacrum			
Zygomatic				Clavicle			
Maxilla		+		Scapula			
Palatine				**Humerus**		= +	
Ear Ossicles				**Radius**		= +	
Mandible				**Ulna**		= +	
Max I1	+ (loose)	+ (loose)		Metacarpals			
Max I2		+ (loose)		**Scaphoid**		+	
Max C				**Lunate**		+	
Max P3		+ (loose)		Triquetral			
Max P4				Pisiform			
Max M1				Trapezium			
Max M2				Trapezoid			
Max M3				Capitate			
				Hamate			
				Hand Phalanges	P + I +	D	
				Os Coxa			
				Femur		= +	
				Patella			
Mand I1				**Tibia**	+		
Mand I2				**Fibula**		= +	
Mand C				Metatarsals			
Mand P3				Talus			
Mand P4				Calcaneus			
Mand M1				Cuboid			
Mand M2				Cuneiform med			
Mand M3				Cuneiform int			
				Cuneiform lat			
				Scaphoid			
				Foot Phalanges	P I	D	

=unsided P=proximal, I=intermediate, D=distal

Human Skeletal Remains - Inventory

McClamory Key (8LV288), Levy County, Florida

Burial/Feature #: 7							
	Left / Middle	**Right**	**notes**		**Left / Middle**	**Right**	**notes**
Frontal	+			Hyoid			
Parietal	+			Sternum			
Temporal	+	+	mastoid=2	Manubrium			
Occipital				Ribs			
Sphenoid				Cervical			
Ethmoid/Vomer				Thoracic			
Lacrimal				Lumbar			
Nasal				Sacrum			
Zygomatic				Clavicle			
Maxilla	+			Scapula			
Palatine				Humerus			
Ear Ossicles				Radius			
Mandible	+			Ulna			
Max I1		+ (loose)		Metacarpals			
Max I2		+ (loose)		Scaphoid			
Max C		+ (loose)		Lunate			
Max P3	+ (in situ)	+ (frag.)		Triquetral			
Max P4	+ (loose)	+ (loose)		Pisiform			
Max M1	+ (loose)	+ (loose)		Trapezium			
Max M2	+ (loose)	+ (loose)		Trapezoid			
Max M3				Capitate			
				Hamate			
'stray' right deciduous max m2				Hand Phalanges	P I	D	
				Os Coxa			
				Femur			
				Patella			
Mand I1		+ (loose)		Tibia			
Mand I2		+ (loose)		Fibula			
Mand C	+ (loose)	+ (loose)		Metatarsals			
Mand P3	+ (loose)	+ (loose)		Talus			
Mand P4	+ (loose)	+ (loose)		Calcaneus			
Mand M1	+ (loose)	+ (loose)		Cuboid			
Mand M2	+ (loose)	+ (in situ)		Cuneiform med			
Mand M3		+ (in situ)		Cuneiform int			
				Cuneiform lat			
				Scaphoid			
				Foot Phalanges	P I	D	

=unsided P=proximal, I=intermediate, D=distal

Human Skeletal Remains - Inventory

McClamory Key (8LV288), Levy County, Florida

Burial/Feature #: 7A

	Left / Middle	Right	notes		Left / Middle	Right	notes
Frontal				Hyoid			
Parietal		= +		Sternum			
Temporal				Manubrium			
Occipital				Ribs			
Sphenoid				Cervical			
Ethmoid/Vomer				Thoracic			
Lacrimal				Lumbar			
Nasal				Sacrum			
Zygomatic				Clavicle			
Maxilla				Scapula			
Palatine				Humerus			
Ear Ossicles				**Radius**		+	
Mandible				Ulna			
Max I1				Metacarpals			
Max I2				Scaphoid			
Max C				Lunate			
Max P3				Triquetral			
Max P4				Pisiform			
Max M1				Trapezium			
Max M2				Trapezoid			
Max M3				Capitate			
				Hamate			
				Hand Phalanges	P I	D	
				Os Coxa			
				Femur		= +	
				Patella			
Mand I1				**Tibia**		= +	
Mand I2				Fibula			
Mand C				Metatarsals			
Mand P3		= +		**Talus**		= +	
Mand P4		= +		Calcaneus			
Mand M1				Cuboid			
Mand M2				Cuneiform med			
Mand M3				Cuneiform int			
				Cuneiform lat			
				Scaphoid		+	
				Foot Phalanges	P I	D	

=unsided P=proximal, I=intermediate, D=distal

Human Skeletal Remains - Inventory

McClamory Key (8LV288), Levy County, Florida

Burial/Feature #: 8							
	Left / Middle	**Right**	**notes**		**Left / Middle**	**Right**	**notes**
Frontal	+			Hyoid			
Parietal				Sternum			
Temporal	+		mastoid=2	Manubrium			
Occipital	+			Ribs			
Sphenoid				Cervical			
Ethmoid/Vomer				Thoracic			
Lacrimal				Lumbar			
Nasal				Sacrum			
Zygomatic				Clavicle			
Maxilla				Scapula			
Palatine				Humerus			
Ear Ossicles				Radius			
Mandible	++	+	chin=2	Ulna			
Max I1		+ (loose)		**Metacarpals**	= +		
Max I2	+ (loose)			Scaphoid			
Max C		+ (loose)	* LEH	Lunate			
Max P3				Triquetral			
Max P4				Pisiform			
Max M1	+ (loose)			Trapezium			
Max M2				Trapezoid			
Max M3				Capitate			
				Hamate			
				Hand Phalanges	P I	D	
				Os Coxa			
				Femur			
				Patella			
Mand I1	+ (in situ)	+ (in situ)		Tibia			
Mand I2	+ (in situ)	+ (loose)		Fibula			
Mand C	+ (in situ)	+ (loose)		Metatarsals			
Mand P3	+ (in situ)	+ (loose)		Talus			
Mand P4	~	+ (loose)		Calcaneus			
Mand M1	+ (in situ)	+ (loose)		Cuboid			
Mand M2	+ (in situ)			Cuneiform med			
Mand M3	+ (loose)		?upper	Cuneiform int			
				Cuneiform lat			
'stray' worn lower canine?				Scaphoid			
				Foot Phalanges	P I	D	

=unsided P=proximal, I=intermediate, D=distal ~broken at root

Human Skeletal Remains - Inventory

McClamory Key (8LV288), Levy County, Florida

Burial/Feature #: 9-1							
	Left / Middle	**Right**	**notes**		**Left / Middle**	**Right**	**notes**
Frontal				Hyoid			
Parietal	+			Sternum			
Temporal	+			Manubrium			
Occipital				Ribs			
Sphenoid				**Cervical**	+		
Ethmoid/Vomer				**Thoracic**	+		
Lacrimal				**Lumbar**	+		
Nasal				Sacrum			
Zygomatic	+			Clavicle			
Maxilla				Scapula			
Palatine				Humerus			
Ear Ossicles				Radius			
Mandible	+			Ulna			
Max I1	+ (loose)			Metacarpals			
Max I2	+ (loose)			Scaphoid			
Max C	+ (loose)			Lunate			
Max P3	+ (loose)			Triquetral			
Max P4	+ (loose)			Pisiform			
Max M1				Trapezium			
Max M2				Trapezoid			
Max M3				Capitate			
				Hamate			
Teeth (n=11) include 5 Is, 3 Cs, 2 Ps, 1 M				Hand Phalanges	P I	D	
				Os Coxa			
				Femur	+		
				Patella			
Mand I1				**Tibia**	+		
Mand I2	+ (loose)	+ (loose)		Fibula			
Mand C		+ (loose)		Metatarsals			
Mand P3				Talus			
Mand P4				Calcaneus			
Mand M1				Cuboid			
Mand M2		+ (loose)		Cuneiform med			
Mand M3				Cuneiform int			
				Cuneiform lat			
				Scaphoid			
				Foot Phalanges	P I	D	

=unsided P=proximal, I=intermediate, D=distal

Human Skeletal Remains - Inventory

McClamory Key (8LV288), Levy County, Florida

Burial/Feature #: 9-2							
	Left / Middle	**Right**	**notes**		**Left / Middle**	**Right**	**notes**
Frontal				Hyoid			
Parietal				Sternum			
Temporal				Manubrium			
Occipital				Ribs			
Sphenoid				Cervical			
Ethmoid/Vomer				Thoracic			
Lacrimal				Lumbar			
Nasal				Sacrum			
Zygomatic				Clavicle			
Maxilla				Scapula			
Palatine				Humerus			
Ear Ossicles				Radius			
Mandible				Ulna			
Max I1	+ (loose)	+ (loose)		Metacarpals			
Max I2	+ (loose)			Scaphoid			
Max C	+ (loose)	+ (loose)		Lunate			
Max P3	+ (loose)	+ (loose)		Triquetral			
Max P4	+ (loose)			Pisiform			
Max M1	+ (loose)			Trapezium			
Max M2				Trapezoid			
Max M3	+ (loose)			Capitate			
				Hamate			
				Hand Phalanges	P I	D	
age: adolescent (12-13 yrs +/-)				Os Coxa			
				Femur			
				Patella			
Mand I1	+ (loose)	+ (loose)		Tibia			
Mand I2	+ (loose)			Fibula			
Mand C	+ (loose)	+ (loose)		Metatarsals			
Mand P3	+ (loose)	+ (loose)		Talus			
Mand P4	+ (loose)	+ (loose)		Calcaneus			
Mand M1	+ (loose)	+ (loose)		Cuboid			
Mand M2	+ (loose)	+ (loose)		Cuneiform med			
Mand M3				Cuneiform int			
				Cuneiform lat			
				Scaphoid			
				Foot Phalanges	P I	D	
				nb. Assoc. postcranial remains are Middle Adult?			

=unsided P=proximal, I=intermediate, D=distal

Human Skeletal Remains - Inventory

McClamory Key (8LV288), Levy County, Florida

Burial/Feature #: 10							
	Left / Middle	**Right**	**notes**		**Left / Middle**	**Right**	**notes**
Frontal	++		brow=1	Hyoid			
Parietal	++	++		Sternum			
Temporal	+	+		Manubrium			
Occipital				Ribs			
Sphenoid				Cervical			
Ethmoid/Vomer				Thoracic			
Lacrimal				Lumbar			
Nasal				Sacrum			
Zygomatic				Clavicle			
Maxilla		+		Scapula			
Palatine				Humerus			
Ear Ossicles				Radius			
Mandible	+	+	chin=2	Ulna			
Max I1	+ (loose)	+ (loose)		**Metacarpals**	= ++		
Max I2	+ (loose)	+ (loose)		Scaphoid			
Max C	+ (loose)	+ (loose)		Lunate			
Max P3	+ (loose)			Triquetral			
Max P4	+ (loose)			Pisiform			
Max M1	+ (loose)	+ (loose)		Trapezium			
Max M2	+ (loose)	+ (loose)		Trapezoid			
Max M3		+ (loose)		Capitate			
				Hamate			
Teeth (n=28) include 11 Is, 3C, 5 Ps, 9 Ms				Hand Phalanges	P I	D	
Teeth need additional work to confirm id's				Os Coxa			
(may be some 'stray' teeth)				**Femur**	= ++		
				Patella			
Mand I1	+ (loose)	+ (loose)		**Tibia**	= ++		
Mand I2	+ (loose)	+ (loose)		Fibula			
Mand C	+ (loose)	+ (loose)		Metatarsals			
Mand P3	+ (loose)	+ (loose)		Talus			
Mand P4	+ (loose)	+ (loose)		Calcaneus			
Mand M1	+ (loose)	+ (loose)		Cuboid			
Mand M2	+ (loose)			Cuneiform med			
Mand M3		+ (loose)		Cuneiform int			
				Cuneiform lat			
				Scaphoid			
				Foot Phalanges	P I	D	
				nb. >300 unidentifiable postcranial fragments			

=unsided P=proximal, I=intermediate, D=distal

Human Skeletal Remains - Inventory

McClamory Key (8LV288), Levy County, Florida

Burial/Feature #: 11+11A							
	Left / Middle	**Right**	**notes**		**Left / Middle**	**Right**	**notes**
Frontal				Hyoid			
Parietal				Sternum			
Temporal				Manubrium			
Occipital				Ribs			
Sphenoid				Cervical			
Ethmoid/Vomer				**Thoracic**	+		
Lacrimal				**Lumbar**	+		
Nasal				Sacrum			
Zygomatic				Clavicle			
Maxilla				Scapula			
Palatine				**Humerus**	= +		
Ear Ossicles				Radius			
Mandible	++		chin=4	**Ulna**	= +		
Max I1				Metacarpals			
Max I2				**Scaphoid**		+	
Max C				**Lunate**		+	
Max P3				Triquetral			
Max P4				Pisiform			
Max M1				Trapezium			
Max M2				Trapezoid			
Max M3				Capitate			
				Hamate			
				Hand Phalanges	P I	D	
				Os Coxa			
				Femur	+		
				Patella			
Mand I1	~			**Tibia**	+		
Mand I2	~ root			Fibula			
Mand C	~ + (loose)			Metatarsals			
Mand P3	~ root			Talus			
Mand P4	~			Calcaneus			
Mand M1	~			Cuboid			
Mand M2				Cuneiform med			
Mand M3				Cuneiform int			
				Cuneiform lat			
				Scaphoid			
				Foot Phalanges	P I	D	

=unsided P=proximal, I=intermediate, D=distal ~ broken, lost postmortem.

Human Skeletal Remains - Inventory

McClamory Key (8LV288), Levy County, Florida

Burial/Feature #: 12							
	Left / Middle	**Right**	**notes**		**Left / Middle**	**Right**	**notes**
Frontal	+			Hyoid			
Parietal	+			Sternum			
Temporal				Manubrium			
Occipital	+			Ribs			
Sphenoid				Cervical			
Ethmoid/Vomer				Thoracic			
Lacrimal				Lumbar			
Nasal				Sacrum			
Zygomatic				Clavicle			
Maxilla				Scapula			
Palatine				Humerus			
Ear Ossicles				Radius			
Mandible		+		**Ulna**	+		
Max I1	+ (loose)	+ (loose)		Metacarpals			
Max I2	+ (loose)			Scaphoid			
Max C	+ (loose)			Lunate			
Max P3	+ (loose)	+ (loose)	*UP3 trait	Triquetral			
Max P4	+ (loose)	+ (loose)		Pisiform			
Max M1	+ (loose)	+ (loose)		Trapezium			
Max M2	+ (loose)	+ (loose)		Trapezoid			
Max M3	+ (loose)	+ (loose)		Capitate			
				Hamate			
Teeth (N=25) = child, 16 yrs +/-				Hand Phalanges	P I	D	
				Os Coxa			
				Femur	+		
				Patella			
Mand I1	+ (loose)	+ (loose)		Tibia			
Mand I2		+ (loose)		Fibula			
Mand C		~ (in situ)		**Metatarsals**	+		
Mand P3	+ (loose)	+ (in situ)		Talus			
Mand P4	+ (loose)	+ (in situ)		Calcaneus			
Mand M1	+ (loose)	+ (loose)		Cuboid			
Mand M2	+ (loose)	+ (loose)		Cuneiform med			
Mand M3	+ (loose)	+ (loose)		Cuneiform int			
				Cuneiform lat			
				Scaphoid			
				Foot Phalanges	P I	D	

=unsided P=proximal, I=intermediate, D=distal

Human Skeletal Remains - Inventory

McClamory Key (8LV288), Levy County, Florida

Burial/Feature #: 12A

	Left / Middle	Right	notes		Left / Middle	Right	notes
Frontal				Hyoid			
Parietal				Sternum			
Temporal				Manubrium			
Occipital				Ribs			
Sphenoid				Cervical			
Ethmoid/Vomer				**Thoracic**	+		
Lacrimal				**Lumbar**	+		
Nasal				Sacrum			
Zygomatic				**Clavicle**	+		
Maxilla				Scapula			
Palatine				Humerus			
Ear Ossicles				Radius			
Mandible	++		chin=4	Ulna			
Max I1				**Metacarpals**	+		
Max I2				**Scaphoid**	+	+	
Max C				Lunate			
Max P3				Triquetral			right
Max P4				Pisiform			hand/wrist
Max M1				**Trapezium**		+	(some left?)
Max M2				Trapezoid			
Max M3				**Capitate**		+	
				Hamate			
				Hand Phalanges	P + I +	D	
				Os Coxa			
				Femur			
				Patella			
Mand I1				Tibia			
Mand I2				Fibula			
Mand C				Metatarsals			
Mand P3	+ (in situ)			Talus			
Mand P4	+ (in situ)			Calcaneus			
Mand M1	+ (in situ)			Cuboid			
Mand M2	+ (in situ)			Cuneiform med			
Mand M3	+ (loose)			Cuneiform int			
				Cuneiform lat			
				Scaphoid			
				Foot Phalanges	P I	D	

=unsided P=proximal, I=intermediate, D=distal

Human Skeletal Remains - Inventory

McClamory Key (8LV288), Levy County, Florida

Burial/Feature #: 12A

	Left / Middle	Right	notes		Left / Middle	Right	notes
Frontal				Hyoid			
Parietal				Sternum			
Temporal				Manubrium			
Occipital				Ribs			
Sphenoid				Cervical			
Ethmoid/Vomer				**Thoracic**	+		
Lacrimal				**Lumbar**	+		
Nasal				Sacrum			
Zygomatic				**Clavicle**	+		
Maxilla				Scapula			
Palatine				Humerus			
Ear Ossicles				Radius			
Mandible	++		chin=4	Ulna			
Max I1				**Metacarpals**	+		
Max I2				**Scaphoid**	+	+	
Max C				Lunate			
Max P3				Triquetral			right
Max P4				Pisiform			hand/wrist
Max M1				**Trapezium**		+	(some left?)
Max M2				Trapezoid			
Max M3				**Capitate**		+	
				Hamate			
				Hand Phalanges	P + I +	D	
				Os Coxa			
				Femur			
				Patella			
Mand I1				Tibia			
Mand I2				Fibula			
Mand C				Metatarsals			
Mand P3	+ (in situ)			Talus			
Mand P4	+ (in situ)			Calcaneus			
Mand M1	+ (in situ)			Cuboid			
Mand M2	+ (in situ)			Cuneiform med			
Mand M3	+ (loose)			Cuneiform int			
				Cuneiform lat			
				Scaphoid			
				Foot Phalanges	P I	D	

=unsided P=proximal, I=intermediate, D=distal

Human Skeletal Remains - Inventory

McClamory Key (8LV288), Levy County, Florida

Burial/Feature #: 12B							
	Left / Middle	**Right**	**notes**		**Left / Middle**	**Right**	**notes**
Frontal	+		brow=2	Hyoid			
Parietal	+			Sternum			
Temporal	+			Manubrium			
Occipital				**Ribs**	+		
Sphenoid				**Cervical**	+ (C2)		dens
Ethmoid/Vomer				Thoracic			
Lacrimal				Lumbar			
Nasal				Sacrum			
Zygomatic	+			Clavicle			
Maxilla				Scapula			
Palatine				Humerus			
Ear Ossicles				Radius			
Mandible	++	+	chin=2	Ulna			
Max I1	+ (loose)	+ (loose)		Metacarpals			
Max I2		+ (loose)		Scaphoid			
Max C	+ (loose)	+ (in situ)		Lunate			
Max P3	+ (in situ)	+ (in situ)	*UP3	Triquetral			
Max P4	+ (in situ)	+ (in situ)		Pisiform			
Max M1	+ (loose)	+ (in situ)		Trapezium			
Max M2	+ (loose)	+ (loose)		Trapezoid			
Max M3	+ (loose)	+ (loose)		Capitate			
				Hamate			
				Hand Phalanges	P I	D	
				Os Coxa			
				Femur	= +		shaft
				Patella			
Mand I1	+ (loose)	+ (loose)		Tibia			
Mand I2	+ (loose)	+ (loose)		Fibula			
Mand C		+ (loose)		Metatarsals			
Mand P3	+ (loose)	+ (loose)		Talus			
Mand P4	+ (loose)	+ (loose)		Calcaneus			
Mand M1	+ (loose)	+ (in situ)		Cuboid			
Mand M2	+ (loose)	+ (in situ)		Cuneiform med			
Mand M3	+ (loose)	+ (loose)		Cuneiform int			
				Cuneiform lat			
				Scaphoid			
				Foot Phalanges	P I	D	

=unsided P=proximal, I=intermediate, D=distal

Human Skeletal Remains - Inventory

McClamory Key (8LV288), Levy County, Florida

Burial/Feature #: 13							
	Left / Middle	**Right**	**notes**		**Left / Middle**	**Right**	**notes**
Frontal	+		orbit=2	Hyoid			
Parietal				Sternum			
Temporal		+	mastoid=2	Manubrium			
Occipital				Ribs			
Sphenoid				Cervical			
Ethmoid/Vomer				Thoracic			
Lacrimal				Lumbar			
Nasal				Sacrum			
Zygomatic	+			Clavicle			
Maxilla				**Scapula**		= +	
Palatine				**Humerus**		+	
Ear Ossicles				Radius			
Mandible	+		chin=1	Ulna			
Max I1	+ (loose)	+ (loose)		Metacarpals			
Max I2	+ (loose)			Scaphoid			
Max C	+ (loose)	+ (loose)		Lunate			
Max P3	+ (loose)	+ (loose)		Triquetral			
Max P4	+ (loose)	+ (loose)		Pisiform			
Max M1	+ (loose)	+ (loose)		Trapezium			
Max M2	+ (loose)	+ (loose)		Trapezoid			
Max M3		+ (loose)		Capitate			
				Hamate			
				Hand Phalanges	P I	D	
				Os Coxa			
				Femur			
				Patella			
Mand I1	+ (loose)	+ (loose)	*wear	Tibia			
Mand I2	+ (loose)	+ (loose)		Fibula			
Mand C	+ (loose)	+ (loose)		Metatarsals			
Mand P3	+ (loose)	+ (loose)		Talus			
Mand P4	+ (loose)	+ (loose)		Calcaneus			
Mand M1	+ (in situ)	+ (loose)		Cuboid			
Mand M2	+ (loose)			Cuneiform med			
Mand M3	+ (loose)			Cuneiform int			
				Cuneiform lat			
				Scaphoid			
				Foot Phalanges	P I	D	
				nb. Moderate postcranial frags (60+)			

=unsided P=proximal, I=intermediate, D=distal

Human Skeletal Remains - Inventory

McClamory Key (8LV288), Levy County, Florida

Burial/Feature #: 14							
	Left / Middle	Right	notes		Left / Middle	Right	notes
Frontal	+			Hyoid			
Parietal	+	+	skull frags	Sternum			
Temporal			only (n=25+)	Manubrium			
Occipital	+			Ribs			
Sphenoid				Cervical			
Ethmoid/Vomer				Thoracic			
Lacrimal				Lumbar			
Nasal				Sacrum			
Zygomatic				Clavicle			
Maxilla				Scapula			
Palatine				Humerus			
Ear Ossicles				Radius			
Mandible				Ulna			
Max I1				Metacarpals			
Max I2				Scaphoid			
Max C				Lunate			
Max P3				Triquetral			
Max P4				Pisiform			
Max M1				Trapezium			
Max M2				Trapezoid			
Max M3				Capitate			
d max i1				Hamate			
d max i2				Hand Phalanges	P I	D	
d max c				Os Coxa			
d max m1				Femur			
d max m2				Patella			
Mand I1				Tibia			
Mand I2				Fibula			
Mand C				Metatarsals			
Mand P3				Talus			
Mand P4				Calcaneus			
Mand M1				Cuboid			
Mand M2				Cuneiform med			
Mand M3				Cuneiform int			
d mand i1				Cuneiform lat			
d mand i2				Scaphoid			
d mand c				Foot Phalanges	P I	D	
d mand m1							
d mand m2							

=unsided P=proximal, I=intermediate, D=distal

Human Skeletal Remains - Inventory

McClamory Key (8LV288), Levy County, Florida

Burial/Feature #: 15-1							
	Left / Middle	**Right**	**notes**		**Left / Middle**	**Right**	**notes**
Frontal				Hyoid			
Parietal	+			Sternum			
Temporal				Manubrium			
Occipital				Ribs			
Sphenoid				Cervical			
Ethmoid/Vomer				Thoracic			
Lacrimal				**Lumbar**	+ (15+ frags)		
Nasal				**Sacrum**	+		
Zygomatic				**Clavicle**	+		
Maxilla	+			**Scapula**		+	glenoid
Palatine				Humerus			
Ear Ossicles				**Radius**		+ +	
Mandible	++	+++	chin=4	**Ulna**	+	+	
Max I1	+ (loose)			Metacarpals			
Max I2	+ (loose)			**Scaphoid**		+	
Max C		+ (loose)		Lunate			Right
Max P3				Triquetral			hand/wrist
Max P4				Pisiform			
Max M1				**Trapezium**		+	
Max M2				Trapezoid			
Max M3				Capitate			
d max i1				Hamate			
d max i2				**Hand Phalanges**	P I ++	D +	
d max c				**Os Coxa**	+ (incl. sciatic notch)		male
d max m1				**Femur**	+ (prox.)		
d max m2				Patella			
Mand I1	+ (loose)	+ (loose)		Tibia			
Mand I2	+ (loose)	+ (loose)		Fibula			
Mand C	+ (in situ)	+ (loose)		Metatarsals			
Mand P3	+ (in situ)	+ (in situ)		**Talus**	+	+	
Mand P4	+ (in situ)	+ (in situ)		Calcaneus			
Mand M1	+ (in situ)	+ (in situ)		Cuboid			
Mand M2	+ (in situ)	+ (in situ)		Cuneiform med			
Mand M3	+ (in situ)	+ (in situ)		Cuneiform int			
d mand i1				Cuneiform lat			
d mand i2				Scaphoid			
d mand c				Foot Phalanges	P I	D	
d mand m1							
d mand m2				nb. 'stray premolar' (not included in MNI)			

=unsided P=proximal, I=intermediate, D=distal

Human Skeletal Remains - Inventory

McClamory Key (8LV288), Levy County, Florida

Burial/Feature #: 15-2

	Left / Middle	Right	notes		Left / Middle	Right	notes
Frontal				Hyoid			
Parietal				Sternum			
Temporal				Manubrium			
Occipital				Ribs			
Sphenoid				**Cervical**	+		
Ethmoid/Vomer				Thoracic			
Lacrimal				Lumbar			
Nasal				Sacrum			
Zygomatic				Clavicle			
Maxilla				Scapula			
Palatine				Humerus			
Ear Ossicles				Radius			
Mandible	+			Ulna			
Max I1				Metacarpals			
Max I2				Scaphoid			
Max C				Lunate			
Max P3				Triquetral			
Max P4				Pisiform			
Max M1	+ (loose)		unerupted	Trapezium			
Max M2				Trapezoid			
Max M3	Teeth (N=8) = child, 6 yrs +/- 12 mos.			Capitate			
d max i1				Hamate			
d max i2				Hand Phalanges	P I	D	
d max c		+ (loose)	*wear	Os Coxa			
d max m1				Femur			
d max m2				Patella			
Mand I1		+ (loose)	unerupted	Tibia			
Mand I2				Fibula			
Mand C	+ (loose)	+ (loose)	unerupted	Metatarsals			
Mand P3	+ (loose)	+ (loose)	unerupted	Talus			
Mand P4	+ (loose)	+ (loose)	unerupted	Calcaneus			
Mand M1	+ (loose)	+ (loose)	unerupted	Cuboid			
Mand M2	+ (loose)	+ (loose)	unerupted	Cuneiform med			
Mand M3				Cuneiform int			
d mand i1				Cuneiform lat			
d mand i2				Scaphoid			
d mand c				Foot Phalanges	P I	D	
d mand m1	+ (loose)						
d mand m2							

=unsided P=proximal, I=intermediate, D=distal

Human Skeletal Remains - Inventory

McClamory Key (8LV288), Levy County, Florida

Burial/Feature #: 16							
	Left / Middle	**Right**	**notes**		**Left / Middle**	**Right**	**notes**
Frontal	++		brow=3	Hyoid			
Parietal	+	+		Sternum			
Temporal	++	+	mastoid=4	Manubrium			
Occipital	+			Ribs			
Sphenoid				Cervical			
Ethmoid/Vomer				Thoracic			
Lacrimal				Lumbar			
Nasal				Sacrum			
Zygomatic				Clavicle			
Maxilla				Scapula			
Palatine				**Humerus**		= +	
Ear Ossicles				Radius			
Mandible	+			Ulna			
Max I1	+ (loose)	+ (loose)		Metacarpals			
Max I2	+ (loose)	+ (loose)		Scaphoid			
Max C	+ (loose)	+ (loose)		Lunate			
Max P3	+ (loose)	+ (loose)		Triquetral			
Max P4	+ (loose)	+ (loose)		Pisiform			
Max M1	+ (loose)	+ (loose)		Trapezium			
Max M2	+ (loose)	+ (loose)		Trapezoid			
Max M3	+ (loose)	+ (loose)		Capitate			
				Hamate			
				Hand Phalanges	P I	D	
				Os Coxa			
				Femur			
				Patella			
Mand I1	+ (loose)	+ (loose)		**Tibia**		= +	
Mand I2	+ (loose)	+ (loose)		Fibula			
Mand C	+ (loose)	+ (loose)	*check	Metatarsals			
Mand P3	+ (loose)	+ (loose)		Talus			
Mand P4	+ (loose)	+ (loose)		Calcaneus			
Mand M1	+ (loose)	+ (loose)		Cuboid			
Mand M2	+ (loose)	+ (loose)		Cuneiform med			
Mand M3	+ (loose)	+ (loose)		Cuneiform int			
				Cuneiform lat			
				Scaphoid			
				Foot Phalanges	P I	D	
				nb. MANY (200+) unidentifiable postcranial fragments			
	=unsided	P=proximal, I=intermediate, D=distal					

Human Skeletal Remains - Inventory

McClamory Key (8LV288), Levy County, Florida

Burial/Feature #: 17							
	Left / Middle	**Right**	**notes**		**Left / Middle**	**Right**	**notes**
Frontal	+		L. orbit=2	Hyoid			
Parietal	++			Sternum			
Temporal				Manubrium			
Occipital	++			Ribs			
Sphenoid				Cervical			
Ethmoid/Vomer				Thoracic			
Lacrimal				Lumbar			
Nasal				Sacrum			
Zygomatic				Clavicle			
Maxilla		+		Scapula			
Palatine				Humerus			
Ear Ossicles				Radius			
Mandible	++	+	chin=2	**Ulna**		+	midshaft
Max I1				Metacarpals			
Max I2				**Scaphoid**	+		
Max C				Lunate			
Max P3				Triquetral			
Max P4				Pisiform			
Max M1		= +		Trapezium			Left
Max M2		= +		**Trapezoid**	+		wrist/hand
Max M3				**Capitate**	+		
				Hamate			
Teeth (N=14) very worn				**Hand Phalanges**	P + I +	D	
				Os Coxa			
				Femur		+ =	
				Patella			
Mand I1	~	~		**Tibia**		+ =	
Mand I2	~	~		Fibula			
Mand C	~	AMTL		Metatarsals			
Mand P3	~			Talus			
Mand P4	~			Calcaneus			
Mand M1	~	~ +		Cuboid			
Mand M2	~	~		Cuneiform med			
Mand M3				Cuneiform int			
				Cuneiform lat			
				Scaphoid			
				Foot Phalanges	P I	D	
	AMTL = Antemortem Tooth Loss			nb. MANY (200+) unidentifiable postcranial fragments			
	=unsided	P=proximal, I=intermediate, D=distal		~ bone/broken roots/no teeth			

Human Skeletal Remains - Inventory

McClamory Key (8LV288), Levy County, Florida

Burial/Feature #: 18							
	Left / Middle	**Right**	**notes**		**Left / Middle**	**Right**	**notes**
Frontal				Hyoid			
Parietal				Sternum			
Temporal				Manubrium			
Occipital				Ribs			
Sphenoid				Cervical			
Ethmoid/Vomer				Thoracic			
Lacrimal				Lumbar			
Nasal				Sacrum			
Zygomatic				Clavicle			
Maxilla				Scapula			
Palatine				Humerus			
Ear Ossicles				Radius			
Mandible	++	+	chin=2	Ulna			
Max I1				Metacarpals			
Max I2				Scaphoid			
Max C				Lunate			
Max P3				Triquetral			
Max P4				Pisiform			
Max M1				Trapezium			
Max M2				Trapezoid			
Max M3				Capitate			
				Hamate			
Teeth (N=11+) very worn, include 4 Is, 2 Ps, 1 M				Hand Phalanges	P I	D	
				Os Coxa			
				Femur			
				Patella			
Mand I1	AMTL	AMTL		Tibia			
Mand I2	AMTL	~ *path?		Fibula			
Mand C	~ *path?			Metatarsals			
Mand P3	~			Talus			
Mand P4	~			Calcaneus			
Mand M1	AMTL			Cuboid			
Mand M2	AMTL			Cuneiform med			
Mand M3				Cuneiform int			
				Cuneiform lat			
				Scaphoid			
				Foot Phalanges	P I	D	
	AMTL = Antemortem Tooth Loss						
	=unsided	P=proximal, I=intermediate, D=distal			~ bone/broken roots/no teeth		

Human Skeletal Remains - Inventory

McClamory Key (8LV288), Levy County, Florida

Burial/Feature #: 19

	Left / Middle	Right	notes		Left / Middle	Right	notes
Frontal				Hyoid			
Parietal				Sternum			
Temporal		+		Manubrium			
Occipital	++		nuchal=4	Ribs			
Sphenoid				Cervical			
Ethmoid/Vomer				Thoracic			
Lacrimal				Lumbar			
Nasal				Sacrum			
Zygomatic				Clavicle			
Maxilla				Scapula			
Palatine				Humerus			
Ear Ossicles				**Radius**		+ =	
Mandible	+	++		Ulna			
Max I1		+ =		Metacarpals			
Max I2				Scaphoid			
Max C		+ =		Lunate			
Max P3		+ =		Triquetral			
Max P4		+ =		Pisiform			
Max M1		+		Trapezium			
Max M2				Trapezoid			
Max M3				Capitate			
d max i1				Hamate			
d max i2				Hand Phalanges	P I	D	
d max c				Os Coxa			
d max m1				**Femur**	+ (2+ frags)		
d max m2				Patella			
Mand I1	~	~		Tibia			
Mand I2	~	~		**Fibula**		+ =	
Mand C		~	*path	Metatarsals			
Mand P3		~		Talus			
Mand P4		~		Calcaneus			
Mand M1		~ +		Cuboid			
Mand M2		+		Cuneiform med			
Mand M3		~ +	*path	Cuneiform int			
d mand i1				Cuneiform lat			
d mand i2				Scaphoid			
d mand c				Foot Phalanges	P I	D	
d mand m1							
d mand m2							

=unsided P=proximal, I=intermediate, D=distal ~ bone/broken roots/no teeth

Human Skeletal Remains - Inventory

McClamory Key (8LV288), Levy County, Florida

Burial/Feature #: 20							
	Left / Middle	**Right**	**notes**		**Left / Middle**	**Right**	**notes**
Frontal				Hyoid			
Parietal				Sternum			
Temporal				Manubrium			
Occipital				Ribs			
Sphenoid				Cervical			
Ethmoid/Vomer				Thoracic			
Lacrimal				Lumbar			
Nasal				Sacrum			
Zygomatic				Clavicle			
Maxilla				Scapula			
Palatine				**Humerus**		+	
Ear Ossicles				**Radius**		++	
Mandible				**Ulna**		+	
Max I1				**Metacarpals**	+ (3+)		Left
Max I2				**Scaphoid**	+		hand/wrist
Max C				Lunate			
Max P3				Triquetral			
Max P4				Pisiform			
Max M1				Trapezium			
Max M2				Trapezoid			
Max M3				Capitate			
				Hamate			
				Hand Phalanges	P I	D	
				Os Coxa			
				Femur			
				Patella			
Mand I1				Tibia			
Mand I2				Fibula			
Mand C				**Metatarsals**	2+		
Mand P3				**Talus**	++	++	
Mand P4				**Calcaneus**	+		
Mand M1				Cuboid			
Mand M2				Cuneiform med			
Mand M3				Cuneiform int			
				Cuneiform lat			
				Scaphoid			
				Foot Phalanges	P I	D	

=unsided P=proximal, I=intermediate, D=distal

APPENDIX C:

CATALOG

ABBREVIATIONS

Chk. – Check
Gastro. – Gastropod
Inc. – Incised
Invert. – Invertebrate
Limest. – Limestone
Lin. – Linear
Punc. – Punctated
Mod. - Modified
STP – Shovel Test Pit
Stmp. - Stamped
Temp. - Tempered
TU – Test Unit
UID - Unidentifiable
Unmod. - Unmodified

Catalog Number	Prov.	Level	Material	Material Type	Form	Surface Treatment	Decoration	Count (n)	Weight (g)
8LV288.1.1	STP1	Level 1	Pottery	Sand Temp.	Rim	Incised	Incised	2	17.5
8LV288.1.2	STP1	Level 1	Pottery	Sand Temp.	Rim	Multiple	Inc. and Punc.	1	3.2
8LV288.1.3	STP1	Level 1	Pottery	Sand Temp.	Body	Punc.	Punc.	1	2.3
8LV288.1.4	STP1	Level 1	Pottery	Sand Temp.	Body	Punc.	Punc.	5	27.6
8LV288.1.5	STP1	Level 1	Pottery	Sand Temp.	Body	Plain	Plain	18	90.1
8LV288.1.7	STP1	Level 1	Pottery	Sand Temp.	Crumb			18	17.4
8LV288.1.8	STP1	Level 1	Pottery	Sand Temp.	Body	Eroded		4	14.4
8LV288.1.6	STP1	Level 1	Vert. Fauna					53	29.7
8LV288.2.5	STP1	n/a	<1/8" Assorted Material						71.0
8LV288.2.4	STP1	n/a	Charcoal						0.6
8LV288.2.1	STP1	n/a	Invert.	Oyster					1,013.5
8LV288.2.2	STP1	n/a	Invert.	Crown Conch	Mod. Shell			3	91.7
8LV288.2.3	STP1	n/a	Invert.	Misc. Gastro.					0.9
8LV288.2.6	STP1	n/a	Vert. Fauna						21.7
8LV288.3.6	TU1	A	Invert.	Misc. Gastro.	Bead			1	0.4
8LV288.3.5	TU1	A	Lithic	Chert	Flake			2	1.4
8LV288.3.1	TU1	A	Pottery	Sand Temp.	Rim	Punc.	Punc.	3	30.2
8LV288.3.2	TU1	A	Pottery	Sand Temp.	Body	Punc.	Punc.	6	19.8
8LV288.3.3	TU1	A	Pottery	Sand Temp.	Rim	Plain	Plain	2	5.9
8LV288.3.4	TU1	A	Pottery	Sand Temp.	Body	Plain	Plain	2	5.4
8LV288.3.8	TU1	A	Pottery	Sand Temp.	Crumb			16	8.8
8LV288.3.9	TU1	A	Pottery	Sand Temp.	Body	Eroded		9	32.6
8LV288.3.7	TU1	A	Vert. Fauna					80	15.2
8LV288.4.12	TU1	B	Invert.	Crown Conch	Mod. Shell			1	38.8
8LV288.4.13	TU1	B	Invert.	Misc. Gastro.	Columella			2	7.8
8LV288.4.5	TU1	B	Invert.	Lightning Whelk	Hammer			1	164.7
8LV288.4.6	TU1	B	Invert.	Merceneria	Mod.Shell			3	67.5
8LV288.4.10	TU1	B	Lithic	Chert	Flake			2	0.6
8LV288.4.7	TU1	B	Lithic	Chert	Flake			1	0.9
8LV288.4.8	TU1	B	Lithic	UID	Abrader			1	34.7
8LV288.4.9	TU1	B	Lithic	Chert	Shatter			4	15.7
8LV288.4.1	TU1	B	Pottery	Sand Temp.	Rim	Eroded		1	14.7
8LV288.4.14	TU1	B	Pottery	Sand Temp.	Body	Eroded		1	4.1
8LV288.4.2	TU1	B	Pottery	Sand Temp.	Body	Plain	Plain	2	8.1
8LV288.4.3	TU1	B	Pottery	Sand Temp.	Body	Punc.	Punc.	3	8.6
8LV288.4.4	TU1	B	Pottery	Sand Temp.	Crumb			16	10.5
8LV288.4.11	TU1	B	Vert. Fauna						54.5
8LV288.5.11	TU1	C	Charcoal					4	0.5
8LV288.5.12	TU1	C	Invert.	Lightning Whelk	Tool			1	67.3
8LV288.5.13	TU1	C	Invert.	Misc. Gastro.	Columella			1	5.6
8LV288.5.7	TU1	C	Invert.	Crown Conch	Hammer			1	52.3
8LV288.5.9	TU1	C	Lithic	Chert	Flake			2	1.2
8LV288.5.1	TU1	C	Pottery	Sand Temp.	Rim	Incised	Incised	1	10.2
8LV288.5.14	TU1	C	Pottery	Sand Temp.	Body	Eroded		2	13.5

Catalog Number	Prov.	Level	Material	Material Type	Form	Surface Treatment	Decoration	Count (n)	Weight (g)
8LV288.5.2	TU1	C	Pottery	Sand Temp.	Rim	Plain	Plain	1	8.1
8LV288.5.3	TU1	C	Pottery	Sand Temp.	Body	Plain	Plain	7	93.7
8LV288.5.4	TU1	C	Pottery	Sand Temp.	Body	Plain	Plain	2	23.4
8LV288.5.5	TU1	C	Pottery	Sand Temp.	Body	Incised	Incised	1	0.9
8LV288.5.6	TU1	C	Pottery	Sand Temp.	Crumb			24	14.3
8LV288.5.10	TU1	C	Vert. Fauna						111.6
8LV288.6.1	TU1	D	Pottery	Sand Temp.	Body	Plain	Plain	6	27.6
8LV288.6.2	TU1	D	Pottery	Sand Temp.	Crumb			6	3.8
8LV288.6.6	TU1	D	Pottery	Sand Temp.	Body	Eroded		4	5.7
8LV288.6.5	TU1	D	Vert. Fauna					22	3.9
8LV288.7.2	TU1	E	Pottery	Sand Temp.	Body	Plain	Plain	2	19.9
8LV288.7.4	TU1	E	Pottery	Sand Temp.	Body	Eroded		2	18.3
8LV288.7.3	TU1	E	Vert. Fauna					13	3.8
8LV288.8.6	TU1	F	Lithic	Chert	Flake			3	0.2
8LV288.8.1	TU1	F	Pottery	Fiber Temp.	Body	Incised	Incised	2	11.4
8LV288.8.2	TU1	F	Pottery	Sand Temp.	Body	Eroded		1	2.3
8LV288.8.3	TU1	F	Pottery	Sand Temp.	Body	Plain	Plain	4	3.8
8LV288.8.4	TU1	F	Pottery	Fiber Temp.	Body	Eroded		3	4.7
8LV288.8.5	TU1	F	Pottery	Sand Temp.	Crumb			9	4.5
8LV288.8.7	TU1	F	Vert. Fauna					2	0.2
8LV288.9.11	TU1	Strat I	<1/8" Assorted Material						396.9
8LV288.9.5	TU1	Strat I	Charcoal						1.4
8LV288.9.1	TU1	Strat I	Invert.	Oyster					7,293.2
8LV288.9.14	TU1	Strat I	Invert.	Lightning Whelk	UID Mod.			1	41.4
8LV288.9.7	TU1	Strat I	Invert.	Crown Conch	Unmod.			3	86.7
8LV288.9.13	TU1	Strat I	Lithic	Chert	Flake			1	0.1
8LV288.9.4	TU1	Strat I	Lithic	Chert	Shatter			2	0.3
8LV288.9.2	TU1	Strat I	Pottery	Sand Temp.	Body	Punc.	Punc.	1	7.7
8LV288.9.3	TU1	Strat I	Pottery	Sand Temp.	Crumb			6	1.1
8LV288.9.6	TU1	Strat I	UID					7	0.1
8LV288.9.12	TU1	Strat I	Vert. Fauna						39.4
8LV288.10.5	TU1	Strat II	<1/8" Assorted Material						68.3
8LV288.10.2	TU1	Strat II	Charcoal						1.8
8LV288.10.3	TU1	Strat II	Invert.	Other Shell				4	0.1
8LV288.10.4	TU1	Strat II	Invert.	Oyster					392.9
8LV288.10.1	TU1	Strat II	Pottery	Sand Temp.	Crumb			3	0.3
8LV288.10.6	TU1	Strat II	Vert. Fauna						8.9
8LV288.19.1	Surface	Pottery	Sand Temp.	Rim	Plain			1	33.1
8LV288.19.2	Surface	Pottery	Sand Temp.	Rim	Eroded			1	39.3
8LV288.19.3	Surface	Pottery	Sand Temp.	Rim	Incised			1	27.2
8LV288.19.4	Surface	Pottery	Sand Temp.	Body	Punc.			5	68.2
8LV288.19.5	Surface	Pottery	Sand Temp.	Body	Incised			2	19
8LV288.19.6	Surface	Pottery	Limest. Temp.	Body	Stmp.	Chk Stmp.		1	12.2
8LV288.20.9	Surface	Invert.	Conch/Whelk	Mod. Shell				1	34.8
8LV288.20.8	Surface	Misc. Rock		Chert	Fragment			2	108.4

Catalog Number	Prov.	Level	Material	Material Type	Form	Surface Treatment	Decoration	Count (n)	Weight (g)
8LV288.20.1	Surface		Pottery	Sand Temp.	Body	Plain	Plain	19	274.7
8LV288.20.10	Surface		Pottery	Sand Temp.	Rim	Punc.		1	10.4
8LV288.20.11	Surface		Pottery	Sand Temp.	Body	Stmp.	Chk Stmp.	1	21.3
8LV288.20.2	Surface		Pottery	Limest. Temp.	Body	Eroded		2	17.3
8LV288.20.3	Surface		Pottery	Spicule Temp.	Body	Eroded		2	15
8LV288.20.4	Surface		Pottery	Sand Temp.	Body	Eroded		25	450.3
8LV288.20.5	Surface		Pottery	Sand Temp.	Rim	Eroded		4	39
8LV288.20.7	Surface		Pottery	Sand Temp.	Body	Punc.	Punc.	7	104.5
8LV288.21.1	Surface		Pottery	Sand Temp.	Rim	Multiple	Inc. and Punct.	2	21.9
8LV288.21.10	Surface		Pottery	Limest. Temp.	Body	Eroded		1	14.9
8LV288.21.12	Surface		Pottery	Spicule Temp.	Body	Stmp.	Chk. Stmp.	1	8.2
8LV288.21.13	Surface		Pottery	Sand Temp.	Rim	Punc.		3	33.2
8LV288.21.2	Surface		Pottery	Sand Temp.	Rim	Incised	Incised	2	49.8
8LV288.21.3	Surface		Pottery	Sand Temp.	Rim	Eroded		3	35.1
8LV288.21.4	Surface		Pottery	Sand Temp.	Rim	Plain	Plain	2	52.7
8LV288.21.5	Surface		Pottery	Sand Temp.	Body	Punc.	Punc.	12	143.7
8LV288.21.6	Surface		Pottery	Sand Temp.	Body	Stmp.	Lin. Chk. Stmp.	1	7.7
8LV288.21.7	Surface		Pottery	Sand Temp.	Body	Eroded		14	264.8
8LV288.21.8	Surface		Pottery	Sand Temp.	Body	Plain	Plain	19	373.4
8LV288.21.9	Surface		Pottery	Limest. Temp.	Body	Stmp.	Chk. Stmp.	1	11.1
8LV288.21.11	Surface		Vert. Fauna					1	6.6
8LV288.22.4	Surface		Invert.	Conch/Whelk	Mod. Shell			1	29.7
8LV288.22.1	Surface		Pottery	Sand Temp.	Rim	Punc.	Punc.	1	18
8LV288.22.2	Surface		Pottery	Sand Temp.	Body	Eroded		8	109.3
8LV288.22.3	Surface		Pottery	Sand Temp.	Body	Plain	Plain	2	58.3
8LV288.22.5	Surface		Pottery	Fiber Temp.	Body	Incised		1	29.4
8LV288.23.1	Surface		Pottery	Spicule Temp.	Body	Eroded		1	8.8
8LV288.23.2	Surface		Pottery	Sand Temp.	Rim	Stmp.	Lin. Chk. Stmp.	1	14.6
8LV288.23.3	Surface		Pottery	Sand Temp.	Rim	Eroded		1	22.4
8LV288.23.4	Surface		Pottery	Sand Temp.	Rim	Eroded		1	13.7
8LV288.23.5	Surface		Pottery	Sand Temp.	Body	Stmp.	Chk. Stmp.	3	76.2
8LV288.23.6	Surface		Pottery	Sand Temp.	Body	Plain	Plain	7	91.5
8LV288.23.7	Surface		Pottery	Sand Temp.	Body	Eroded		13	252.6
8LV288.24.1	Surface		Pottery	Sand Temp.	Rim	Incised	Incised	1	17.8
8LV288.24.2	Surface		Pottery	Sand Temp.	Rim	Punc.	Punc.	1	9.3
8LV288.24.3	Surface		Pottery	Sand Temp.	Body	Plain	Plain	5	78.9
8LV288.24.4	Surface		Pottery	Sand Temp.	Body	Eroded		1	12
8LV288.24.5	Surface		Pottery	Limest. Temp.	Body	Plain	Plain	1	15.8
8LV288.24.7	Surface		Pottery	Limest. Temp.	Body	Eroded		1	22.4
8LV288.24.8	Surface		Pottery	Sand Temp.	Body	Punc.		1	9.1
8LV288.25.2	Surface		Historic Pottery	UID				2	47.1
8LV288.25.1	Surface		Invert.	Conch/Whelk	Columella			57	668.3
8LV288.25.31	Surface		Invert.	Conch/Whelk	Hammer			23	1,051.2
8LV288.25.32	Surface		Invert.	Conch/Whelk	UID			10	223.6
8LV288.25.33	Surface		Invert.	Other Shell				4	204.4

Catalog Number	Prov.	Level	Material	Material Type	Form	Surface Treatment	Decoration	Count (n)	Weight (g)
8LV288.25.36	Surface		Lithic	Chert	Tool			7	192.9
8LV288.25.37	Surface		Lithic	Sandstone	UID			3	69.2
8LV288.25.38	Surface		Lithic	Limest. Temp.	UID			12	531.1
8LV288.25.40	Surface		Lithic	Limest.	Hammerst.			1	123.6
8LV288.25.41	Surface		Lithic	Igneous rock	UID			1	45.5
8LV288.25.10	Surface		Pottery	Sand Temp.	Body	UID	UID	15	219.7
8LV288.25.11	Surface		Pottery	Sand Temp.	Body	Stmp.	UID	1	52.1
8LV288.25.12	Surface		Pottery	Sand Temp.	Body	Plain	Plain	21	280.4
8LV288.25.13	Surface		Pottery	Limest. Temp.	Body	Stmp.	Lin. Chk. Stmp.	1	7.5
8LV288.25.14	Surface		Pottery	Limest. Temp.	Body	Plain	Plain	7	146.8
8LV288.25.15	Surface		Pottery	Grit Temp.	Body	Stmp.	Simple Stmp.	3	31.7
8LV288.25.16	Surface		Pottery	Grit Temp.	Body	Stmp.	Chk. Stmp.	1	15.4
8LV288.25.17	Surface		Pottery	Grit Temp.	Body	Punc.	Dentate	1	10.5
8LV288.25.18	Surface		Pottery	Grit Temp.	Body	Plain	Plain	10	157.4
8LV288.25.19	Surface		Pottery	Fiber Temp.	Rim	Plain	Plain	1	15
8LV288.25.20	Surface		Pottery	Fiber Temp.	Body	Incised	Incised	1	4
8LV288.25.21	Surface		Pottery	Fiber Temp.	Rim	Plain	Plain	7	101.3
8LV288.25.22	Surface		Pottery	Limest. Temp.	Rim	Stmp.	Chk. Stmp.	7	102
8LV288.25.23	Surface		Pottery	Sand Temp.	Rim	Plain	Plain	15	218.8
8LV288.25.24	Surface		Pottery	Sand Temp.	Rim	Plain	Plain	1	45.3
8LV288.25.25	Surface		Pottery	Spicule Temp.	Rim	Punc.	Dentate	4	114.6
8LV288.25.26	Surface		Pottery	Sand Temp.	Rim	Plain	Plain	3	31.5
8LV288.25.27	Surface		Pottery	Sand Temp.	Rim	Plain	Plain	2	19.6
8LV288.25.28	Surface		Pottery	Grit Temp.	Body	Plain	Plain	17	258
8LV288.25.29	Surface		Pottery	Spicule Temp.	Body	Incised	Incised	1	18
8LV288.25.3	Surface		Pottery	Sand Temp.	Body	Plain	Plain	110	1,834.4
8LV288.25.30	Surface		Pottery	Spicule Temp.	Body	Punc.	Punc.	1	9.3
8LV288.25.39	Surface		Pottery	UID	UID			1	33.5
8LV288.25.4	Surface		Pottery	Sand Temp.	Body	Stmp.	Chk. Stmp.	14	168.3
8LV288.25.5	Surface		Pottery	Sand Temp.	Body	Punc.	Dentate	25	324.6
8LV288.25.6	Surface		Pottery	Sand Temp.	Body	Stmp.	Simple Stmp.	8	91.1
8LV288.25.7	Surface		Pottery	Sand Temp.	Body	Stmp.	Lin. Chk. Stmp.	7	76.1
8LV288.25.8	Surface		Pottery	Sand Temp.	Body	Incised	Incised	2	34.3
8LV288.25.9	Surface		Pottery	Sand Temp.	Body	Stmp.	Comp. Stmp.	1	18.7
8LV288.25.35	Surface		Vert. Fauna					187	487.7
8LV288.31.1	E3	A	Invert.	Crown Conch	Hammer			1	75.2
8LV288.64.11	TU2	A	Historic	Metal				188	212.2
8LV288.64.12	TU2	A	Invert.	Lightning Whelk	Hammer			2	53.5
8LV288.64.13	TU2	A	Lithic	Sedimentary	Fragment			1	62.9
8LV288.64.14	TU2	A	Lithic	Chert	Flake			6	3.3
8LV288.64.1	TU2	A	Pottery	Sand Temp.	Body	Plain	Plain	35	147.8
8LV288.64.10	TU2	A	Pottery	Sand Temp.	Crumb			129	103.5
8LV288.64.2	TU2	A	Pottery	Sand Temp.	Rim	Plain	Plain	8	85.4
8LV288.64.3	TU2	A	Pottery	Sand Temp.	Rim	Punc.	Dentate	1	15.6
8LV288.64.4	TU2	A	Pottery	Sand Temp.	Rim	Punc.	Punc.	1	2.1

Catalog Number	Prov.	Level	Material	Material Type	Form	Surface Treatment	Decoration	Count (n)	Weight (g)
8LV288.64.5	TU2	A	Pottery	Sand Temp.	Body	Punc.	Dentate	1	23.7
8LV288.64.6	TU2	A	Pottery	Sand Temp.	Body	Stmp.	Chk. Stmp.	4	44.6
8LV288.64.7	TU2	A	Pottery	Sand Temp.	Rim	Stmp.	Chk. Stmp.	1	65.2
8LV288.64.8	TU2	A	Pottery	Sand Temp.	Body	Punc.	Punc.	20	96.2
8LV288.64.9	TU2	A	Pottery	Sand Temp.	Body	Eroded		21	68.1
8LV288.64.15	TU2	A	Vert. Fauna						74.0
8LV288.66.10	TU2	B	Historic	Metal				41	27.8
8LV288.66.12	TU2	B	Invert.	Lightning Whelk	Mod. Shell			1	41.5
8LV288.66.13	TU2	B	Invert.	Misc. Gastro.	Tool			1	38.2
8LV288.66.14	TU2	B	Invert.	Merceneria	Mod. Shell			1	111
8LV288.66.15	TU2	B	Invert.	Crown Conch	Hammer			1	42.3
8LV288.66.18	TU2	B	Invert.	Lightning Whelk	Hammer			1	42.2
8LV288.66.11	TU2	B	Lithic	Chert	Flake			6	9.9
8LV288.66.16	TU2	B	Lithic	Limest.	Fragment			1	15.0
8LV288.66.1	TU2	B	Pottery	Sand Temp.	Body	Plain		30	169.4
8LV288.66.19	TU2	B	Pottery	Limest. Temp.	Body	Plain	Plain	1	11.1
8LV288.66.2	TU2	B	Pottery	Sand Temp.	Rim	Punc.	Dentate	4	48.8
8LV288.66.3	TU2	B	Pottery	Spicule Temp.	Body	Plain		1	19.1
8LV288.66.4	TU2	B	Pottery	Sand Temp.	Body	Stmp.	Chk. Stmp.	2	9.5
8LV288.66.5	TU2	B	Pottery	Sand Temp.	Body	Punc.	Punc.	17	103.1
8LV288.66.6	TU2	B	Pottery	Sand Temp.	Rim	Punc.	Punc.	1	7.4
8LV288.66.7	TU2	B	Pottery	Sand Temp.	Rim	Plain		3	10.5
8LV288.66.8	TU2	B	Pottery	Sand Temp.	Body	Eroded		20	51.4
8LV288.66.9	TU2	B	Pottery	Sand Temp.	Crumb			144	88.4
8LV288.66.17	TU2	B	Vert. Fauna						132.5
8LV288.67.12	TU2	C	Historic	Metal				6	3.8
8LV288.67.13	TU2	C	Invert.	Crown Conch	Hammer			1	69.5
8LV288.67.14	TU2	C	Invert.	Merceneria	Mod. Shell			1	106.5
8LV288.67.10	TU2	C	Lithic	Chert	Flake			9	9.5
8LV288.67.11	TU2	C	Lithic	Chert	Util. Flake			1	4.9
8LV288.67.9	TU2	C	Lithic	UID	Chunk			1	15.8
8LV288.67.1	TU2	C	Pottery	Sand Temp.	Body	Plain		65	416.1
8LV288.67.16	TU2	C	Pottery	Limest. Temp.	Body	Plain	Plain	1	10.8
8LV288.67.17	TU2	C	Pottery	Sand Temp.	Rim	Incised		1	3.6
8LV288.67.2	TU2	C	Pottery	Sand Temp.	Body	Punc.	Punc.	28	126
8LV288.67.3	TU2	C	Pottery	Sand Temp.	Rim	Incised		2	19.3
8LV288.67.4	TU2	C	Pottery	Sand Temp.	Body	Incised		4	23.6
8LV288.67.5	TU2	C	Pottery	Sand Temp.	Body	Eroded		13	40.5
8LV288.67.6	TU2	C	Pottery	Sand Temp.	Crumb			179	124.8
8LV288.67.7	TU2	C	Pottery	Sand Temp.	Rim	Plain		7	89
8LV288.67.8	TU2	C	Pottery	Sand Temp.	Rim	Punc.	Punc.	2	11.3
8LV288.67.15	TU2	C	Vert. Fauna						249.7
8LV288.68.19	TU2	D	Fired Clay					6	1.8
8LV288.68.16	TU2	D	Historic	Metal				2	1
8LV288.68.17	TU2	D	Lithic	UID	Fragment			2	21.5

Catalog Number	Prov.	Level	Material	Material Type	Form	Surface Treatment	Decoration	Count (n)	Weight (g)
8LV288.68.18	TU2	D	Lithic	Chert	Flake			3	1.5
8LV288.68.1	TU2	D	Pottery	Sand Temp.	Rim	Incised		7	87.4
8LV288.68.10	TU2	D	Pottery	Limest. Temp.	Rim	Plain		3	28.5
8LV288.68.11	TU2	D	Pottery	Spicule Temp.	Body	Eroded		2	2.5
8LV288.68.12	TU2	D	Pottery	Sand Temp.	Body	Punc.	Punc.	2	5.6
8LV288.68.13	TU2	D	Pottery	Limest. Temp.	Body	Punc.	Punc.	1	2.3
8LV288.68.14	TU2	D	Pottery	Sand Temp.	Body	Eroded		4	12.4
8LV288.68.15	TU2	D	Pottery	Sand Temp.	Crumb			110	75.7
8LV288.68.2	TU2	D	Pottery	Sand Temp.	Body	Plain		78	395.7
8LV288.68.3	TU2	D	Pottery	Sand Temp.	Rim	Multiple	Inc. and Punc.	1	20.2
8LV288.68.4	TU2	D	Pottery	Sand Temp.	Rim	Plain	Plain	5	27.5
8LV288.68.5	TU2	D	Pottery	Sand Temp.	Rim	Plain	Plain	1	16.7
8LV288.68.6	TU2	D	Pottery	Sand Temp.	Rim	Punc.	Punc.	1	5.1
8LV288.68.7	TU2	D	Pottery	Sand Temp.	Body	Incised		1	1.9
8LV288.68.8	TU2	D	Pottery	Sand Temp.	Body	Punc.	Punc.	4	23.8
8LV288.68.9	TU2	D	Pottery	Limest. Temp	Body	Plain		14	65.7
8LV288.68.20	TU2	D	Vert. Fauna						238.8
8LV288.69.13	TU2	E	Historic	Metal				2	0.7
8LV288.69.11	TU2	E	Invert.	Misc. Gastro.	Columella			2	9.7
8LV288.69.12	TU2	E	Invert.	Crown Conch	Mod. Shell			1	28.8
8LV288.69.1	TU2	E	Pottery	Limest. Temp.	Rim	Incised		1	12.5
8LV288.69.10	TU2	E	Pottery	Sand Temp.	Crumb			35	30.3
8LV288.69.2	TU2	E	Pottery	Sand Temp.	Body	Eroded		1	1.9
8LV288.69.3	TU2	E	Pottery	Limest. Temp	Body	Plain		9	38.4
8LV288.69.4	TU2	E	Pottery	Sand Temp.	Body	Punc.	Punc.	3	6.8
8LV288.69.5	TU2	E	Pottery	Limest. Temp.	Body	Eroded		1	1.5
8LV288.69.6	TU2	E	Pottery	Limest. Temp.	Body	Punc.	Punc.	1	8.1
8LV288.69.7	TU2	E	Pottery	Spicule Temp.	Body	Eroded		1	3.3
8LV288.69.8	TU2	E	Pottery	Sand Temp.	Body	Incised		1	6.6
8LV288.69.9	TU2	E	Pottery	Sand Temp.	Body	Plain		9	28.7
8LV288.69.14	TU2	E	Vert. Fauna						117.2
8LV288.70.4	TU2	F	Lithic	UID	Flake			1	0.1
8LV288.70.5	TU2	F	Lithic	Chert	Flake			1	0.1
8LV288.70.1	TU2	F	Pottery	Sand Temp.	Body	Plain		4	13.2
8LV288.70.2	TU2	F	Pottery	UID	Body	Eroded		1	1.8
8LV288.70.3	TU2	F	Pottery	Sand Temp.	Crumb			2	1.7
8LV288.70.6	TU2	F	Vert. Fauna						7.4
8LV288.71.2	TU2	Strat I	< 1/8"AssortedMaterial						
8LV288.71.20	TU2	Strat I	1/8" Charcoal						0.5
8LV288.71.23	TU2	Strat I	1/8" Fired Clay						0.3
8LV288.71.19	TU2	Strat I	1/8" Invert.						9
8LV288.71.21	TU2	Strat I	1/8" Lithic						0
8LV288.71.22	TU2	Strat I	1/8" Pottery						1.3
8LV288.71.18	TU2	Strat I	1/8" Vert. Fauna						29.6
8LV288.71.13	TU2	Strat I	Charcoal						0.9

Catalog Number	Prov.	Level	Material	Material Type	Form	Surface Treatment	Decoration	Count (n)	Weight (g)
8LV288.71.12	TU2	Strat I	Historic	Metal					1.2
8LV288.71.10	TU2	Strat I	Invert.	Misc. Bivalve					
8LV288.71.25	TU2	Strat I	Invert.	Crown Conch	UID Mod.			5	87.6
8LV288.71.26	TU2	Strat I	Invert.	Crown Conch	Fragment			4	7.8
8LV288.71.27	TU2	Strat I	Invert.	Crown Conch	Columella			2	6.5
8LV288.71.3	TU2	Strat I	Invert.	Oyster	Whole, Left				1,537.6
8LV288.71.4	TU2	Strat I	Invert.	Oyster	Whole, Right				1,453.6
8LV288.71.5	TU2	Strat I	Invert.	Oyster	Fragment				392.8
8LV288.71.7	TU2	Strat I	Invert.	Crown Conch	UnMod.			2	79.3
8LV288.71.8	TU2	Strat I	Invert.	Lightning Whelk				1	29.4
8LV288.71.9	TU2	Strat I	Invert.	Misc. Gastro.					
8LV288.71.1	TU2	Strat I	Light Fraction						
8LV288.71.11	TU2	Strat I	Lithic	Chert				1	0.2
8LV288.71.14	TU2	Strat I	Pottery		Crumb			8	3.3
8LV288.71.15	TU2	Strat I	Pottery	Sand Temp.	Body	Plain	Plain	1	4.9
8LV288.71.16	TU2	Strat I	Pottery	Sand Temp.	Body	Stmp.	Dentate	1	16.6
8LV288.71.17	TU2	Strat I	Pottery	Limest. Temp.	Body	Plain	Plain	2	13.9
8LV288.71.24	TU2	Strat I	Pottery	Sand Temp.	Body	Eroded		1	2.9
8LV288.71.6	TU2	Strat I	Vert. Fauna						24.7
8LV288.72.6	TU2	Strat II	< 1/8" Assorted Material						
8LV288.72.5	TU2	Strat II	1/8" Charcoal						0.2
8LV288.72.4	TU2	Strat II	1/8" Invert.						0.9
8LV288.72.3	TU2	Strat II	1/8" Vert. Fauna						0.4
8LV288.72.2	TU2	Strat II	Invert.	Oyster					9.4
8LV288.72.1	TU2	Strat II	Light Fraction						
8LV288.78.1	Bur 15	C	Lithic	Chert	Biface			1	22.3
8LV288.80.1	Bur 8	C	Lithic	Chert	Biface Fragment			2	4.5
8LV288.100.14		TU3	Bulk	< 1/8" Assorted Material					
8LV288.100.8	TU3	Bulk	1/8" Vert. Fauna						11.9
8LV288.100.13		TU3	Bulk	Charcoal					1
8LV288.100.10		TU3	Bulk	Invert.	Oyster				67.6
8LV288.100.11		TU3	Bulk	Invert.	Conch/Whelk				1.3
8LV288.100.12		TU3	Bulk	Invert.	Conch/Whelk				0.9
8LV288.100.6	TU3	Bulk	Invert.	Conch/Whelk	Fragment			4	32.5
8LV288.100.9	TU3	Bulk	Invert.	Oyster					769.5
8LV288.100.1	TU3	Bulk	Pottery	Sand Temp.	Rim	Punc.	Punc.	2	13.2
8LV288.100.2	TU3	Bulk	Pottery	Sand Temp.	Body	Plain	Scraped Interior	1	5.4
8LV288.100.3	TU3	Bulk	Pottery	Sand Temp.	Rim	Eroded		1	2.3
8LV288.100.4	TU3	Bulk	Pottery	Sand Temp.	Crumb			10	1.9
8LV288.100.5	TU3	Bulk	Pottery	Sand Temp.	Body	Eroded		3	10.3
8LV288.100.7	TU3	Bulk	Vert. Fauna						9
8LV288.114.33		Surface	Historic	Brick				1	26.7
8LV288.114.71		Surface	Invert.	Crown Conch	Hammer			30	1,800.3
8LV288.114.72		Surface	Invert.	Crown Conch	Columella			1	24
8LV288.114.31		Surface	Lithic	Soapstone				1	40.3

Catalog Number	Prov.	Level	Material	Material Type	Form	Surface Treatment	Decoration	Count (n)	Weight (g)
8LV288.114.32	Surface		Lithic	Sandstone				1	16
8LV288.114.54	Surface		Lithic	Sandstone	Body			1	11.2
8LV288.114.1	Surface		Pottery	Spicule Temp.	Body	Stmp.	Chk. Stmp.	7	67.8
8LV288.114.10	Surface		Pottery	Grit Temp.	Body	Multiple		1	18.6
8LV288.114.11	Surface		Pottery	Grit Temp.	Rim	Plain	Incised Rim	2	44.5
8LV288.114.12	Surface		Pottery	Sand Temp.	Rim	Plain	Incised Rim	83	1,161.5
8LV288.114.13	Surface		Pottery	Sand Temp.	Rim	Stmp.	Chk. Stmp.	4	30.2
8LV288.114.14	Surface		Pottery	Spicule Temp.	Body	Punc.	Dentate	27	580.4
8LV288.114.15	Surface		Pottery	Sand Temp.	Body	Punc.	Dentate	264	4,218.3
8LV288.114.16	Surface		Pottery	Sand Temp.	Body	Incised	Incised	13	117.6
8LV288.114.17	Surface		Pottery	Fiber Temp.	Body	Incised	Incised	7	74.7
8LV288.114.18	Surface		Pottery	Limest. Temp	Rim	Incised	Incised	2	39.3
8LV288.114.19	Surface		Pottery	Spicule Temp.	Body	Incised	Incised	3	60.8
8LV288.114.2	Surface		Pottery	Sand Temp.	Body	Stmp.	Chk. Stmp.	17	195.8
8LV288.114.20	Surface		Pottery	Sand Temp.	Rim	Stmp.	Simple Stmp.	1	49.8
8LV288.114.21	Surface		Pottery	Sand Temp.	Body	Stmp.	Comp. Stmp.	12	222.4
8LV288.114.22	Surface		Pottery	Sand Temp.	Rim	Punc.	Punc.	3	35.7
8LV288.114.23	Surface		Pottery	Sand Temp.	Body	Punc.	Punc.	27	247.2
8LV288.114.24	Surface		Pottery	Spicule Temp.	Body	Plain	Plain	1	9.3
8LV288.114.25	Surface		Pottery	Limest. Temp	Rim	Plain	Plain	2	111.9
8LV288.114.26	Surface		Pottery	Sand Temp.	Body	Plain	Plain	4	37.3
8LV288.114.27	Surface		Pottery	Sand Temp.	Body	UID	UID	132	2,033.5
8LV288.114.28	Surface		Pottery	Spicule Temp.	Body	UID	UID	34	521
8LV288.114.29	Surface		Pottery	Limest. Temp	Body	UID	UID	6	69.9
8LV288.114.3	Surface		Pottery	Sand Temp.	Body	Stmp.	Chk. Stmp.	3	28.1
8LV288.114.30	Surface		Pottery	Grit Temp.	Body	UID	UID	8	144.7
8LV288.114.34	Surface		Pottery	Shell Temp.	Body	Plain	Plain	2	14
8LV288.114.35	Surface		Pottery	Grit Temp.	Body	Plain	Plain	80	900.1
8LV288.114.36	Surface		Pottery	Spicule Temp.	Body	Plain	Plain	58	834.4
8LV288.114.37	Surface		Pottery	Limest. Temp.	Body	Plain	Plain	282	2,436.8
8LV288.114.38	Surface		Pottery	Spicule Temp.	Body	Plain	Plain	25	245.1
8LV288.114.39	Surface		Pottery	Fiber Temp.	Body	Plain	Plain	1	4
8LV288.114.4	Surface		Pottery	Grit Temp.	Body	Stmp.	Chk. Stmp.	6	88.5
8LV288.114.40	Surface		Pottery	Sand Temp.	Body	Plain	Plain	780	9,406.2
8LV288.114.41	Surface		Pottery	Sand Temp.	Body	Incised	Incised	2	34.2
8LV288.114.42	Surface		Pottery	Grit Temp.	Body	Punc.	Dentate	7	59.1
8LV288.114.43	Surface		Pottery	Sand Temp.	Body	Punc.	Dentate	48	423.3
8LV288.114.44	Surface		Pottery	Spicule Temp.	Body	UID	UID	2	8.6
8LV288.114.45	Surface		Pottery	Limest. Temp.	Body	UID	UID	3	39.5
8LV288.114.46	Surface		Pottery	Grit Temp.	Body	UID	UID	10	162.2
8LV288.114.47	Surface		Pottery	Sand Temp.	Body	UID	UID	201	2,320.5
8LV288.114.48	Surface		Pottery	Grit Temp.	Body	Stmp.	Chk. Stmp.	5	50.5
8LV288.114.49	Surface		Pottery	Sand Temp.	Body	Stmp.	Chk. Stmp.	19	166.6
8LV288.114.5	Surface		Pottery	Limest. Temp.	Body	Stmp.	Chk. Stmp.	3	37.2
8LV288.114.50	Surface		Pottery	Sand Temp.	Rim	Punc.	Dentate	4	58.6

Catalog Number	Prov.	Level	Material	Material Type	Form	Surface Treatment	Decoration	Count (n)	Weight (g)
8LV288.114.51	Surface		Pottery	Sand Temp.	Rim	Plain	Incised Rim	11	233.1
8LV288.114.52	Surface		Pottery	Spicule Temp.	Rim	Plain	Incised Rim	1	19.5
8LV288.114.53	Surface		Pottery	Sand Temp.	Rim	Incised	Incised	7	91.9
8LV288.114.55	Surface		Pottery	Sand Temp.	Rim	UID	UID	72	889
8LV288.114.56	Surface		Pottery	Limest. Temp.	Rim	UID	UID	11	73.3
8LV288.114.57	Surface		Pottery	Spicule Temp.	Rim	UID	UID	3	15.9
8LV288.114.58	Surface		Pottery	Grit Temp.	Rim	UID	UID	4	28.4
8LV288.114.59	Surface		Pottery	Grit Temp.	Body	Plain	Plain	41	806.1
8LV288.114.6	Surface		Pottery	Sand Temp.	Body	Stmp.	Chk. Stmp.	83	1,017.2
8LV288.114.60	Surface		Pottery	Grit Temp.	Rim	Plain	Plain	6	117
8LV288.114.61	Surface		Pottery	Grit Temp.	Body	Incised	Incised	2	40.2
8LV288.114.62	Surface		Pottery	Grit Temp.	Rim	Incised	Incised	1	9.5
8LV288.114.63	Surface		Pottery	Spicule Temp.	Body	Plain	Plain	12	188.7
8LV288.114.64	Surface		Pottery	Limest. Temp.	Body	Plain	Plain	31	477.5
8LV288.114.65	Surface		Pottery	Limest. Temp.	Body	Punc.	Dentate	1	9.9
8LV288.114.66	Surface		Pottery	Limest. Temp.	Rim	Plain	Plain	10	241
8LV288.114.67	Surface		Pottery	Fiber Temp.	Body	Plain	Plain	1	7.7
8LV288.114.68	Surface		Pottery	Sand Temp.	Body	Plain	Plain	428	6,633.1
8LV288.114.69	Surface		Pottery	Sand Temp.	Body			3	22.7
8LV288.114.7	Surface		Pottery	Sand Temp.	Body	Stmp.	Lin. Chk. Stmp.	26	367.7
8LV288.114.73	Surface		Pottery	Sand Temp.	Body			1	10.2
8LV288.114.74	Surface		Pottery	Sand Temp.	Body	Incised	Incised	2	24.3
8LV288.114.75	Surface		Pottery	Sand Temp.	Body	Stmp.	Chk. Stmp.	16	274.9
8LV288.114.76	Surface		Pottery	Sand Temp.	Body	Stmp.	Lin. Chk. Stmp.	10	161.9
8LV288.114.77	Surface		Pottery	Sand Temp.	Body	Punc.	Dentate	65	1,333.2
8LV288.114.78	Surface		Pottery	Sand Temp.	Body	UID	UID	47	751.2
8LV288.114.79	Surface		Pottery	Sand Temp.	Rim	Plain	Plain	36	485.2
8LV288.114.8	Surface		Pottery	Sand Temp.	Body	Stmp.	Simple Stmp.	17	193.9
8LV288.114.80	Surface		Pottery	Sand Temp.	Rim	UID	UID	10	186
8LV288.114.81	Surface		Pottery	Sand Temp.	Rim	Plain	Incised Rim	7	121.1
8LV288.114.82	Surface		Pottery	Sand Temp.	Rim	Incised	Incised	2	21.2
8LV288.114.83	Surface		Pottery	Sand Temp.	Rim	Punc.	Dentate	9	111.7
8LV288.114.84	Surface		Pottery	Sand Temp.	Rim	Stmp.	Chk. Stmp.	3	32.7
8LV288.114.9	Surface		Pottery	Limest. Temp.	Body	Stmp.	Simple Stmp.	1	4.8
8LV288.115.1	TU3	A	Pottery	Sand Temp.	Body	UID		8	32.6
8LV288.115.2	TU3	A	Pottery	Sand Temp.	Crumb			3	2.1
8LV288.115.3	TU3	A	Vert. Fauna						0.3
8LV288.116.1	TU3	B	Pottery	Sand Temp.	Body	Eroded		8	22.1
8LV288.116.2	TU3	B	Pottery	Sand Temp.	Body	Stmp.	Comp. Stmp.	1	3.5
8LV288.116.3	TU3	B	Pottery	Spicule Temp.	Body	UID		2	1.8
8LV288.116.4	TU3	B	Pottery	Sand Temp.	Crumb			5	3.5
8LV288.116.5	TU3	B	Vert. Fauna						1.8
8LV288.117.1	TU3	C	Pottery	Sand Temp.	Rim	UID		1	6
8LV288.117.2	TU3	C	Pottery	Sand Temp.	Crumb			3	2.2
8LV288.117.3	TU3	C	Pottery	Sand Temp.	Body	UID		2	6.7

Catalog Number	Prov.	Level	Material	Material Type	Form	Surface Treatment	Decoration	Count (n)	Weight (g)
8LV288.117.4	TU3	C	Vert. Fauna						1.7
8LV288.118.1	TU3	D	Pottery	Sand Temp.	Body	Plain		2	7
8LV288.118.2	TU3	D	Vert. Fauna						5
8LV288.119.1	TU3	E	Lithic	UID	Flake			1	0.8

APPENDIX D:

FLORIDA MASTER SITE FORM

Page 1

☐Original
☒Update

ARCHAEOLOGICAL SITE FORM
FLORIDA MASTER SITE FILE
Version 4.0 1/07

Consult *Guide to Archaeological Site Form* for detailed instructions

Site #8 LV00288
Field Date 3-10-2013
Form Date 3-12-2015
Recorder # _____

Site Name(s) McClamory Key — Multiple Listing (DHR only) _____
Project Name Archaeological Investigations at McClamory Key — Survey # (DHR only) _____
Ownership: ☐private-profit ☐private-nonprofit ☐private-individual ☐private-nonspecific ☐city ☐county ☒state ☐federal ☐Native American ☐foreign ☐unknown

LOCATION & MAPPING

USGS 7.5 Map Name CEDAR KEY — USGS Date 1992 — Plat or Other Map _____
City/Town (within 3 miles) Cedar Key — In City Limits? ☐yes ☒no ☐unknown — County Levy
Township 15S Range 13E Section 12 ¼ section: ☐NW ☐SW ☐SE ☐NE — Irregular-name: _____
Township 15S Range 12E Section 14 ¼ section: ☐NW ☐SW ☐SE ☐NE
Landgrant _____ — Tax Parcel # _____
UTM Coordinates: Zone ☐16 ☒17 Easting 329460 Northing 3230300
Other Coordinates: X: _____ Y: _____ — Coordinate System & Datum _____
Address / Vicinity / Route to: open-water island ~6 km northwest of town of Cedar Key
Name of Public Tract (e.g., park) _____

TYPE OF SITE (select all that apply)

SETTING

☒Land (*terrestrial*)
☐Lake/Pond (*lacustrine*)
☐River/Stream/Creek (*riverine*)
☒Tidal (*estuarine*)
☐Saltwater (*marine*)
☐Wetland (*palustrine*)
☐usually flooded
☐usually dry
☐Cave/Sink (*subterranean*)
☐terrestrial
☐aquatic

STRUCTURES OR FEATURES

☐log boat
☐agric/farm building
☐burial mound
☐building remains
☒cemetery/grave
☐dump/refuse
☐earthworks (historic)
☐fort
☒midden
☐mill
☐mission
☐mound, nonspecific
☐plantation
☐platform mound
☐road segment
☒shell midden
☐shell mound
☐shipwreck
☒subsurface features
☒surface scatter
☐well

FUNCTION

☐campsite
☐extractive site
☒habitation (prehistoric)
☐homestead (historic)
☐farmstead
☐village (prehistoric)
☐town (historic)
☐quarry

Other Features or Functions (Choose from the list or type a response.)
1. _____ 2. _____

CULTURE PERIODS (select all that apply)

ABORIGINAL

☐Alachua
☐Archaic (nonspecific)
☐Archaic, Early
☐Archaic, Middle
☒Archaic, Late
☐Belle Glade
☐Cades Pond
☐Caloosahatchee
☐Deptford
☐Englewood
☐Fort Walton
☐Glades (nonspecific)
☐Glades I
☐Glades II
☐Glades III
☐Hickory Pond
☐Leon-Jefferson
☐Malabar I
☐Malabar II
☐Manasota
☒Mississippian
☐Mount Taylor
☐Norwood
☒Orange
☐Paleoindian
☐Pensacola
☐Perico Island
☐Safety Harbor
☐St. Augustine
☐St. Johns (nonspecific)
☐St. Johns I
☐St. Johns II
☐Santa Rosa
☐Santa Rosa-Swift Creek
☐Seminole (nonspecific)
☐Seminole: Colonization
☐Seminole: 1st War To 2nd
☐Seminole: 2nd War To 3rd
☐Seminole: 3rd War & After
☐Swift Creek (nonspecific)
☐Swift Creek, Early
☐Swift Creek, Late
☐Transitional
☐Weeden Island (nonspecific)
☒Weeden Island I
☒Weeden Island II
☐Prehistoric (nonspecific)
☐Prehistoric non-ceramic
☐Prehistoric ceramic

NON-ABORIGINAL

☐First Spanish 1513-99
☐First Spanish 1600-99
☐First Spanish 1700-1763
☐First Spanish (nonspecific)
☐British 1763-1783
☐Second Spanish 1783-1821
☐American Territorial 1821-45
☐American Civil War 1861-65
☐American 19th Century
☐American 20th Century
☐American (nonspecific)
☐African-American

Other Cultures (Choose from the list or type a response. For historic sites, give specific dates.)
1. _____ 3. _____
2. _____ 4. _____

OPINION OF RESOURCE SIGNIFICANCE

Potentially eligible individually for National Register of Historic Places? ☒yes ☐no ☐insufficient information
Potentially eligible as contributor to a National Register district? ☒yes ☐no ☐insufficient information
Explanation of Evaluation (required if evaluated, use separate sheet if needed) _____

Recommendations for Owner or SHPO Action monitor gulf-facing beachface of island for exposure of additional human burials

DHR USE ONLY	OFFICIAL EVALUATION	DHR USE ONLY
NR List Date _____ ☐Owner Objection	SHPO – Appears to meet criteria for NR listing: ☐yes ☐no ☐insufficient info Date _____ Init. _____ KEEPER – Determined eligible: ☐yes ☐no Date _____ NR Criteria for Evaluation ☐a ☐b ☐c ☐d (see *National Register Bulletin 15*, p. 2)	

Page 2

ARCHAEOLOGICAL SITE FORM

Site #8 LV00288

FIELD METHODS (select all that apply)

SITE DETECTION

- ☐ no field check
- ☐ literature search
- ☐ informant report
- ☐ remote sensing
- ☒ exposed ground
- ☐ posthole tests
- ☒ auger tests
- ☐ unscreened shovel
- ☐ screened shovel
- ☒ screened shovel-1/4"
- ☐ screened shovel-1/8"
- ☐ screened shovel-1/16"

SITE BOUNDARY

- ☐ bounds unknown
- ☐ none by recorder
- ☐ literature search
- ☐ informant report
- ☐ remote sensing
- ☒ exposed ground
- ☐ posthole tests
- ☐ auger tests
- ☐ unscreened shovel
- ☐ screened shovel
- ☐ block excavations
- ☐ estimate or guess

Other methods; number, size, depth, pattern of units; screen size (attach site plan) one shovel test; two 1 x 1-m test units; one 1 x 2-m test unit; block excavation for recovery of skeletal remains of 25 individuals

SITE DESCRIPTION

Extent Size (m^2) 6,250 Depth/stratigraphy of cultural deposit ~50 cm

Temporal Interpretation - Components (check one): ☐ single component ☒ multiple component ☐ uncertain

Describe each occupation in plan (refer to attached large scale map) and stratigraphically. Discuss temporal and functional interpretations:

Weeden Island component concentrated West Hammock; 12-13th-C component concentrated in East Hammock; Late Archaic burials exposed in gulf-facing beach of East Hammock

Integrity - Overall disturbance: ☐ none seen ☐ minor ☒ substantial ☐ major ☐ redeposited ☐ destroyed-**document!** ☐ unknown

Disturbances / threats / protective measures ongoing tidal and boat wake erosion; mass wasting from terr falls at erosional cutbank; occasional looting, especially in association with exposed human burials on beach

Surface collection: area collected 100 m^2 # collection units 1 | Excavation: # noncontiguous blocks 4

ARTIFACTS

Total Artifacts # 5,106 ◉ count ○ estimate | Surface # 3,752 | Subsurface # 1,354

COLLECTION SELECTIVITY

- ☐ unknown
- ☐ unselective (all artifacts)
- ☐ selective (some artifacts)
- ☒ mixed selectivity

SPATIAL CONTROL

- ☐ uncollected
- ☐ general (not by subarea)
- ☐ unknown
- ☐ controlled (by subarea)
- ☒ variable spatial control
- ☐ other (describe in comments below)

ARTIFACT CATEGORIES and DISPOSITIONS

A	Aboriginal ceramics
A	Bone-human
S	Bone-animal or unidentif
A	Lithics
S	Shell-Unworked
A	Worked shell

select a disposition from the list below for each artifact category selected at left

- A - category always collected
- S - some items in category collected
- O - observed first hand, but not collected
- R - collected and subsequently left at site
- I - informant reported category present
- U - unknown

Artifact Comments

DIAGNOSTICS (type or mode, and frequency: e.g., *Suwanee ppk, heat-treated chert, Deptford Check-stamped, ironstone/whiteware*)

1. Orange Plain and Incised	N=	4. Carabelle Incised	N=	7. Indian Pass Incised	N=
2. Pasco Plain	N=	5. Ruskin Dentate?	N=	8. Archaic Stemmed	N=
3. Weeden Island Plain	N=	6. Hillsborough Shell Stamped?	N=	9.	N=

ENVIRONMENT

Nearest fresh water: Type Unknown Name Distance from site (m)

Natural community ESTUARINE TIDAL MARSH Topography Coastal-ocean Elevation: Min 0 m Max 2 m

Local vegetation salt marsh grass, mixed hardwood-pine on hammocks

Present land use unoccupied

SCS soil series 43 - Tidewater Muck Soil association

DOCUMENTATION

Accessible Documentation Not Filed with the Site File - including field notes, analysis notes; photos, plans and other important documents

1) Document type All materials at one location Maintaining organization University of Florida
Document description field records, photographs, catalog File or accession #s

2) Document type Maintaining organization
Document description File or accession #s

RECORDER & INFORMANT INFORMATION

Informant Information: Name Kenneth E. Sassaman

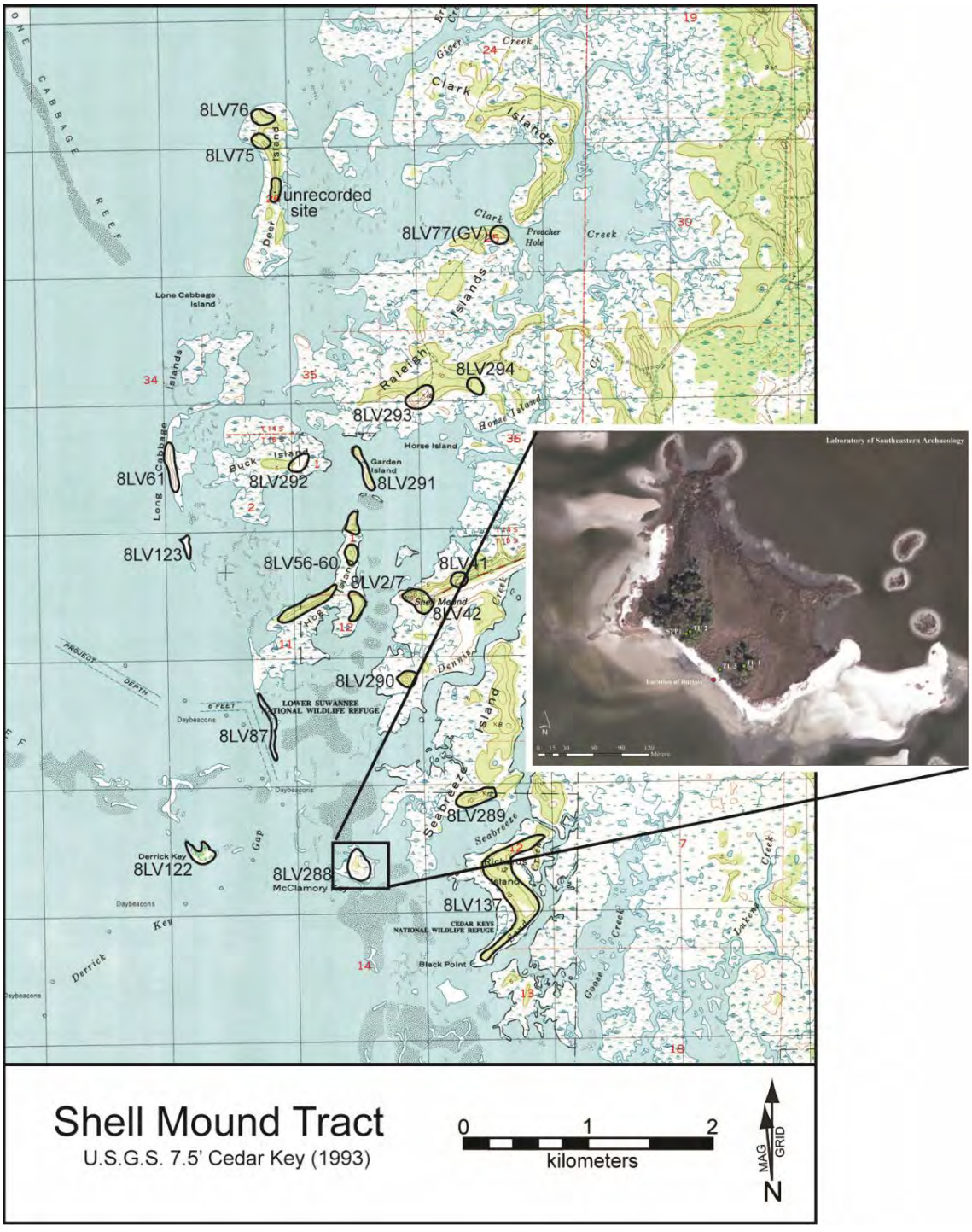
Address / Phone / E-mail Dept. of Anthropology, University of Florida; 352-392-6772; sassaman@ufl.edu

Recorder Information: Name Kenneth E. Sassaman Affiliation University of Florida

Address / Phone / E-mail Dept. of Anthropology, University of Florida; 352-392-6772; sassaman@ufl.edu

Required Attachments

❶ PHOTOCOPY OF 7.5' USGS QUAD MAP WITH SITE BOUNDARIES MARKED *and* SITE PLAN
Plan at 1:3,600 or larger. Show boundaries, scale, north arrow, test/collection units, landmarks and date.


8LV76
8LV75
unrecorded site
8LV77(GV)
8LV294
8LV293
8LV61
8LV292
8LV291
8LV123
8LV56-60
8LV2/7
8LV41
8LV42
8LV290
8LV87
8LV289
8LV122
8LV288
8LV137
Laboratory of Southeastern Archaeology
Shell Mound Tract
U.S.G.S. 7.5' Cedar Key (1993)
0 1 2
kilometers
MAG
GRID
N

APPENDIX E:

SURVEY LOG

Page 1

Ent D (FMSF only)_____

Survey Log Sheet

Florida Master Site File
Version 4.1 1/07

Survey # (FMSF only) _____

Consult ***Guide to the Survey Log Sheet*** for detailed instructions.

Identification and Bibliographic Information

Survey Project (name and project phase) Phase II investigations at McClamory Key (8LV288) related to discovery of unmarked burials and subsequent recovery of the remains of 25 individuals

Report Title (exactly as on title page) Archaeological Investigations at McClamory Key (8LV288), Levy County, Florida

Report Authors (as on title page, last names first) 1. Kenneth E. Sassaman 2. John S. Krigbaum 3. Ginessa J. Mahar 4. Andrea Palmiotto

Publication Date (year) 2015 **Total Number of Pages in Report** (count text, figures, tables, not site forms) 130

Publication Information (Give series, number in series, publisher and city. For article or chapter, cite page numbers. Use the style of *American Antiquity*.)
Technical Report 22, Laboratory of Southeastern Archaeology, Department of Anthropology, University fo Florida, Gainesville.

Supervisors of Fieldwork (even if same as author) Names Kenneth E. Sassaman and Daniel Seinfeld

Affiliation of Fieldworkers: Organization University of Florida City Gainesville

Key Words/Phrases (Don't use county name, or common words like *archaeology, structure, survey, architecture, etc.*)
1. Late Archaic burials 3. Weeden Island 5. _____ 7. _____
2. sea-level rise 4. northern Gulf Coast 6. _____ 8. _____

Survey Sponsors (corporation, government unit, organization or person directly funding fieldwork)
Name Hyatt and Cici Brown Endowment for FL Archaeol Organization University of Florida
Address/Phone/E-mail Department of Anthropology, Box 117305, Univ. of Florida, Gainesville

Recorder of Log Sheet Kenneth E. Sassaman **Date Log Sheet Completed** 3-12-2015

Is this survey or project a continuation of a previous project? ☒ No ☐ Yes: Previous survey #s (FMSF only) _____

Mapping

Clear Mapping Values

Counties (List each one in which field survey was done; attach additional sheet if necessary)
1. Levy 3. _____ 5. _____
2. _____ 4. _____ 6. _____

USGS 1:24,000 Map Names/Year of Latest Revision (attach additional sheet if necessary)
1. Name CEDAR KEY Year 1993 4. Name _____ Year _____
2. Name _____ Year _____ 5. Name _____ Year _____
3. Name _____ Year _____ 6. Name _____ Year _____

Description of Survey Area

Dates for Fieldwork: Start 8-18-2012 End 3-10-2013 **Total Area Surveyed** (fill in one) 0.5 hectares _____ acres
Number of Distinct Tracts or Areas Surveyed 1
If Corridor (fill in one for each) **Width:** _____ meters _____ feet **Length:** _____ kilometers _____ miles

Page 2 **Survey Log Sheet** Survey #_____

Research and Field Methods

Types of Survey (check all that apply): ☒archaeological ☐architectural ☐historical/archival ☐underwater ☐damage assessment ☐monitoring report ☐other(describe): _____

Scope/Intensity/Procedures surface reconnaissance and collection; judgmental bucket auger; one shovel test; two 1 x 1-m test units; one 1 x 2-m test unit; recovery of human skeletal remains from 25 individuals

Preliminary Methods (check as many as apply to the project as a whole)

☐Florida Archives (Gray Building)	☐library research- *local public*	☐local property or tax records	☐other historic maps
☐Florida Photo Archives (Gray Building)	☐library-special collection - *nonlocal*	☐newspaper files	☐soils maps or data
☐Site File property search	☐Public Lands Survey (maps at DEP)	☒literature search	☐windshield survey
☒Site File survey search	☒local informant(s)	☐Sanborn Insurance maps	☒aerial photography

☐other (describe): _____

Archaeological Methods (check as many as apply to the project as a whole)

☐Check here if **NO** archaeological methods were used.

☐surface collection, controlled	☐shovel test-other screen size	☒block excavation (at least 2x2 m)
☒surface collection, uncontrolled	☐water screen	☐soil resistivity
☒shovel test-1/4"screen	☐posthole tests	☐magnetometer
☐shovel test-1/8" screen	☒auger tests	☐side scan sonar
☐shovel test 1/16"screen	☐coring	☐pedestrian survey
☐shovel test-unscreened	☒test excavation (at least 1x2 m)	☐unknown

☐other (describe): _____

Historical/Architectural Methods (check as many as apply to the project as a whole)

☐Check here if **NO** historical/architectural methods were used.

☐building permits	☐demolition permits	☐neighbor interview	☐subdivision maps
☐commercial permits	☐exposed ground inspected	☐occupant interview	☐tax records
☐interior documentation	☐local property records	☐occupation permits	☐unknown

☐other (describe): _____

Survey Results (cultural resources recorded)

Site Significance Evaluated? ☒Yes ☐No Clear Check Boxes

Count of Previously Recorded Sites 1 Count of Newly Recorded Sites 0

Previously Recorded Site #'s with Site File Update Forms (List site #'s without "8". Attach additional pages if necessary.) BLV288

Newly Recorded Site #'s (Are all originals and not updates? List site #'s without "8". Attach additional pages if necessary.) _____

Site Forms Used: ☐Site File Paper Form ☒Site File Electronic Recording Form

*****REQUIRED: ATTACH PLOT OF SURVEY AREA ON PHOTOCOPY OF USGS 1:24,000 MAP(S)*****

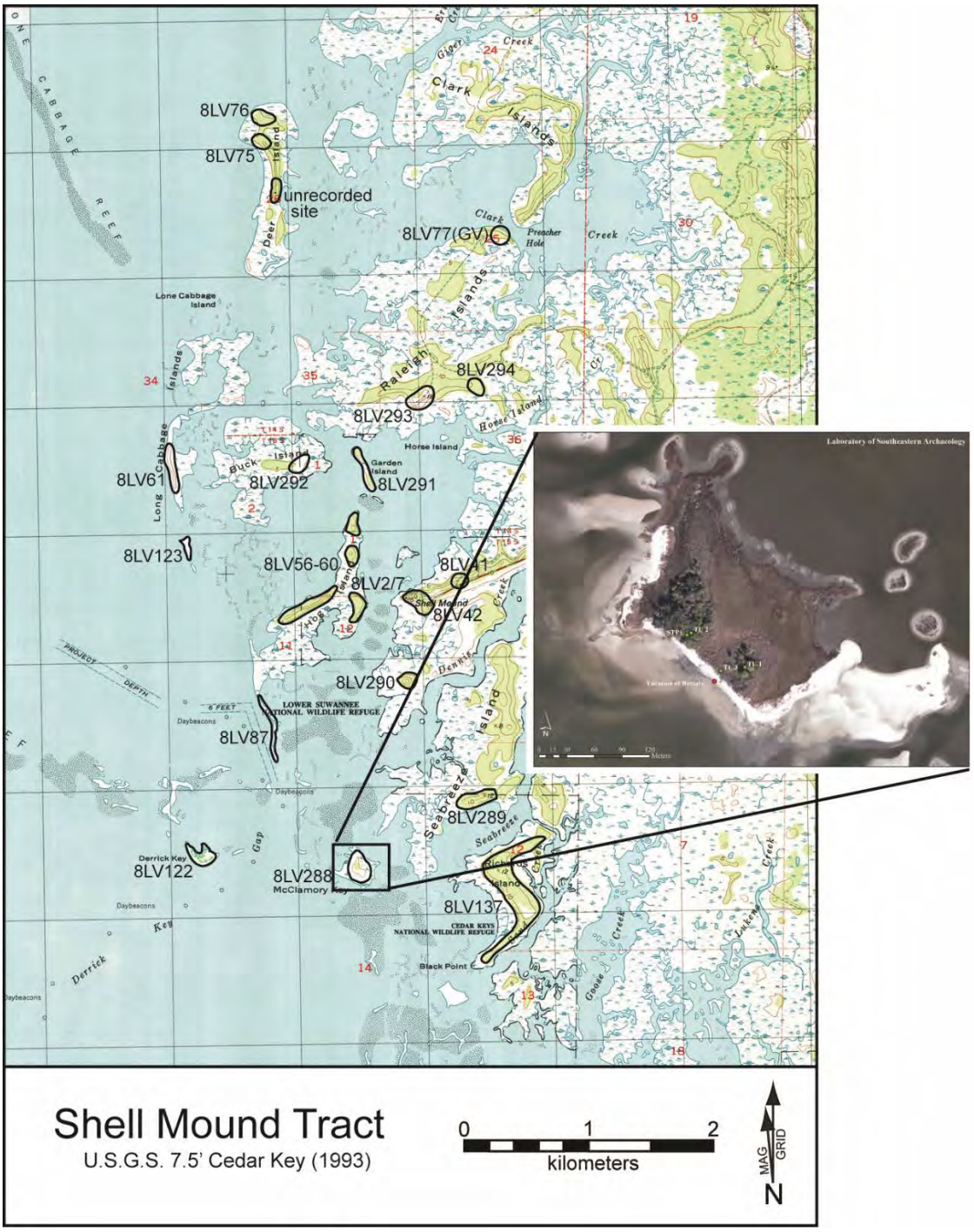
SHPO USE ONLY	SHPO USE ONLY	SHPO USE ONLY

Origin of Report: ☐872 ☐CARL ☐UW ☐1A32 # _____ ☐Academic ☐Contract ☐Avocational ☐Grant Project # _____ ☐Compliance Review: CRAT # _____

Type of Document: ☐Archaeological Survey ☐Historical/Architectural Survey ☐Marine Survey ☐Cell Tower CRAS ☐Monitoring Report ☐Overview ☐Excavation Report ☐Multi-Site Excavation Report ☐Structure Detailed Report ☐Library, Hist. or Archival Doc ☐MPS ☐MRA ☐TG ☐Other: _____

Document Destination: _____ Plotability: _____

HRGE086R0107 Florida Master Site File, Division of Historical Resources, Gray Building, 500 South Bronough Street, Tallahassee, Florida 32399-0250
Phone 850-245-6440, FAX 850-245-6439, Email: SiteFile@dos.state.fl.us


8LV76
8LV75
unrecorded site
8LV77(GV)
8LV294
8LV293
8LV61
8LV292
8LV291
8LV123
8LV56-60
8LV2/7
8LV41
8LV42
8LV290
8LV87
8LV289
8LV122
8LV288
McClamory Key
8LV137
Lone Cabbage Island
Horse Island
Garden Island
Buck Island
Long Island
Clark Islands
Raleigh Islands
Seabreeze Island
Nicks Island
Black Point
Derrick Key
Laboratory of Southeastern Archaeology
Shell Mound Tract
U.S.G.S. 7.5' Cedar Key (1993)
0 1 2
kilometers
MAG GRID
N