

## CHAPTER 2

### THE CULTURAL GEOGRAPHY OF SANTA CATALINA DE GUALE

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The history and archaeological research on St. Catherines Island is discussed at some length elsewhere (Durham and Thomas, 1978; Thomas, 2008a: 9–21). The following account emphasizes what seems most directly relevant to the zooarchaeology of Mission Santa Catalina de Guale.

#### THE SEARCH FOR MISSION SANTA CATALINA DE GUALE

When Lewis Larson visited St. Catherines Island in 1952 during the Georgia Historical Commission search for 16th- and 17th-century Spanish mission sites along the Georgia coast, he correctly listed Wamassee Head as one of the “good candidates for the location of a mission” (Larson, 1952: 2). Larson first conducted archaeological investigations at Wamassee Creek in 1959, finding that most of the recovered ceramics date to the First Spanish period (see Brewer, 1985; May, 2008). During the American Museum of Natural History’s (AMNH) subsequent investigations in the area, we found that Larson was digging middens located along the southern outskirts of the pueblo portion of Mission Santa Catalina de Guale.

John W. Griffin visited St. Catherines Island on April 5–9, 1965, and prepared a report speculating about the specific location of Mission Santa Catalina de Guale (Griffin, 1965). Taking into consideration Lewis Larson’s previous excavations, Griffin agreed that Wamassee Head was the most likely location of the long-lost mission settlement (Griffin, 1965: 6; see also Thomas, 1987: 105–106; Thomas, 2008a: 14).

Joseph Caldwell and his students from the University of Georgia (UGA) subsequently conducted three seasons of archaeological fieldwork on St. Catherines Island, excavating both burial mounds and shell middens (including a number of test pits in the Wamassee Head area). Caldwell (n.d.) concluded that “there is no reason to believe, at present, that this is not the site of the mission of Santa Catalina. So far, however, our excavations have yielded little structural detail.”

When AMNH began working on St. Catherines Island in 1974, our research emphasized island-wide landscape archaeology, bioarchaeology, and broad-scale excavations of selected sites (Thomas, 2008a, 2008b, 2008c; see also Larsen, 1981, 1982, 1984, 2002; Larsen and Thomas, 1982, 1986; Thomas et al., 1978; Thomas and Larsen, 1979).

After spending several field seasons working on mortuary sites, we invested three years conducting a regional archaeological survey of St. Catherines Island, with two specific objectives in mind: (1) to obtain a relatively unbiased sample of archaeological sites from all time periods drawn from all parts of the island (reported in Thomas, 2008a, 2008b, 2008c); and (2) to pinpoint the exact location of Mission Santa Catalina de Guale.

The successful search for Mission Santa Catalina is described elsewhere (Thomas, 1987, 1988a) and, for the next 15 years, we excavated the ruins of the 16th- and 17th-century Franciscan missions at Santa Catalina de Guale (Thomas, 1988a, 1988b, 1992, 1993a, 1993b). During the first years, between 1981 and 1990, our research and excavations focused almost exclusively on

the mission compound proper. After that, we expanded the scope of our investigations on the island to include the Native American village (pueblo) at Santa Catalina.

To date, we have published five monographs and one book addressing the archaeology of Mission Santa Catalina de Guale:

*The Archaeology of Mission Santa Catalina de Guale: 1. Search and Discovery* (Thomas, 1987).

*St. Catherines: An Island in Time* (Thomas, 1988b).

*The Archaeology of Mission Santa Catalina de Guale: 2. Biocultural Interpretations of a Population in Transition* (Larsen, 1990).

*Situado and Sabana: Spain's Support System of the Presidio and Mission Provinces of Florida* (Bushnell, 1994).

*The Struggle for the Georgia Coast: An Eighteenth-Century Spanish Retrospective on Guale and Mocamo* (Worth, 1995; see also Worth, 2007).

*The Beads of St. Catherines Island* (Blair et al., 2009).

The present volume is one of several publications that will further explore the documentary history, material culture, paleobiology, and architecture of Mission Santa Catalina de Guale.

#### AN ARCHAEOLOGY OF THE GUALE PEOPLE

We have recently synthesized what is known about the 5000 years of human history of St. Catherines Island (table 2.1; Thomas, 2008a, 2008b, 2008c). This section briefly highlights the most important findings about the late pre-Hispanic (Irene period) and early First Spanish period (Altamaha or Mission period) peoples living on the island.

The combined archaeological surveys of St. Catherines Island demonstrate: (1) a low degree of residential mobility during all pre-Hispanic periods; and (2) an exponential increase in human population through time (Thomas, 2008c). The vast preponderance of archaeological evidence indicates that Irene populations on St. Catherines lived mostly in four-season dispersed towns located in a forest-marsh area, but, of course, they changed this pattern as conditions warranted (per Jones, 1978: 193–194).

Our archaeological excavations have

produced little direct evidence of maize (*Zea mays*) cultivation on St. Catherines Island because the research design did not adequately sample the paleobotanical record. But the ample bioarchaeological record from St. Catherines Island provides no convincing evidence of maize consumption prior to cal A.D. 1300 (Thomas, 2008a: 234, 279; 2008b: 701–704; 2008c: 933, 1033–1043; see also Larsen and Thomas, 1982: 327–329; Schoeninger et al., 1990). A significant increase in  $\delta^{13}\text{C}$  stable isotope values suggests the presence of maize cultivation sometime during the Irene period, and this evidence is supported by a contemporary increase in dental caries and periosteal lesions. These bioarchaeological data mesh neatly with ethnohistorical evidence (see Worth, 1999).

The late pre-Hispanic period was a time of significant climatic, demographic, and social change along the Georgia Bight, and we believe that such dynamics, viewed from a regional perspective, may explain why significant maize cultivation began on St. Catherines Island. Blanton and Thomas (2008) discuss the relevance of recent paleoclimatic research on bald cypress (*Taxodium distichum*) in the American Southeast. A prominent period of extended dryness is evident during the later part of the 16th century, a time when “megadroughts” plagued much of North America (Stahle et al., 2000). Stahle et al. (1998: 565) document “...a prolonged drought from 1562 to 1571 that was most severe from 1565 to 1569.” We now understand that the Jesuit missionaries of Georgia and South Carolina faced a prolonged drought from 1562–1571, the driest interval of the entire 16th century (Saunders, 2000; Worth, 1999).

The warm and dry interval of 1527–1567 was punctuated by particularly xeric conditions from 1554 to 1564, as reflected in Spanish accounts of meager harvests, empty storehouses, rampant hunger, and local unrest. The most severe drought took hold during the growing season of 1569, precisely when the Guale and Orista missions were established and immediately preceding the only winter that Juan Rogel and Antonio Sedeño spent among the coastal Indians (Worth, 1999). The Guale chiefdom was then at war with the Orista-Escamaçu chiefdom to the north of the abandoned Savannah River corridor (see fig. 1.2; Jones, 1978: 204; Worth, 2004: 240). The Jesuit priests did not know that they were experiencing the driest interval of the 16th



TABLE 2.1  
The St. Catherines Island Chronology

Period	Chronological age (in $^{14}\text{C}$ years)	Cultural
Altamaha	A.D. 1580–1700 <sup>a</sup>	First Spanish
Irene	cal A.D. 1300–1580 <sup>a</sup>	Mississippian
St. Catherines	cal A.D. 800–1300	Mississippian
Wilmington	cal A.D. 350–800	Woodland
Deptford	cal 350 B.C.–A.D. 350	Woodland
Refuge	cal 1000–350 B.C.	Woodland
St. Simons	cal 2560–2030 B.C.	Archaic

<sup>a</sup>The beginning and ending age estimates for the Altamaha and Irene periods in the St. Catherines Island chronology are based on historical documentation, not on  $^{14}\text{C}$  dating (after Thomas, 2008b: table 15.3). The St. Catherines Island chronology is expressed in calibrated radiocarbon years B.C./A.D.

century. The early ethnohistorical accounts make it clear that the impact of epidemics, coupled with newly imposed European demands for foodstuffs, placed the native coastal populations under extreme duress.

Probably still sensitive about their failures in Spanish Florida, the two Jesuit missionaries likely exaggerated the poverty of the Georgia Bight (Jones, 1978, 1980; Worth, 1999). But when viewed against the tree-ring evidence from this same area, these accounts gain considerable credibility. They document how these coastal chiefdoms were capable of adapting their long-term seasonal and annual routines to accommodate environmental fluctuations or social stress. In particular, it seems that the Guale and Orista peoples adapted their mobility strategies, when necessary, using short-term backup tactics to exploit relatively drought-resistant taxa.

The ethnohistorical documents also make it clear that, from the earliest European contact, the French and Spanish newcomers harassed the Guale residents of St. Catherines Island with demands for food tribute (Jones, 1978; Worth, 1999). Aboriginal people along the southeastern coastline also seem to have deliberately avoided contact with the French and Spanish newcomers whenever possible to escape the epidemic diseases they brought with them (Larsen, 1990: 18).<sup>1</sup> Thus, we think that the Guale and other nearby coastal

groups of the late 16th century stayed away from the early French and Spanish newcomers whenever possible: to feed themselves in times of drought, to keep from paying tribute to the colonizers, to minimize religious harassment, to forestall resettlement, and to stay clear of epidemic disease (Bushnell, 1994: 22–23, 65, 126; Geiger, 1937). We suspect that residential mobility likewise was involved in attempts to maintain redistribution patterns that reinforced chiefly alliances.

The island-wide archaeological survey also documented the dramatic consolidation and contraction of aboriginal settlements on St. Catherines Island during the Altamaha period (Thomas, 2008c: fig. 32.14), a pattern of nucleation entirely consistent with the well-known *reducción* strategy of Spanish colonists (Bushnell, 1994: 22–23, 65, 126).

#### SPANISH COLONIAL STRATEGIES IN LA FLORIDA

The earliest Spanish conquests in the Americas relied on an *encomienda* strategy in which Native American inhabitants were assigned as vassals to individual Spaniards (Fairbanks, 1985: 138; see also Deagan, 1985: 292–294; Lyon, 1976: 24–26; Thomas, 1988a: 76). But Spanish Florida lacked the labor-intensive economic structures,

such as mines or plantations, necessary to make the *encomienda* work. Throughout the Spanish Borderlands of North America, the mission outpost replaced the *encomienda* as a way to suitably modify Native American culture to fit Spanish ethnocentric purposes (Bushnell, 1981: 7–8; Hanke, 1964: 19–25).

A “mission” comprised an entire settlement (not just the religious edifices) into which aboriginal economies were reorganized (including introduction of new crops and European methods of cultivation; Bolton, 1917). Because scattered Native American groups were commonly nucleated into new settlements where diverse instruction was provided, missions attempted an explicit enculturative function (Kubler, 1940: 6–7). Their primary task was to effect religious conversion, but they also tried to raise the aborigines from the perceived primitive state to that of civilized and responsible citizens of the Spanish Empire. With colonists in short supply, the Spanish Crown employed the missions as agencies to occupy, hold, and settle its frontier. As a pioneering, “frontier” institution, the mission theoretically was to vanish with the advance of civilization.

Through years of their American experience, Spanish friars perfected their techniques of wholesale conversion of Indians to the Catholic faith. Although Pedro Menéndez de Avilés imported the newly founded Jesuit order to work in Spanish Florida, they were soon replaced by energetic Franciscans, who built some of the first Christian churches in what is now the United States, mastered numerous native languages, and wrote the first dictionaries based on the Indian dialects. Friars provided instruction not only in the catechism, but also in music, reading, and writing. To some degree, 16th- and 17th-century churchmen at St. Augustine influenced not only religious and social conduct within the colony, but also acted as primary agents in placing new settlements, determining the nature of defensive installations, and deciding the primary emphasis of agrarian policy throughout Spanish Florida.

#### THE ARCHAEOLOGY OF MISSION SANTA CATALINA DE GUALE

The Franciscan missions of Spanish Florida clearly followed long-established rules and time-honored sequences of construction. These matters were not subject to priestly whim. Considerable

paperwork was involved to insure compliance and high-level visitations were sufficiently frequent to insure a high degree of conformity. Native Americans at these missions lived a regimented life, and the Hispanic architecture of these settlements reflects the rigid organization of space, an idealized Spanish template upon which American forms were modeled.

Spain issued thousands of regulations promoting, regularizing, and controlling the American colonies. But one document in particular, “The Royal Ordinances Concerning the Laying Out of Towns” issued in 1573 by Philip II, is significant because it prescribed an idealized system for promoting colonization and laying out civil settlements throughout 16th-century Spanish America (Crouch et al., 1982: 13–16; Jones, 1978; Zéndegui, 1977).

These royal ordinances compiled 148 regulations dictating the practical aspects of site selection, city planning, and political organization. Hispanic towns were to be established only on vacant lands, or where Indians had consented freely to their establishment. Urban centers were supposed to be located on an elevated site surrounded by abundant arable land for farming and pasturage. The ideal town site was to be within easy reach of fresh water, fuel, timber, and native peoples (presumably for labor purposes). Sufficient space was to be left in the original town site to allow for growth. Whereas the ordinances theoretically applied only to permanent civic settlements, and not to temporary missions or military encampments, in practice the familiar ordinances seem to have been applied equally to urban centers and mission outposts.

The ordinances stipulated that, before construction began, a detailed town plan was to be drafted. The plazas were to be laid out first and the rest of the town oriented accordingly. The principal plaza was to be located near the landing place in coastal towns, or in the center of the community if the settlement was not coastal. Always rectangular in form, the length of the plaza was to be one and one-half times its width to provide most efficient traffic movement and ample room for holding fiestas (Jones, 1978).

These were the principles that dictated the layout of Mission Santa Catalina de Guale. As stipulated by ordinance 110, the mission structures were laid out along a rigid grid pattern (fig. 2.1). A rectangular plaza defined the center

of the sacred complex (ordinance 112), flanked on one side by the mission church (ordinance 124: “separated from any nearby building ... and ought to be seen from all sides”), on the other by the friary (ordinances 118, 119, and 121). The plaza was surrounded by (and separated from) the secular Guale pueblo; “in the plaza, no lots shall be assigned to private individuals; instead they shall be used only for the building of the church and royal houses” (ordinance 126).

A conservative estimate is that the total number of people at Santa Catalina de Guale probably did not exceed 100 in the late 17th century. John Worth (1995: 100–101) reports that only 59 Guale adults (30 men and 29 women) were present at the mission in 1681. In addition to these Guale adults and their children, a Spanish garrison was present on the island. The maximum number of soldiers was 25 in 1671, but this number decreased to nine by 1675 (Matter, 1972: 192–195; Thomas, 1990: 378). The number of missionaries on St. Catherines

is unclear; however, by other accounts only four missionaries were present in all of Spanish Florida at this time (Jones, 1978: 185).

#### THE LAYOUT OF MISSION SANTA CATALINA DE GUALE

For the purposes of this monograph, we subdivide the mission and pueblo complex at Santa Catalina de Guale into a number of generic contexts that enable efficient analysis and presentation of the relevant zooarchaeological evidence from the excavations.<sup>2</sup>

The rectangular central plaza, mentioned above, formed the spiritual heart of Mission Santa Catalina de Guale. To the west of the plaza stood the mission church and associated buildings. The eastern boundary of the plaza was defined by the friary (convento), mission kitchen (cocina), and the wells (sources of holy waters essential for the practice of Franciscan religious practices). Throughout the rest of this

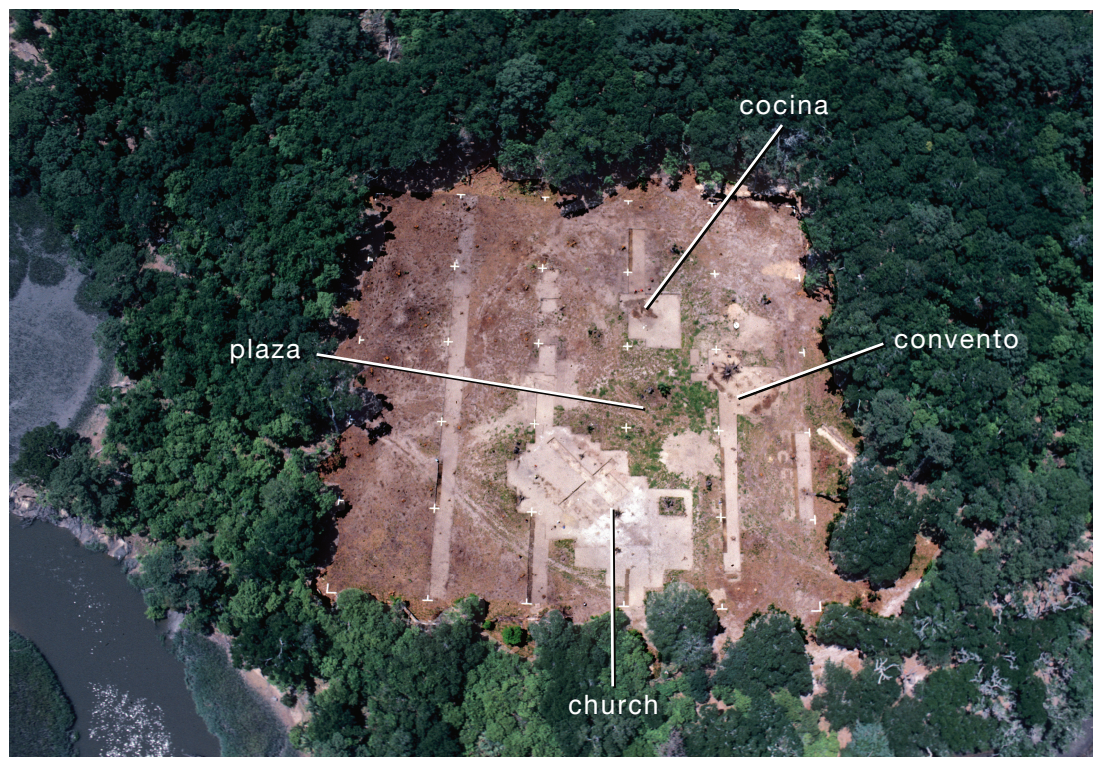


Fig. 2.1. Aerial photograph of the central compound (Quad IV) at Mission Santa Catalina de Guale, oriented with true north at the top of the page.



discussion, we will group the various mission structures and activity areas according to their special relationship to the central mission plaza.

#### THE WESTERN PLAZA COMPLEX

Our excavations at Mission Santa Catalina de Guale revealed the presence of two sequential *iglesia* (church) buildings (both designated as "Structure 1" during our fieldwork). The late 16th-century *iglesia* was destroyed by fire, probably in September 1597 (Thomas, 2009). These ruins were personally inspected by Governor Canzo, who had traveled north from St. Augustine to observe for himself the aftermath of the Guale Rebellion (Geiger, 1937: 103–104). Subsequent building episodes largely obscured the appearance of the earlier church.

After a period of abandonment, Santa Catalina was resettled by the Spaniards (probably in 1604), and the mission church was reconstructed (apparently on the 16th-century site). Most of what we term "Structure 1" at Mission Santa Catalina is the primary 17th-century church abandoned shortly after the English siege in 1680 (fig. 2.2).

The 17th-century *iglesia* at Mission Santa Catalina de Guale was constructed on a single nave plan, lacking both transept and chancel (Kubler, 1940: 30). This was a wattle-and-daub, pine-plank structure measuring 20 m long and 11 m wide (Thomas, 1988a: 96–99). The southeastern-facing facade was built strictly of wattle work, anchored to four round uprights set into shell-lined postholes. Either a pointed gable was elevated to support a steep thatch roof, or the facade sported a false front projecting above the single-story construction of the nave.

Wattle-and-daub technology required the construction of numerous "daub pits" flanking each wall. When construction was completed, these pits (roughly 1 m in diameter and up to 1 m deep) were filled with household debris and other discards. The fill of these daub pits often contained considerable animal remains and most of the zooarchaeological specimens attributed to Structure 1 are from such contexts.

The lateral church walls were constructed both of wattle work and pine planking. The nave portion of the church was 16 m long. The symbolic separation between nave and sanctuary is reflected in the architecture of this church. The sanctuary (northwestern) end of the church was built entirely of wooden planking and apparently

elevated above the lateral wattle-and-daub walls of the nave. The clearly demarcated sacristy, measuring 5 m wide and 3 m deep, was built on the Gospel side of the church (the left-hand side of the sanctuary as one faces the altar). Here presumably were stored vestments, linens, candles, processional materials, and other ritual paraphernalia essential to celebration of the Mass. The sacristy also contained a buried cache of charred wheat, likely destined to be baked into the "host," flatbread used in the Eucharist. These and other paleoethnobotanical botanical remains from St. Catherine's Island are being studied by Donna Ruhl (1990, 1993, 2003).

Fronting the church stood a square, shell-covered subplaza, measuring about 15 m on a side (evident at the bottom of fig. 2.2). This subplaza was likely a low-walled, enclosed churchyard (*atrio*) demarcating the public entrance to the church. Ubiquitous features of American Hispanic religious architecture, such churchyards served not only as a decorous entryway into the church, but also functioned variously as outdoor chapels, areas to contain overflow congregations, and sometimes as cemeteries (Kubler, 1940: 73–75; Montgomery et al., 1949: 54). The churchyard at Santa Catalina was constructed of water-rolled marine shell gathered from naturally occurring deposits scattered along the intracoastal waterway; these massive shell bars are accessible only by water craft.

The only known cemetery (*campo santo*) associated with Mission Santa Catalina de Guale was found inside the church. The human remains recovered from this cemetery constitute one of the best-documented and most extensive series of human remains from an early colonial site in North America. Our excavations beneath the floor of the nave and sanctuary revealed a minimum of 431 buried individuals, rough half of which ( $N = 226$ ) were found in primary, undisturbed contexts, generally supine and extended, feet towards the altar, and arms folded across the chest (Larsen, 1990; Russell et al., n.d.: 4). The additional individuals were found in disturbed, secondary contexts. The *campo santo* at Santa Catalina contains a truly astounding array of associated grave goods, especially the bead assemblage discussed by Blair et al. (2009).

The meticulously excavated remains from Mission Santa Catalina de Guale have been studied by a number of independent techniques, including biomechanical analysis, microscopic

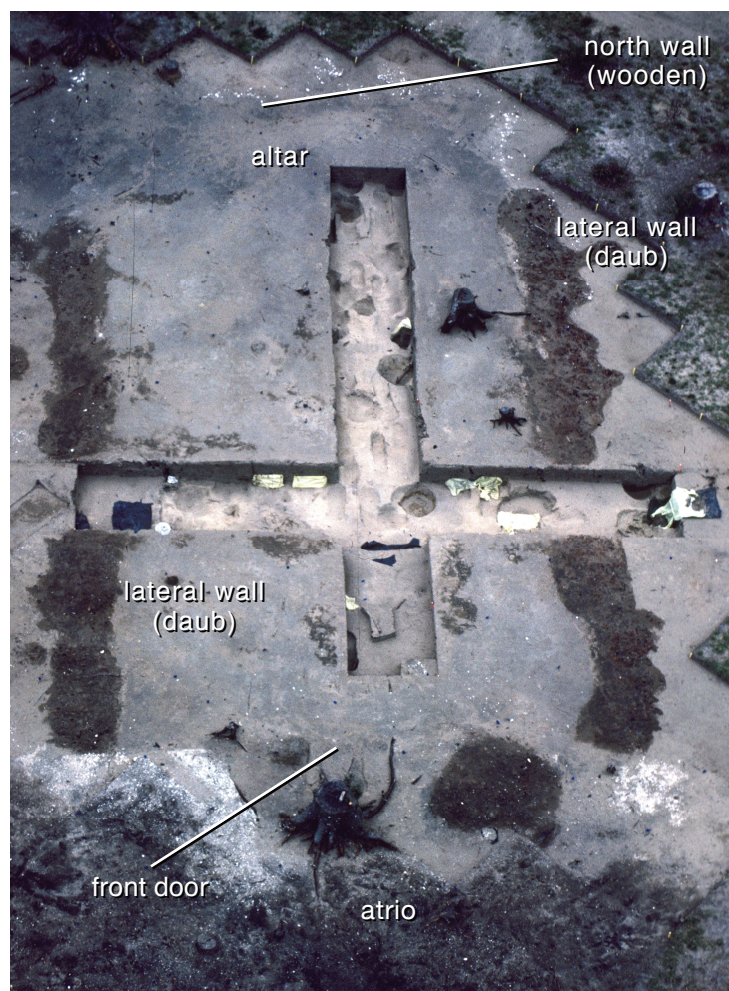


Fig. 2.2. Aerial photograph of the primary church (Structure 1) at Mission Santa Catalina de Guale, oriented along the Hispanic grid system with “mission north” at the top of the page. The North Pueblo is visible at the top of the photograph.

examination of dentition, reconstruction of ancient demographic profiles, and stable isotope analysis (Hutchinson and Larsen, 1988, 1990; Hutchinson et al., 1998; Larsen, 1982, 1990, 2001, 2002; Larsen et al., 1990a, 1990b, 1991, 1992, 2001a, 2001b; Larsen and Harn, 1994; Larsen and Hutchinson, 1992; Larsen and Ruff, 1994; Larsen and Thomas, 1982, 1986; Ruff and Larsen, 1990; Schoeninger et al., 1990; Simpson et al., 1990; Thomas and Larsen, 1979). The results of these studies are summarized in chapter 3.

West of the church(s) at Mission Santa Catalina stood another building labeled “Structure

1W.” We are still uncertain of the function and temporal assignment of this building, but for present purposes, all zooarchaeological materials recovered from the vicinity of Structure 1W has been grouped with the Western Plaza Complex.

#### THE EASTERN PLAZA COMPLEX

For the purposes of zooarchaeological analysis, all structural evidence located directly to the east of the central mission plaza are grouped together as the Eastern Plaza Complex, which includes the friary, the cocina, and the well area between the two structures (fig. 2.3; see also chap. 5).

The friary at Mission Santa Catalina de Guale





Fig. 2.3. Aerial photograph of the Eastern Plaza Complex at Mission Santa Catalina de Gualle, oriented along the Hispanic grid system with "mission north" at the top of the page. The North Pueblo is north of the cocina.

(termed "Structure 4" during our excavations) was erected along the east side of the central plaza, directly across from the mission church. Church regulations dictated the interior configuration of Franciscan friaries. The friary was, above all, a "cloistered," monastic space, separate and apart; women were not permitted inside. Poverty, the hallmark of the Friars Minor, dictated that the friary follow a simple plan, often a single row of rooms, sometimes defining the sides of a quadrangle that contained the sacred garden (the garth). Inside the friary stood the refectory, the quarters for the friars, and perhaps some specialized rooms, such as a kitchen, offices, workshops, or granary. Meals were to be taken in silence. Water assumed great significance in Franciscan rite, and a source of sacred water was always a matter of concern when positioning a friary. Because of the importance of visitation by superiors and other friars, friaries were sometimes built to serve needs far beyond those of one or two lonely friars. The friary at Santa Catalina seems to follow such rules rather closely. Rooms were indeed very small, and they appear to surround two central enclosures (one of which is probably the refectory). Two major wells, presumably sources of holy water, were excavated nearby.

The earlier friary, likely constructed in the late 16th century, was made of wattle-and-daub and measured roughly 10 m by 20 m, with the long axis oriented to approximately 310° (figs 2.3 and 2.4; Thomas, 1988a: 99–100; 1993a: 16). Construction was entirely of rough wattle-and-daub; this early building was supported by relatively large posts set in holes with clean sand fill. It appears to have been divided into four rooms, three measuring 10 m by 6 m and one measuring 10 m by 4 m (Saunders, 1990: 537). The kitchen and refectory were probably inside the 16th-century friary, with the additional rooms probably used for living quarters and storage. Kitchen debris and table scraps were tossed out the back door, where a fringe of shell midden accumulated against the rear wall, well out of sight from the church. A clearly incised drip line demonstrates that the 16th-century friary had eaves extending about a meter beyond the rear wall. Figure 2.4 clearly shows this drip line along the eastern margin of Structure 4. This early friary was probably burnt by rebellious Guale in the fall of 1597 (Francis and Kole, Ms.; Worth, 2009).

The mission complex was rebuilt (probably in 1604) and the new friary was constructed on the

same location (Francis and Kole, ms.; Saunders, 1990; Thomas, 1988a, 1993a; Worth, 2009). When Fray Ruiz supervised the reconstruction in 1604, he apparently separated sacred from secular because a distinct *cocina* was erected 20 m to the north of the new friary.

The 17th-century friary, also a wattle-and-daub building, measured 12 m by 8.5 m. The southeastern walls of both 16th- and 17th-century friaries were built on the same location. But the later structure was somewhat smaller. The long axis of the 17th-century friary is 325°; the 15° difference in orientation greatly facilitated separating the two buildings during excavation. The later friary consists of three well-defined and one less well-preserved daub walls, accompanied in all cases by *in situ* wall posts. The smaller size of the later structure probably reflects the construction of the detached kitchen, located approximately 20 m northwest of the friary (Thomas, 1993a: 16–17). The later friary was apparently subdivided into several small rooms arranged around a central enclosure that contained a raised font. Located at the south end of the structure was a larger room, thought to be a library or refectory, heated with a central brazier. Two porches were attached to the later structure: a colonnaded porch on the western edge of the building, marking the edge of the central plaza, and a porch or annex (figs. 2.3 and 2.4) located south of the library or refectory (Thomas, 1988a: 103). This second porch contained features that may indicate that it was a storage area (Saunders, 1990: 537). The western wall was enclosed by a well-defined arcade, probably a colonnaded porch marking the eastern margin of the central plaza. At least three doorways faced the church to the west. This porch was aligned exactly with the western wall of the *cocina*. An addition of some sort, apparently not of wattle-and-daub, was appended to the southern wall.

It seems likely that the zooarchaeological specimens recovered from Structure 4 came from either people deliberately filling the daub pits with available trash or from the sheet midden that accumulated along the rear wall of the friary.

The new friary was about 15% smaller than its predecessor, but this size differential was perhaps counterbalanced by the new *cocina* (kitchen) built 20 m to the northwest.<sup>3</sup> Figures 2.3 and 2.4 show the configuration of the 17th-century kitchen (denoted as "Structure 2" during our excavations), which measured 4.5 m by 6 m.





Fig. 2.4. Aerial photograph of the Eastern Plaza Complex at Mission Santa Catalina de Guale, oriented along the Hispanic grid system with “mission east” at the top of the page.

It was constructed of wattle-and-daub on three sides. These walls were supported by squared pine posts placed in pits. The southern end of the kitchen was apparently left open, presumably to facilitate both access and ventilation. Considerable evidence of shell bead manufacture was found in Structure 2, suggesting the possibility of a multi-use building (Blair et al., 2009). The cooking for the friars was probably shifted to this new structure early in the 17th century. Although most kitchen debris was discarded some distance away (probably outside the walled mission compound), some midden accumulated in pits near the *cocina*, and occasional smaller pieces of garbage were trampled underfoot being thus incorporated in the kitchen floor.

Two wells were discovered on the eastern side of the plaza at Mission Santa Catalina de Guale (Thomas, 1988a, 1993a). One of these (denoted “Structure 3” in the field notes) was discovered during the initial magnetometer survey of Quad IV (figs. 2.3 and 2.4; Garrison et al., 1985; Thomas,

1987). This barrel-lined well was located several meters northeast of the friary and likely dates to the 16th-century mission occupation (Thomas, 1993a: 19).

A second, much larger well (denoted “Structure 2/4, FS(2/4)513” in the field notes) was discovered between the friary and the *cocina* (figs. 2.3 and 2.4). We found evidence in the upper levels of the excavation that this area likely was used as a garden, but then we found a large circular construction pit more than 4 m in diameter, with a dark, largely circular, stain in the middle. As we excavated downward, the construction pit narrowed, with distinct “steps” on both sides; a 17th-century cave-in is recorded in the southern sidewall, where one of the sand steps apparently collapsed.

The well was originally much smaller, first having been constructed with standard barrels. It was subsequently renovated using a casement constructed of two U-shaped cypress logs that were lowered into the construction pit and

then nailed together. This later, handmade-well casing was at least 2 m in diameter and considerably larger than mission-period wells typically encountered in Spanish Florida. This well clearly crosscuts surrounding features in the friary/cocina complex; it was one of the last features built at the mission and was probably in use until the final mission abandonment in the 1680s.

The well reached a depth of roughly 2.5 m. A considerable amount of cultural and botanical remains were included in both the construction pit and well fill. A quantity of waterlogged items found at the base of the well include a broken iron hatchet (with a partial wooden handle still intact, possibly broken during the carving of the casement), two wooden balls (roughly the size of pool balls), at least five reconstructible aboriginal vessels (two of which are unbroken and one of which is painted on the interior and exterior), most of two olive jars, and many seeds and pits including those of grape (*Vitus* sp.), peach (*Prunus persica*), and squash (*Cucurbita* spp.). At the bottom of the well were quantities of burnt, cut wood, which may have been part of a superstructure that once covered the well.

#### THE LAYOUT OF PUEBLO SANTA CATALINA DE GUALE

Although we have learned a great deal about the central mission compound, our knowledge of the surrounding Indian pueblo is less secure, in part because the Hispanic documents glossed over such “mundane” matters and also because of limited archaeological exploration of the mission periphery. We suspect that housing in the pueblo consisted of rectangular buildings, perhaps separated by “streets.” Native American structures were apparently built as an extension of the initial formal mission plan. The pueblo likely contained a large council house (or buhio) and a ball court, but we have yet to identify either one.

During our last significant field operation at Mission Santa Catalina de Guale, we shifted the archaeological focus of attention from the Hispanic core to the Native American outskirts. We had previously tested the surrounding Guale pueblo in several places, but our concern was primarily chronological, to be certain that the extensive habitation area surrounding the mission buildings was occupied during the 16th

and 17th centuries.

The archaeological procedures involved in surveying and partitioning the mission complex are described elsewhere (Thomas, 1987: 142–148) and only the most relevant details are reiterated here. Figure 2.5 shows the basic layout of Mission Santa Catalina de Guale, framed with “Spanish north” to the top (note that true north differs by 45°). Situated within the Spanish grid system, the church/cemetery (Structure 1) complex appears in the middle of figure 2.5, with the central plaza to the right (“Spanish” east). The early and late convento (Structure 4) define the eastern margin of the central plaza, with the cocina (Structure 2) to the immediate (“Spanish”) north. The central mission compound is surrounded by the “pueblo” complex, presumably containing Native American residences and other attendant structures, including several domiciles (such as Structure 5 and perhaps those structures to the west, plus one or more council houses, as yet unidentified). The “western bastion” depicts an inferred defensive fortification, with the later extensions shown as horizontal and vertical lines. Figure 2.5 is color-coded to correspond with the units of analysis employed in this volume.

Figure 2.6 is a false-color infrared rendering of Mission Santa Catalina de Guale. The large clearing in the center is “Quad IV,” a 1-ha zone completely cleared of vegetation to expose the mission structure. The surrounding pueblo area has been divided into geographic subdivisions, clustering the various quads and structural excavations as follows:

*Pueblo North* includes the northwestern (cardinal) part of Quad IV (presumably the area lying outside the mission wall) including Structure 5 and northwestern mission bastion excavations.

*Pueblo South* includes everything inside Quad II, including Structure 6, the various University of Georgia excavations at Wamasse Head,<sup>4</sup> and the collections made within the freshwater creek proper (see Thomas, 2008b: 574–580).

*The Fallen Tree* site (9Li8) is a third part of the pueblo complex at Santa Catalina de Guale. Fallen Tree was initially named and tested by the University of Georgia in 1971 (Caldwell, 1971). The American Museum of Natural History conducted numerous subsequent excavations at Fallen Tree, as described elsewhere (May, 2008; Reitz and Dukes, 2008).

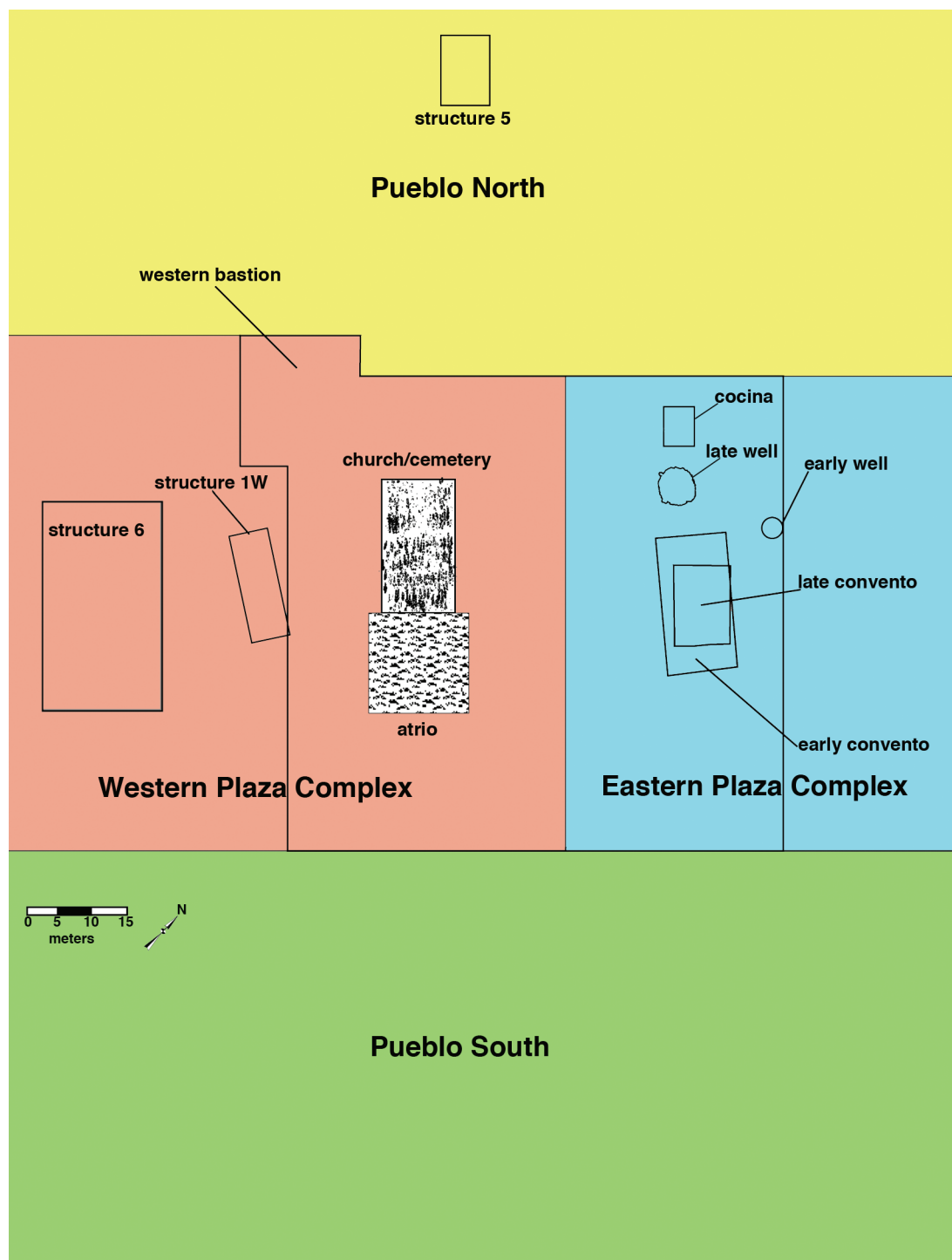


Fig. 2.5. Schematic of the various analytical subdivisions of Mission Santa Catalina de Gualle, oriented along the Hispanic grid system, with "mission north" at the top of the page.



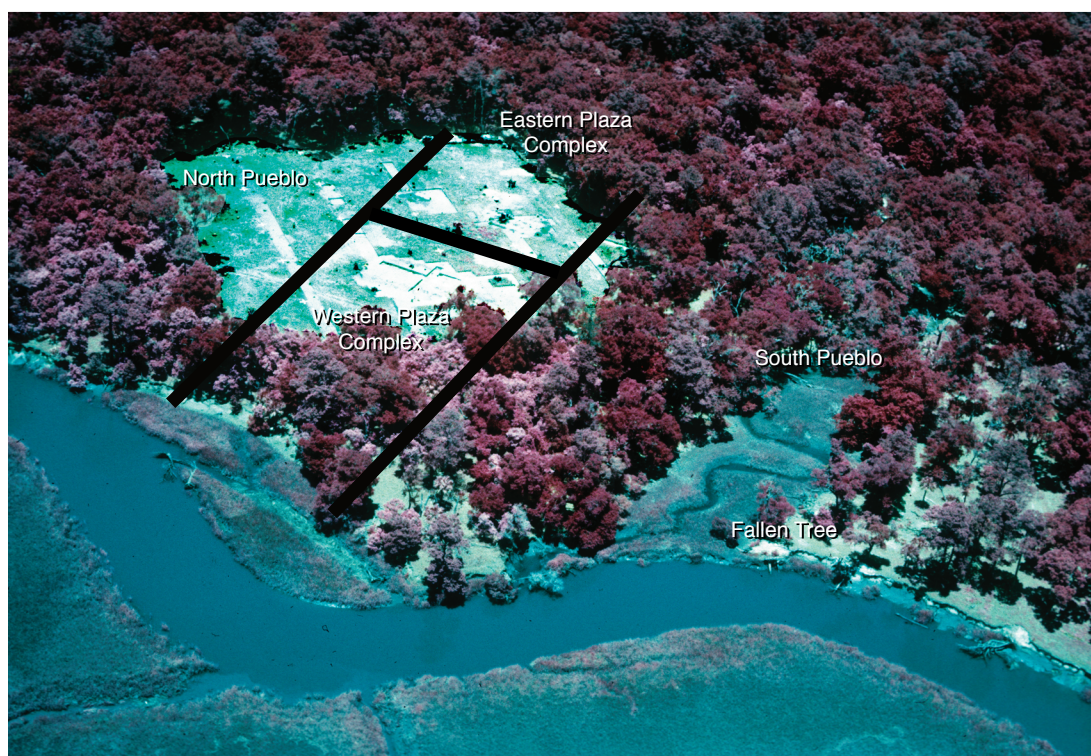


Fig. 2.6. False-color infrared aerial photograph of Mission Santa Catalina with the analytical subdivisions superimposed (looking to the northeast). Quad IV is evident as the one hectare clear-cut area toward the center-left and Wamassee Creek runs along the bottom of the photograph.

## CONCLUSIONS

This chapter has presented the archaeological background necessary to understand the derivation and recovery of the zooarchaeological record presented elsewhere in this monograph. We began with a brief discussion of the aboriginal people who populated St. Catherines Island for 5000 years. We then summarized our understanding of the Guale people who greeted the first European settlers to the area, and touched on the Spanish colonial strategies that played out on St. Catherines Island and elsewhere throughout Spanish Florida. Finally, we recapitulated the town plan and architecture of Mission Santa Catalina

de Guale and the surrounding Native American settlement (called the “pueblo”). For the purposes of this discussion, the zooarchaeological remains recovered from the sacred portion of the site (and discussed in chap. 5) are subdivided into the Plaza West Complex (comprised of the mission church, nearby buildings, and activity areas) and the Plaza East Complex (containing the friary, the cocina, and the two mission wells). The faunal remains reported in chapter 6 derive from Pueblo South (originally designated Pueblo II), Pueblo North (originally designated Pueblo IV), and Fallen Tree (a second subdivision of the Pueblo South portion of the Native American outskirts).

## NOTES

1. Thousands died during the decade 1649–1659 (Larsen, 1990: 18) and missions were foci for the spread of disease, where centralized populations provided ideal conditions for the introduction and spread of pathogens. In 1657, the governor of Spanish Florida commented on the drastic reduction of the native population in the province of Guale “...because they have been wiped out with the sickness of the plague and small-pox which have overtaken them in the past years” (quoted in Hann, 1986a: 378).

2. Since this was written, Elliot Blair and the author have reanalyzed the architecture of the superimposed churches at Mission Santa Catalina de Guale. This reanalysis is based on GIS compilations of fieldnotes,

photographs, maps, and artifact descriptions. The results, to be published subsequently, will change some of the interpretations of church architecture and site structure presented in this chapter and elsewhere (e.g., Thomas, 1988a; 1993a).

3. We cannot eliminate the possibility that a 16th-century structure once stood on the site of the 17th-century cocina. We did not isolate a two-component occupation of Structure 2 during excavation and subsequent analysis will be necessary to finalize this point.

4. Wamassee Head is defined as that area north of the freshwater creek, including the northern creek bank collections, as well as Caldwell’s excavations and the adjacent AMNH excavations (9Li13, AMNH 208; May, 2008; Thomas, 2008b: 574–579).