

The Luna Settlement in Archaeological and Documentary Perspective

John E. Worth

Abstract

Since its discovery in 2015, the University of West Florida has conducted archaeological investigations at the site of Santa María de Ochuse, Tristán de Luna y Arellano's 1559-1561 settlement on Pensacola Bay. After nearly four years of fieldwork and lab work, the site has already revealed a substantial and diverse assemblage of artifacts associated with equipment, supplies, and provisions brought both collectively by the army and its companies and subordinate residential and dining units, and by individuals as personal goods. Moreover, the discovery of features such as trash pits and postholes supplement an increasingly detailed understanding of the horizontal distribution of artifacts to provide important clues regarding the layout of the 31-acre settlement and the activities conducted there, supplementing what the documentary record tells us about this site and the people who inhabited it. This paper provides an update of our current understanding of this important mid-sixteenth-century Spanish settlement.

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In August of 1559, some 1,500 soldiers and settlers disembarked from ships that had brought them from Veracruz in New Spain and began preparations for construction of a new colonial port town on Pensacola Bay. Led by a veteran of the Coronado expedition to the American Southwest, don Tristán de Luna y Arellano, this was the sixth major colonial expedition by Spain to southeastern North America since 1513 (not counting coastal exorations), and the third formal attempt to establish a permanent settlement in what was known as *La Florida*.¹ Luna's expedition was the largest and most well-financed to that time, and even dwarfed the subsequent colonizing expedition of Pedro Menéndez de Avilés to St. Augustine and Santa Elena just six and seven years later, respectively.² In fact, the Luna expedition was more than twice the size of all prior and subsequent Spanish expeditions to Florida until reinforcements arrived for Menéndez in the summer of 1566. Even then, the dispersal of these troops still left Luna's Pensacola settlement as the largest to be established by the Spanish in the eastern United States during the entire sixteenth century.

It was also, however, a failure, lasting only two years until being abandoned.³ Even though Luna's Pensacola settlement lasted longer than both prior attempts to establish colonial towns in Florida, making it the first multi-year European settlement in the United States, the hurricane that arrived just five weeks after the Spanish made landfall destroyed most of the colony's food and added stranded sailors to the already excessive population at the settlement. Lacking sufficient local wild resources to sustain so many mouths in one place, the immediate crisis was compounded over the next two years by slow relief expeditions from New Spain,

¹ e.g. Davis 1935; Lawson 1946; Lyon 1981; Weddle 1985; Hoffman 1990, 1992, 1994, 2002; Peck 1992; Clayton et al. 1993; Hudson 1997; Worth 2013, 2014.

² e.g. Lyon 1976, 1984.

³ Dávila Padilla 1625; Priestley 2010; Arnade 1959; Weddle 1985:251-284; Hudson 1988; Hudson et al. 1989; Worth 2009, 2018a-c; Bolte 2017, 2019; see also Galloway 1995:143-160.

growing Native hostility, and bitter disputes between Luna and his followers. In the end, just a tenth of the original population remained after evacuations with each relief fleet. A single company held the port for its last four months before being evacuated in August of 1561.

When the first archaeological traces of Luna's settlement were initially identified and tested by the University of West Florida in 2015,⁴ not only was its location fully consistent with documentary descriptions of it being located on a high point overlooking the heart of the bay, not far from water deep enough to anchor the colonial fleet, but it was also directly inshore from the first two Emanuel Point wrecks, both of which belonged to Luna's fleet.⁵ Moreover, the mid-sixteenth-century artifact assemblage from the terrestrial settlement was essentially identical to that recovered from both these shipwrecks, including a diverse range of Spanish ceramics and wrought iron fasteners, but with the addition of many items that were offloaded before the hurricane, such as brass lacing aglets and straight pins, horseshoe nails, lead shot, and glass trade beads.⁶ What became clear over the next year of field work conducted by the UWF Archaeology Institute, however, was that the Luna Settlement is also the single largest sixteenth-century Spanish archaeological site in the eastern United States. After nearly a thousand shovel-tests conducted in 2016, the distribution of the Luna artifact assemblage was found to encompass an area of some 12.7 hectares, or 31 acres. This is more than twice the size of sixteenth-century St. Augustine and Santa Elena on the Atlantic coast, precisely as would be expected given the number of people Luna brought.

Four years of archaeological fieldwork at the Luna Settlement have resulted in a much more detailed understanding of both the site and the material culture of those who inhabited it

⁴ St. Myer 2016; Benchley and Worth 2017; Worth et al. 2017.

⁵ Smith et al. 1995, 1998; Cook et al. 2009, 2016; Smith 2018.

⁶ Worth 2016a, 2016b; Bratten and Lloyd 2017; Bolte and Worth 2017, 2019.

between 1559 and 1561. Though a peer-reviewed journal article detailing the find is currently in press, data for a more comprehensive interim technical report of ongoing archaeological fieldwork is still being analyzed and compiled. The purpose of this brief paper is to provide an update and overview of our current understanding of the site based on investigations through the summer of 2019, incorporating both archaeological data as well as corresponding documentary evidence. I will focus on two aspects of the analysis: (1) the spatial distribution of occupation based on relative artifact density, (2) the evidence for structures and localized activity areas.

The Luna Settlement site was perfectly positioned to fulfill its original function both as a port and as a launching point for an overland road into the interior. It was located on high ground near sufficiently deep water for large ships, far enough inland to offer easy terrestrial access northward but still within sight of the mouth of the bay. The immense site encompasses both an elevated level terrace overlooking Pensacola Bay as well as portions of the slope leading down toward Bayou Texar below the terrace to the west. The site also encompassed a small natural depression and freshwater pond just west of the terrace summit, as well as portions of its original drainage extending westward into the bayou, both of which appear on early maps but have subsequently been filled. The primary residential portion of the settlement appears to coincide with the upper terrace, including at minimum some 8.9 hectares, or 22 acres, while the lighter artifact distribution extending downslope along the bay bluff and pond drainage seems likely to be associated with secondary activities. This includes an inferred boat landing site where the bay bluff is only half the height of the terrace to the east, located immediately north of a deeper channel in the bay that appears on historic maps and mid-twentieth-century aerial photos.

Despite the fact that the Luna settlement has such a broad footprint on the landscape associated with the original population of 1,500 people plus as many as perhaps 200 additional sailors after the hurricane, this initial population fluctuated and diminished over the next months and years, in part as a result of military detachments of as many as 200 soldiers sent inland ahead of the main army, as well as evacuations of the sick and others on periodic relief fleets.⁷ Moreover, between the end of February and early August of 1560, the majority of the expedition relocated far inland to the native town of Nanipacana along the modern Alabama River, leaving just 100 soldiers and slaves at the settlement for the intervening four months. Even after the main expedition's return to the settlement in August, by a month later there were just 362 people living there following numerous departures. And while a 200-man detachment returned from living in the deep interior native province of Coosa in November, by April of 1561 there were just 160 people left. Just 50-60 men remained to garrison the settlement for the next four months before its abandonment.

All this is important because it suggests that the full spatial extent of the Luna Settlement site may only have been occupied for the six months before the main army moved inland to Nanipacana, while other portions may have experienced continuous habitation, especially during the 8 months that the site housed 100 people or less. This is precisely what the archaeological evidence indicates. Analysis of the spatial distribution of multiple different types and categories of artifacts on the Luna Settlement reveals that there are indeed several areas of the site where the Luna assemblage is densest, suggesting more intensive and lengthy habitation.⁸ Not surprisingly, the area with the highest artifact density is near the center of the broader site, specifically on the southwestern margin of the upper terrace. Not only is this location

⁷ Population figures drawn from assorted documents in Priestley (2010), and from Dávila Padilla (1625).

⁸ Worth 2019b.

immediately adjacent to the filled freshwater pond just downslope, it is also the section of the upper terrace that is closest to the inferred landing area to the southwest. As the population of the Luna Settlement fluctuated and dwindled, this central part of the site seems to have been the most optimal occupational area for continuous habitation, probably right up until evacuation.

A secondary area with a comparatively dense artifact assemblage is located on the far northeastern corner of the site, extending nearly up to the bluff edge. This location could have offered the twin benefits of being well-situated as a lookout over the bay to the north and east of the settlement, and as a northern gateway to the road leading northward and inland. While the density of artifacts is considerably less than that of the site's core, it clearly evidenced relative intensive and/or lengthy habitation.

Finally, the interpreted boat landing along the lower bluff slope seems to represent a third area of slightly higher artifact density, as might be expected. While the localized presence of an eighteenth-century British and Second Spanish-era ranch headquarters in this location may also contribute to the greater density of both wrought iron and lead shot, the concurrent presence of a minor concentration of Luna-era Spanish and Aztec pottery suggests this should probably also be classified as a third area of somewhat more intense Spanish activity.

Turning to the search for archaeological evidence of structures and other activity areas, it should be emphasized that although the Luna Settlement was originally intended to be laid out as a permanent Spanish port town called Santa María de Ochuse, the principal goal of the Luna expedition was to march inland with an army comprised of some 500 infantry and cavalry soldiers and follow the Hernando de Soto expedition route back across the Appalachian summit and down to the Atlantic coast where another port town would be founded at Santa Elena on the coast of modern South Carolina. The arrival of Luna's army was only the first step, and thus the

town they began to construct in August of 1559 was never intended to be more than a short-term encampment for the majority of the soldiers tasked with moving forward. Moreover, and perhaps even more importantly, the devastation wrought by the hurricane just five weeks after landfall left the entire expedition in dire straits, making it wholly possible that further construction on the town was largely curtailed, with the remaining two years of occupation at the settlement more like an extended military encampment than a formal Spanish pueblo.

The archaeological signature of these two alternatives would be expected to be quite different from one another, and if the Luna Settlement was actually a combination of a planned town and an extended military encampment, either in different parts of the site at the same time or in the same locations over the course of two years, then discerning traces of housing and activity areas at the site is likely to be challenging. As was customary in the Spanish New World during this era, Viceroy Luis de Velasco had plans drawn up for a town grid with criss-crossing streets and 100 house lots for an intended 100 settler families, and 40 lots set aside for a plaza and administrative district including a royal warehouse and a church.⁹ Contemporary illustrations of wooden structures of this sort suggest that their archaeological signature would be rectangular patterns of postholes along with corresponding nails and other fasteners, and archaeological excavations at sixteenth-century St. Augustine and Santa Elena have generally confirmed this expectation.¹⁰

On the other hand, if most of the 500-man army and attached support personnel instead formed an army encampment using tents or other temporary lodgings, arranged on the landscape by 50-man companies with their subordinate 5-8-man residential and dining units called

⁹ Velasco 1559.

¹⁰ e.g. Deagan 1985, 2009, 2016; South 1980, 1982; South and DePratter 1996.

camaradas,¹¹ then the archaeological pattern might be very different, probably lacking easily-recognizable posthole patterns and other structural remains, and perhaps distributed on the landscape without a discernable grid of lots and streets.

In point of fact, the Luna Settlement may well reflect both these patterns. Documents confirm that at least some structures were indeed built, including a royal warehouse, a church, and individual residences at least for Luna and other high-ranking expedition officials, all of which were still in use long after the 1559 hurricane. But we have no documentary evidence regarding how or where the bulk of the army lived while on site, and though it is almost certain that officers and married soldiers with families were likely housed separately from the rest of the unmarried soldiers' messes, at present we cannot say whether they built formal houses or lived in tents or improvised lean-tos. We also have no documentary clues to how and where the roughly 200 Aztec warriors and craftsmen may have been distributed and housed.

Archaeological evidence for wooden structures is definitely present at the Luna settlement, but the necessarily slow, methodical pace of excavations have only just begun to reveal possible patterns in postholes found to date. At present, some 600 square meters have been subjected to subsurface archaeological investigation, but more than half of this area is comprised of shovel tests or by limited mitigation work at utility trenches or construction sites on private land. Moreover, in the core area of the site we have adopted a strategy of point-plotting nearly every artifact found, which yields amazingly detailed spatial distribution information, but which is also painstakingly slow. This is compounded by the presence of common disturbances from twentieth-century residential activities including utility pipelines, fence posts, and landscape plantings. Ultimately, of the formal excavation units opened, only 132 square meters

¹¹ See Worth 2019a.

have been fully excavated to subsoil, with another 132 square meters in larger blocks that are still only partially complete. Nevertheless, apart from an incredibly abundant and diverse sixteenth-century artifact assemblage, we have identified a number of postholes and other features directly associated with the Luna Settlement.

In the core area of the site, one relatively large trash-filled pit contained a rich array of Luna-era Spanish and Native artifacts, including abundant ceramics and wrought iron barrel hoop fragments, nails, and spikes, brass aglets and straight pins, as well as a link of mail armor, a complete bale of brass wire, a brass belt hook, and an 8-pointed sheet silver star that may have belonged to a penitential flail called a *disciplina*. A sherd from a portion of a broken Native bowl in the pit produced an optically stimulated luminescence (OSL) date of AD 1591 \pm 49.¹² Nearby, we have spent two summers expanding excavations around a deep posthole containing a charred post, a wrought iron nail, and a number of large Spanish olive jar sherds wedged around the post, which itself produced a calibrated radiocarbon date with intercepts at AD 1447-1528 and AD 1553-1634.¹³ In adjacent units we now have as many as six additional postholes, with at least one clearly linear arrangement, and the possibility of two parallel walls some 3.5 meters apart from one another. This potential structure was apparently built on top of the densest scatter of broken Spanish olive jar sherds we have on the entire site. And in the northeastern artifact concentration of the site, a series of unusual parallel shallow linear trench features were uncovered near the bluff overlooking the bay, as were other features including postholes and the base of a possible firepit. An OSL date of AD 1559 \pm 49 was obtained from a sherd of Spanish lead glazed coarse earthenware recovered in one of these features.¹⁴ Additionally, near the

¹² Boren 2017.

¹³ Schleidt 2019.

¹⁴ Perry 2018.

inferred boat landing a long, linear wall trench paralleling the bluff was also found, though associated artifacts suggest it may instead be related to the eighteenth-century ranch noted above.

While the question of what kind of settlement the site was—a gridded town in development, or an extended army encampment—is still unresolved, we now have many concrete clues to guide us. And what is becoming abundantly clear after four years of UWF excavations is that with continued careful, methodical archaeological investigation, the Luna Settlement holds the promise of providing amazingly detailed insights into the emerging colonial culture of mid-sixteenth-century New Spain, and how hundreds of soldiers and other settlers established and maintained a presence on Pensacola Bay for two full years despite substantial hardship. As the first multi-year European settlement in the entire continental United States, the Luna Settlement will serve as an important laboratory for amazing research for decades to come.

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- The scores of UWF students and staff and volunteers who have worked on the Luna Settlement project in fieldwork, labwork, and analysis.
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References Cited

Arnade, Charles

1959 Tristan de Luna and Ochuse (Pensacola Bay) 1559. *The Florida Historical Quarterly* 37 (3-4): 201-222.

Benchley, Elizabeth D., and John E. Worth

2017 Discovery and Investigation of the Luna Settlement. Paper presented in the symposium “The Tristan de Luna Shipwrecks and Settlement (1559-1561) in Pensacola, Florida,” organized by Elizabeth D. Benchley, at the 50th Annual Conference of the Society for Historical Archaeology, Fort Worth, Texas, January 7, 2017.

Bolte, Christina L.

2017 “From the North a Fierce Tempest:” Disaster, Relief, and the Failure of the 1559-1561 Tristán de Luna y Arellano Settlement. Paper presented at the 2017 North American Society for Oceanic History Conference, Charleston, South Carolina.

2019 Disaster, Relief, and the Failure of the 1559-1561 Tristán de Luna y Arellano Settlement in Pensacola, Florida: Archaeological Interpretations. Paper presented at the 2019 Southeastern Conference on Historic Sites Archaeology, Swannanoa, NC, August 9-10, 2019.

Bolte, Christina L., and John E. Worth

2017 A Sixteenth Century Spanish-Mexican Artifact Assemblage in the Southeast: The 1559-1561 Tristán de Luna Settlement, Pensacola, Florida. Paper presented at the 74th Annual Meeting of the Southeastern Archaeological Conference, Tulsa, Oklahoma, November 8-11, 2017.

2019 A “Snapshot” of the Mid-Sixteenth-Century Colonial Culture of New Spain: the 1559-1561 Tristán de Luna y Arellano Settlement on Pensacola Bay. Paper presented in the symposium “The Archaeologies of Contact, Colony, and Resistance” organized by Matthew Schmader at the 84th Annual Meeting of the Society for American Archaeology, Albuquerque, New Mexico, April 13, 2019.

Boren, Courtney

2017 OSL Dating and Chronology in Pensacola, Florida’s Contact Period. Paper presented at the 82nd Annual Conference of the Society for American Archaeology, Vancouver, British Columbia, Canada, March 31, 2017.

Bratten, John R., and Janet R. Lloyd

2017 Artifacts from Luna’s Settlement and Shipwrecks. Paper presented in the symposium “The Tristan de Luna Shipwrecks and Settlement (1559-1561) in Pensacola, Florida,” organized by Elizabeth D. Benchley, at the 50th Annual Conference of the Society for Historical Archaeology, Fort Worth, Texas, January 7, 2017.

Clayton, Lawrence A., Vernon James Knight, Jr., and Edward C. Moore (editors)

1993 *The DeSoto Chronicles: The Expedition of Hernando de Soto to North America in 1539-1543*. Tuscaloosa: University of Alabama Press.

Dávila Padilla, Agustín

1625 *Historia de la Fundación y Discurso de la Provincia de Santiago de México de la Orden de Predicadores, por las vidas de sus varones insignes y casos Notables de Nueva España*, 2nd Ed. Brussels: Juan de Meerbeque.

<https://books.google.com/books?id=4Fz1SgfwgdkC&pg=PP5#v=onepage&q&f=false>, selection

Clayton, Lawrence A., Vernon James Knight, Jr., and Edward C. Moore (editors)

1993 *The DeSoto Chronicles: The Expedition of Hernando de Soto to North America in 1539-1543*. Tuscaloosa: University of Alabama Press.

Cook, Gregory D., John Bratten, John E. Worth, Kendra Kennedy, Dean Nones, and Scott Sorset
2009 Emanuel Point II Underwater Archaeology, Grant No. SC716. Report of Investigations #164, Archaeology Institute, University of West Florida, Pensacola.

Cook, Gregory D., John Bratten, and John E. Worth

2016 Exploring Luna's 1559 Fleet: Final Report for Florida Division of Historic Resources Special Category Grant SC 503. Report of Investigations #202, Archaeology Institute, University of West Florida, Pensacola.

Davis, T. Frederick

1935 Juan Ponce de León's Voyages to Florida. *The Florida Historical Quarterly* 14(1): 1-70.

Deagan, Kathleen

1985 The Archaeology of Sixteenth Century St. Augustine. *The Florida Anthropologist* 38(1-2):6-33.

2009 Historical Archaeology at the Fountain of Youth Park Site (8SJ31), St. Augustine, Florida, 1934-2007. Final Report on Florida Bureau of Historical Resources Special Category Grant #SC 616, Draft 3. Florida Museum of Natural History Miscellaneous Project Reports in Archaeology #59. Gainesville.

2016 Investigating the 1565 Menéndez Defenses: Field Report on the 2011-2015 Excavations at the Fountain of Youth Park Site, St. Augustine. Florida Museum of Natural History Miscellaneous Papers in Archaeology # 62. Gainesville.

Galloway, Patricia

1995 *Choctaw Genesis, 1500-1700*. Lincoln: University of Nebraska Press.

Hoffman, Paul E.

1990 *A New Andalucia and a Way to the Orient: The American Southeast During the Sixteenth Century*. Baton Rouge: Louisiana State University Press.

1992 Lúcas Vázquez de Ayllón. In *Columbus and the Land of Ayllón: The Exploration and Settlement of the Southeast*, edited by Jeannine Cook, pp. 27-49. Darien, Ga.: Lower Altamaha Historical Society.

1994 Narváez and Cabeza de Vaca in Florida. In *The Forgotten Centuries: Indians and Europeans in the American South, 1521-1704*, ed. by Charles M. Hudson and Carmen Chaves Tesser, pp. 50-73. Athens: University of Georgia Press.

2002 *Florida's Frontiers*. Bloomington: Indiana University Press.

Hudson, Charles

1988 A Spanish-Coosa Alliance in Sixteenth-Century North Georgia. *The Georgia Historical Quarterly* 72:599-626.

1997 *Knights of Spain, Warriors of the Sun: Hernando de Soto and the South's Ancient Chiefdoms*. Athens: University of Georgia Press.

Hudson, Charles, Marvin T. Smith, Chester B. DePratter, Emilia Kelley

1989 The Tristán de Luna Expedition, 1559-1561. *Southeastern Archaeology* 8(1):31-45.

Lawson, Edward W.

1946 *The Discovery of Florida and Its Discoverer Juan Ponce de León*. St. Augustine: Edward W. Lawson.

Lyon, Eugene

1976 *The Enterprise of Florida: Pedro Menéndez de Avilés and the Spanish Conquest of 1565-1568*. Gainesville: University of Florida Press.

1981 Spain's Sixteenth-Century North American Settlement Attempts: A Neglected Aspect. *The Florida Historical Quarterly* 59(3):275-291.

1984 *Santa Elena: A Brief History of the Colony, 1566-1587*. South Carolina Institute of Archaeology and Anthropology, Research Manuscript Series 193.

https://scholarcommons.sc.edu/archanth_books/185/

Peck, Douglas T.

1992 Reconstruction and Analysis of the 1513 Discovery Voyage of Juan Ponce de León. *The Florida Historical Quarterly* 71(2): 133-154.

Perry, Kenneth

2018 OSL Dating Luna Settlement Site Ceramics. Poster presented at the 2019 University of West Florida Student Scholars Symposium, April 19, 2018.

Priestley, Herbert Ingram

2010 *The Luna Papers, 1559-1561, Volumes 1 & 2* (reprint of 1928 edition). Tuscaloosa: University of Alabama Press.

St. Myer, Thomas

2015 Luna's Colony Unearthed in Pensacola: Location of the Oldest Established European Multi-Year Settlement in the U.S. is Indeed in Heart of Pensacola. *Pensacola News Journal*, December 17, 2015. <http://www.pnj.com/story/news/2015/12/17/we-found-lunas-colony/77449884/>

Schleidt, Mirabela

2019 Archaeological Dating of the Luna Settlement. Poster presented at the 2019 University of West Florida Student Scholars Symposium, April 18, 2019.

Smith, Roger C. (editor)

2018 *Florida's Lost Galleon: The Emanuel Point Shipwreck*. Gainesville: University Press of Florida.

Smith, Roger C., James Spirek, John Bratten, and Della Scott-Ireton

1995 The Emanuel Point Ship: Archaeological Investigations, 1992-1995. Florida Bureau of Archaeological Research, Tallahassee, Florida.

Smith, Roger C., John R. Bratten, J. Cozzi, and Keith Plaskett

1998 The Emanuel Point Ship: Archaeological Investigations, 1997-1998. Report of Investigations, No.68, Archaeology Institute, University of West Florida. Pensacola.

South, Stanley

1980 The Discovery of Santa Elena. Research Manuscript Series 165, Institute of Archaeology and Anthropology, University of South Carolina. http://scholarcommons.sc.edu/archanth_books/158

1982 Exploring Santa Elena 1981. Research Manuscript Series 176, Institute of Archaeology and Anthropology, University of South Carolina.

http://scholarcommons.sc.edu/archanth_books/176

South, Stanley, and Chester B. DePratter

1996 Discovery at Santa Elena: Block Excavation 1993. Research Manuscript Series 222, Institute of Archaeology and Anthropology, University of South Carolina. http://scholarcommons.sc.edu/archanth_books/224

Velasco, Luís de

1559 Letter to the Spanish Crown, May 25, 1559. Legajo 1119, Mexico, Archivo General de Indias, Seville, Spain. In Priestley (2010, v.2:218-231).

Weddle, Robert S.

1985 *Spanish Sea: The Gulf of Mexico in North American Discovery, 1500-1685* College Station: Texas A&M University Press.

Worth, John E.

2009 Documenting Tristán de Luna's Fleet, and the Storm that Destroyed It. *The Florida Anthropologist* 62(3-4): 83-92.

2014 *Discovering Florida: First-Contact Narratives of Spanish Expeditions along the Lower Gulf Coast*. Gainesville: University Press of Florida.

2016a Preliminary Observations on the Archaeological Assemblage of the 1559-1561 Tristán de Luna Settlement. Paper presented at the 49th Annual Conference of the Society for Historical Archaeology, Washington, D.C., Jan. 9, 2016.

2016b Interpreting Spanish Artifact Assemblages in the Mid-Sixteenth-Century Southeast: The View from the 1559-1561 Tristán de Luna Settlement on Pensacola Bay. Paper presented in the symposium "Documenting Early European/Native American Contacts and their Repercussions in the Southeast: A Symposium honoring Marvin T. Smith" at the 73rd Annual Meeting of the Southeastern Archaeological Conference, Athens, GA, October 27, 2016.

2018a Florida's Forgotten Colony: Historical Background. In *Florida's Lost Galleon: The Emanuel Point Shipwreck*, ed. by Roger C. Smith, pp. 34-67. Gainesville: University Press of Florida.

2018b New Insights into Spanish-Native Relations during the Luna Expedition, 1559-1561. Paper presented at the 70th Annual Meeting of the Florida Anthropological Society, St. Petersburg, Florida, May 12, 2018.

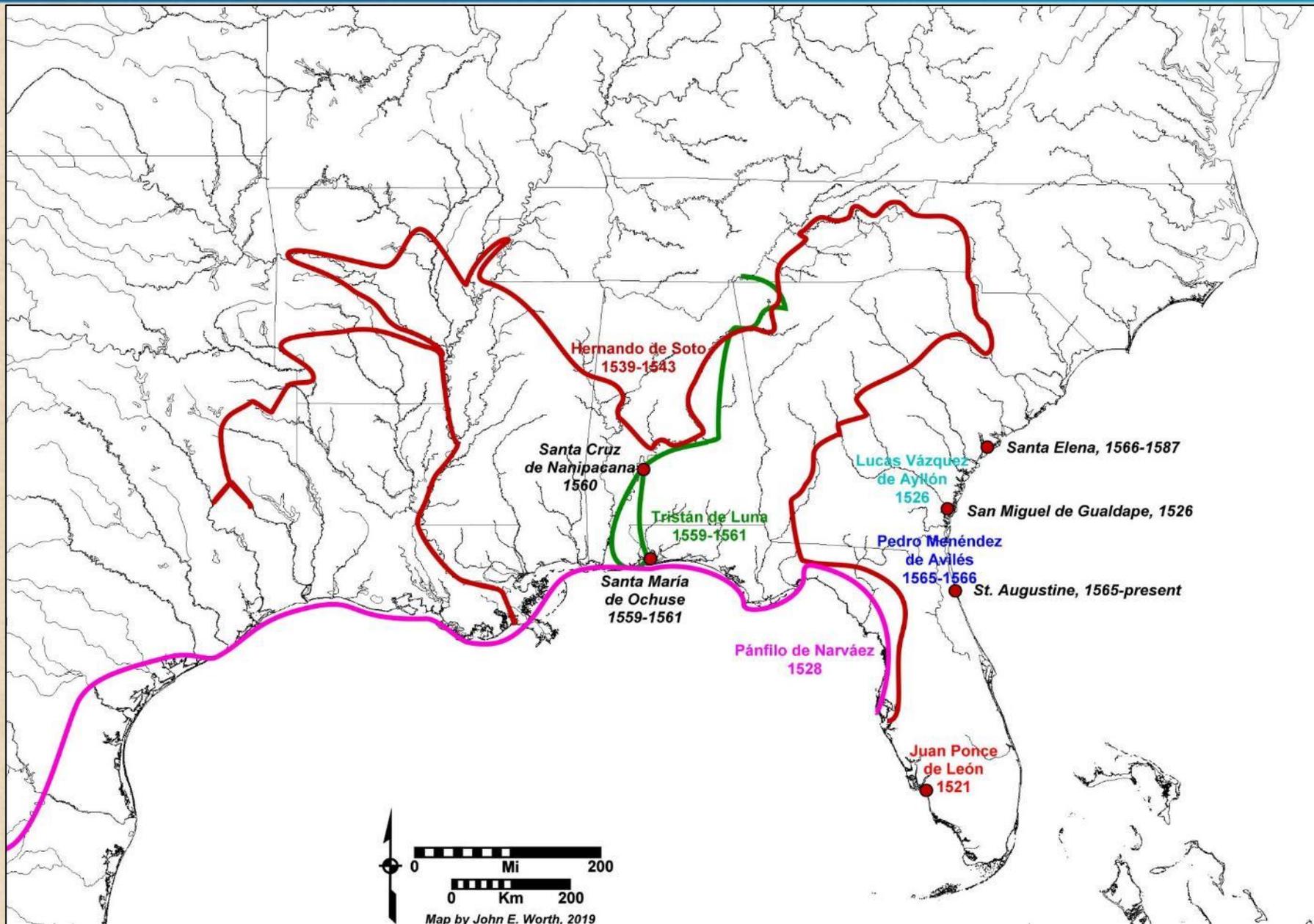
2018c Archaeological and Documentary Insights into the Native World of the Luna Expedition. Paper presented at the 75th Annual Meeting of the Southeastern Archaeological Conference, Augusta, Ga., November 16, 2018.

2019a Dining at the Luna Settlement. Luna Settlement Project Blog, April 7, 2019.
<http://lunasettlement.blogspot.com/2019/04/dining-at-lunasettlement-john-e.html>.

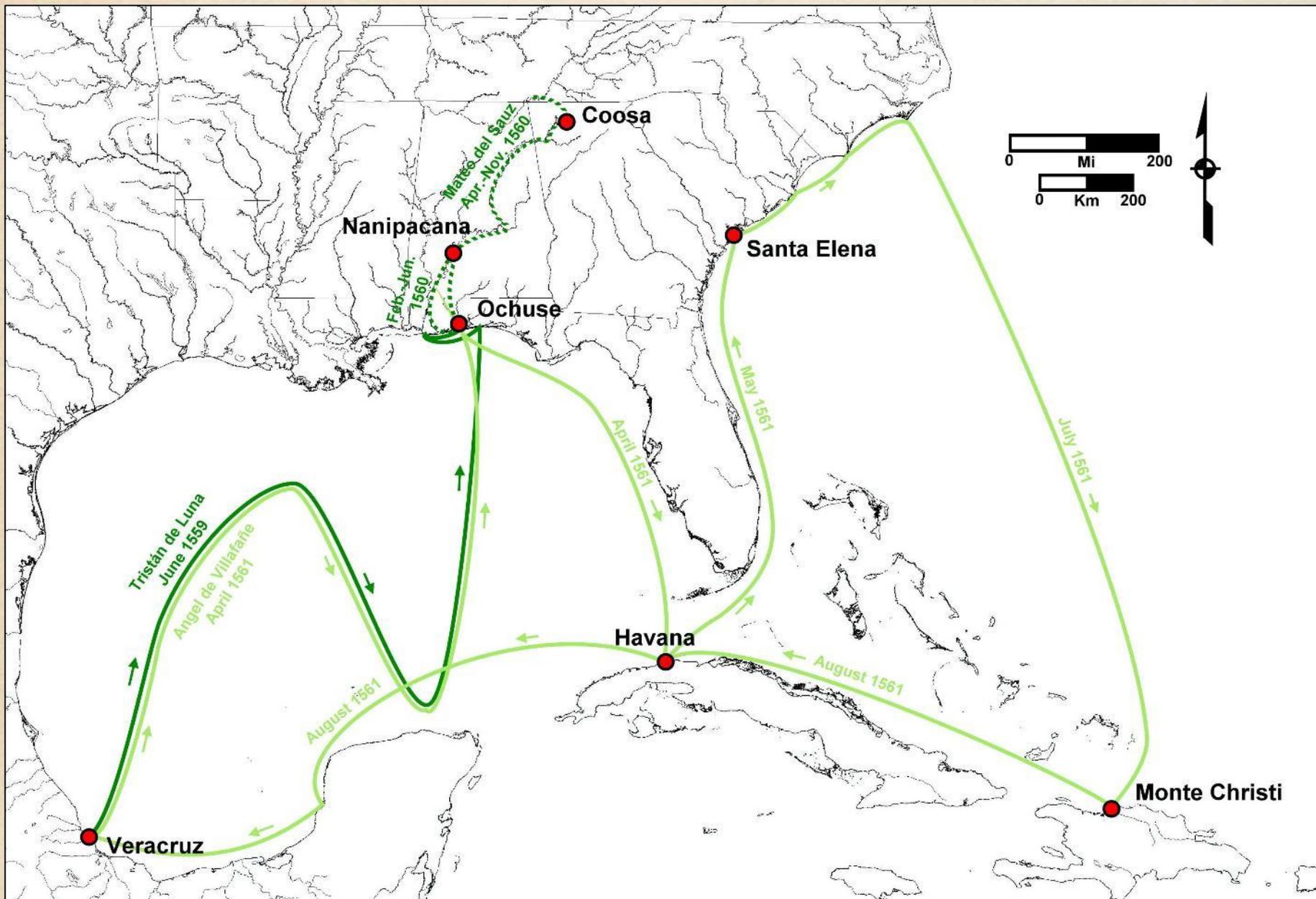
2019b Functional and Spatial Patterning in Artifact Distribution at the Luna Settlement Site. Paper presented at the 71st Annual Conference of the Florida Anthropological Society, Crystal River, Florida, May 11, 2019.

Worth, John E., Elizabeth D. Benchley, Janet R. Lloyd, and Jennifer Melcher

2017 The Discovery and Exploration of Tristán de Luna's 1559-1561 Settlement on Pensacola Bay. Paper presented at the 69th Annual Meeting of the Florida Anthropological Society, Jacksonville, Florida, May 6, 2017.



Spanish Settlements and Terrestrial Explorations, 1521-1566



Routes of the Luna Expedition, 1559-1561

Selected Artifacts from the Luna Settlement



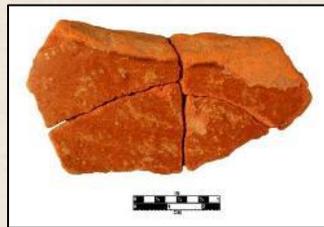
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Majolica



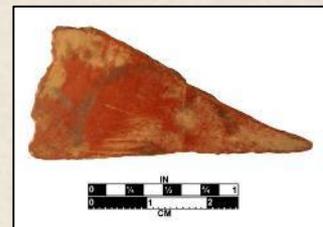
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Porringer Handle



Olive Jar Rim



Lead Glazed Redware



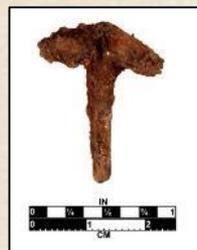
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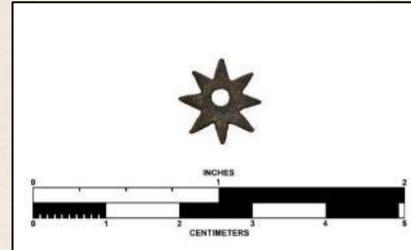
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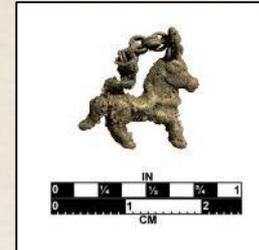
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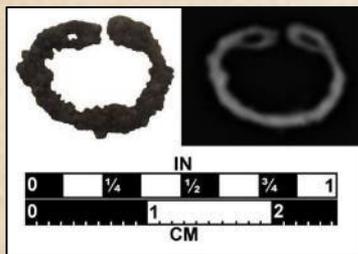
Lead Balls, Shot, and Sprue



Sheet Silver Star



Gilt Brass
Horse Charm



Riveted Mail Link



Brass Straight Pins



Brass Aglets



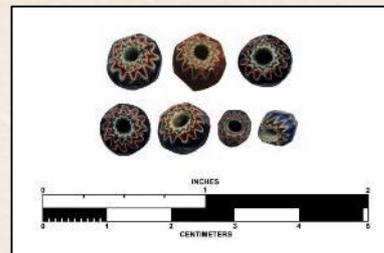
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Basalt Mano Fragments



Nueva Cádiz Beads

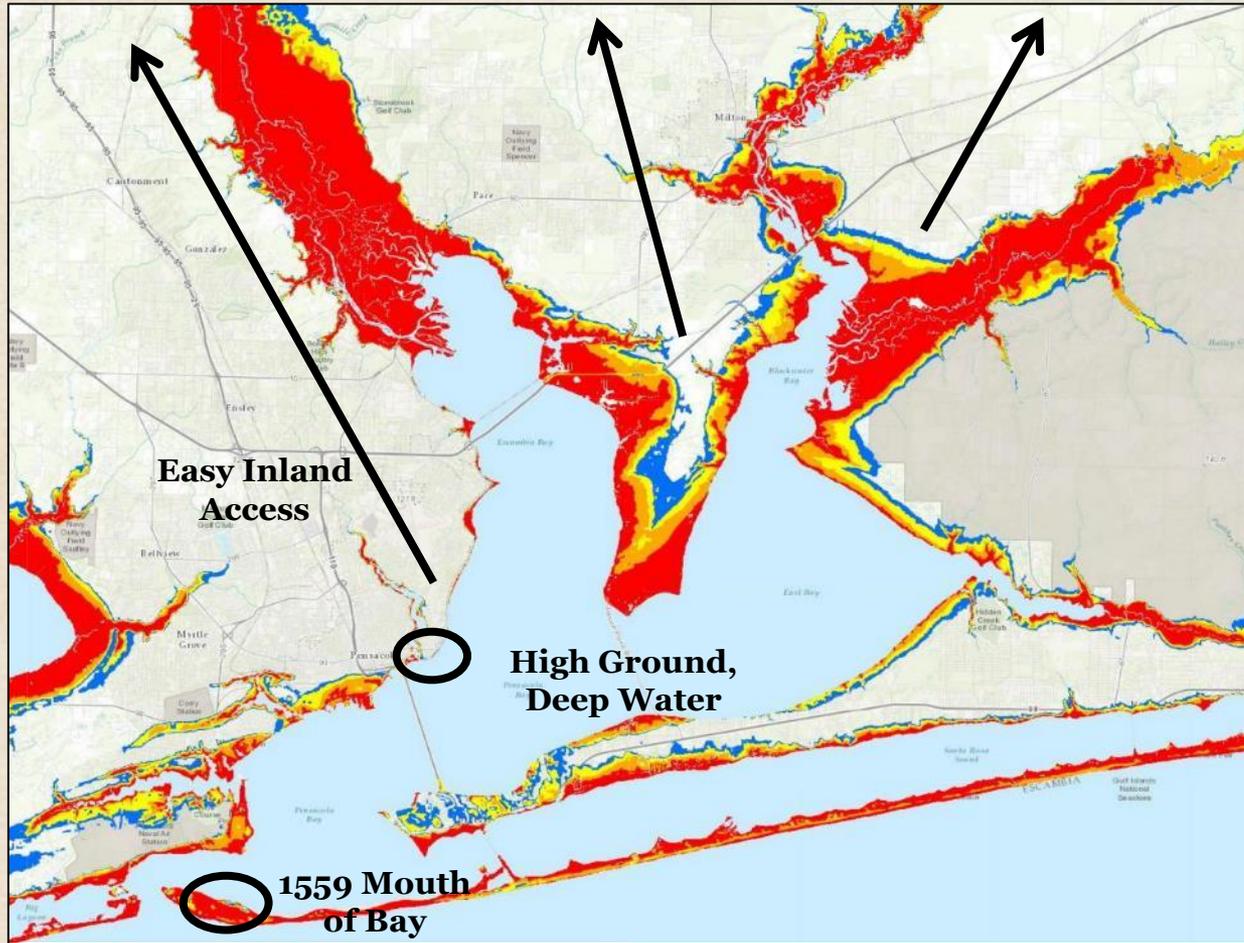


Seven-Layer Chevron Beads



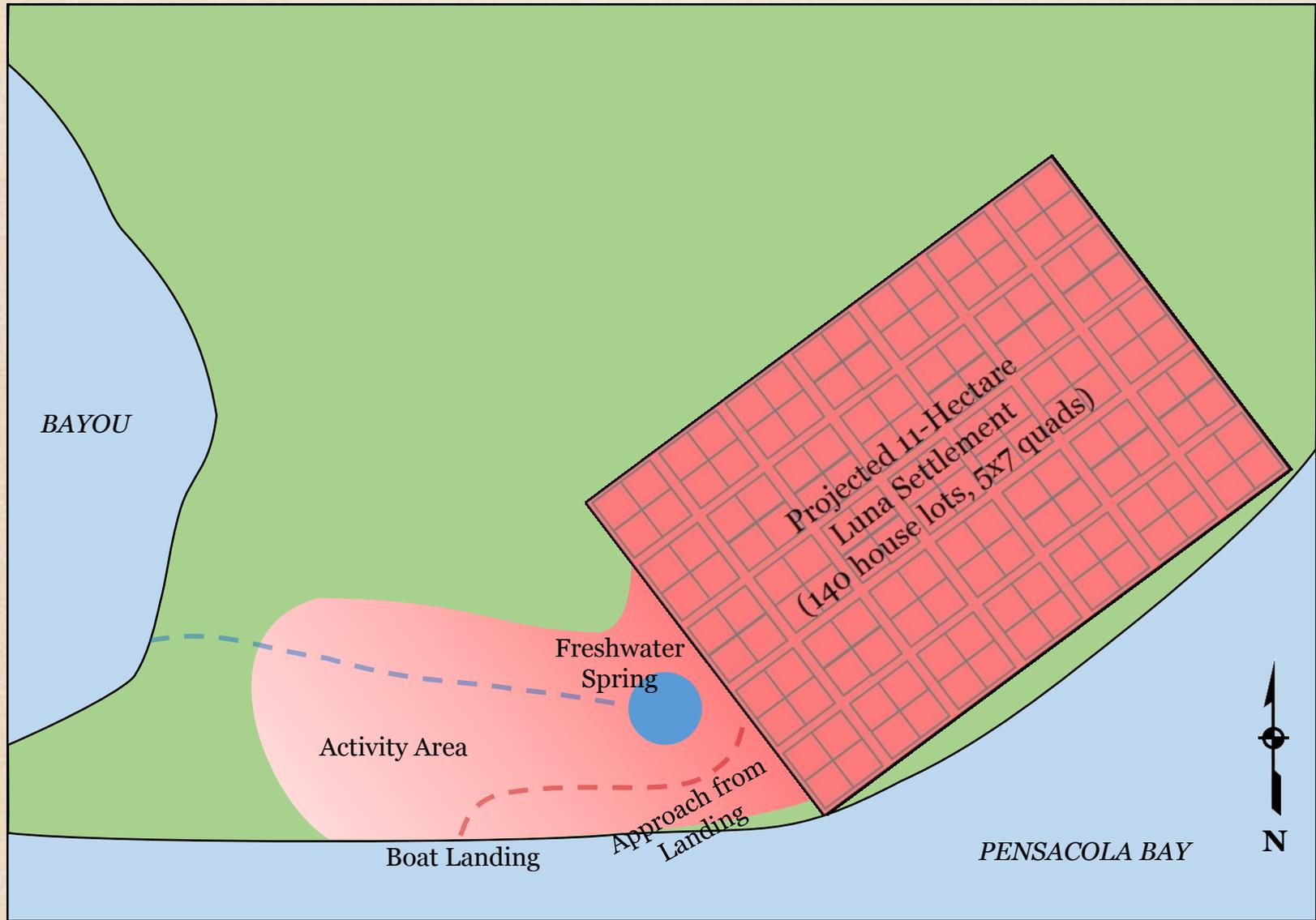
Copper Crossbow Bolt Tips

Storm Surge Map of Pensacola Bay

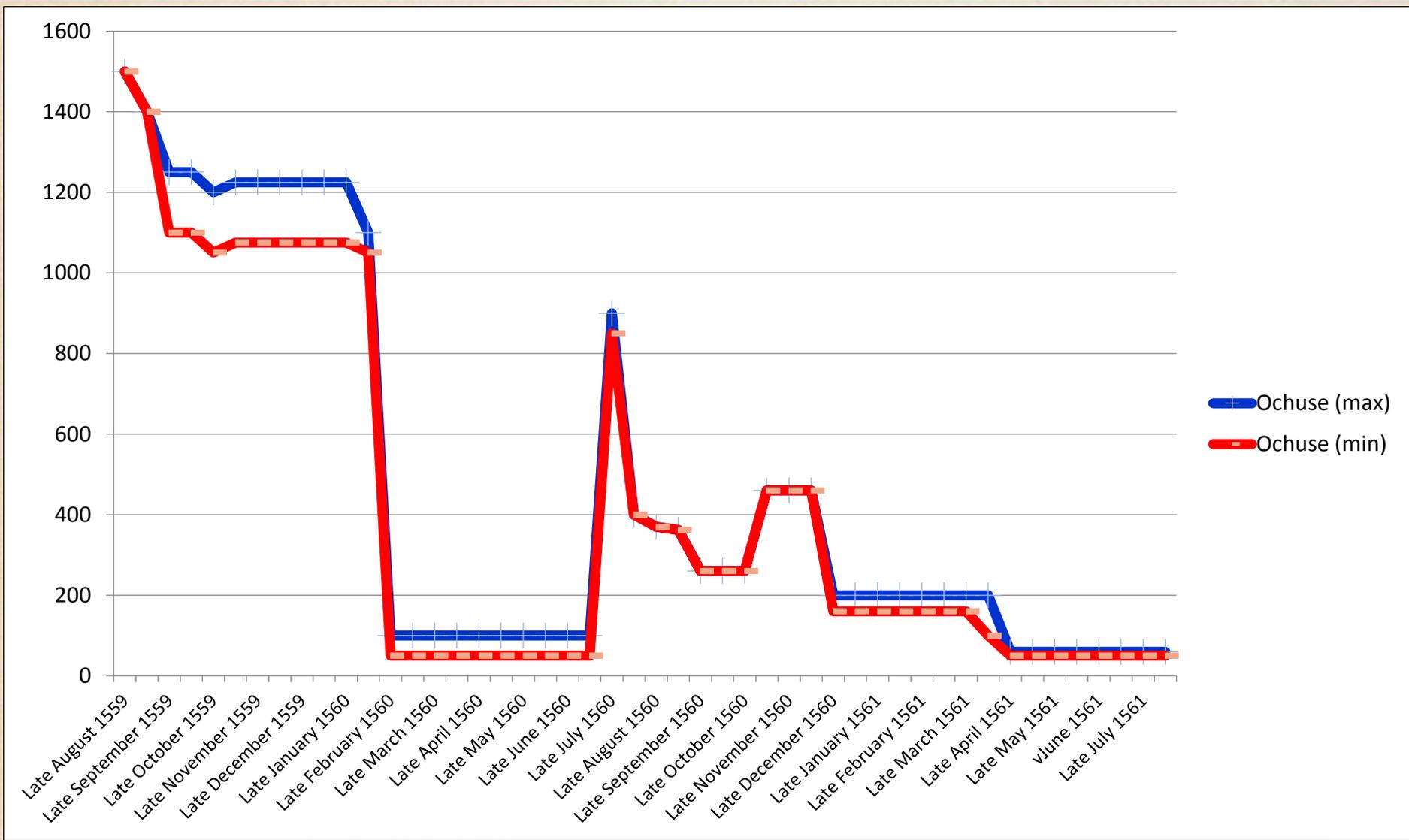


Emanuel Point

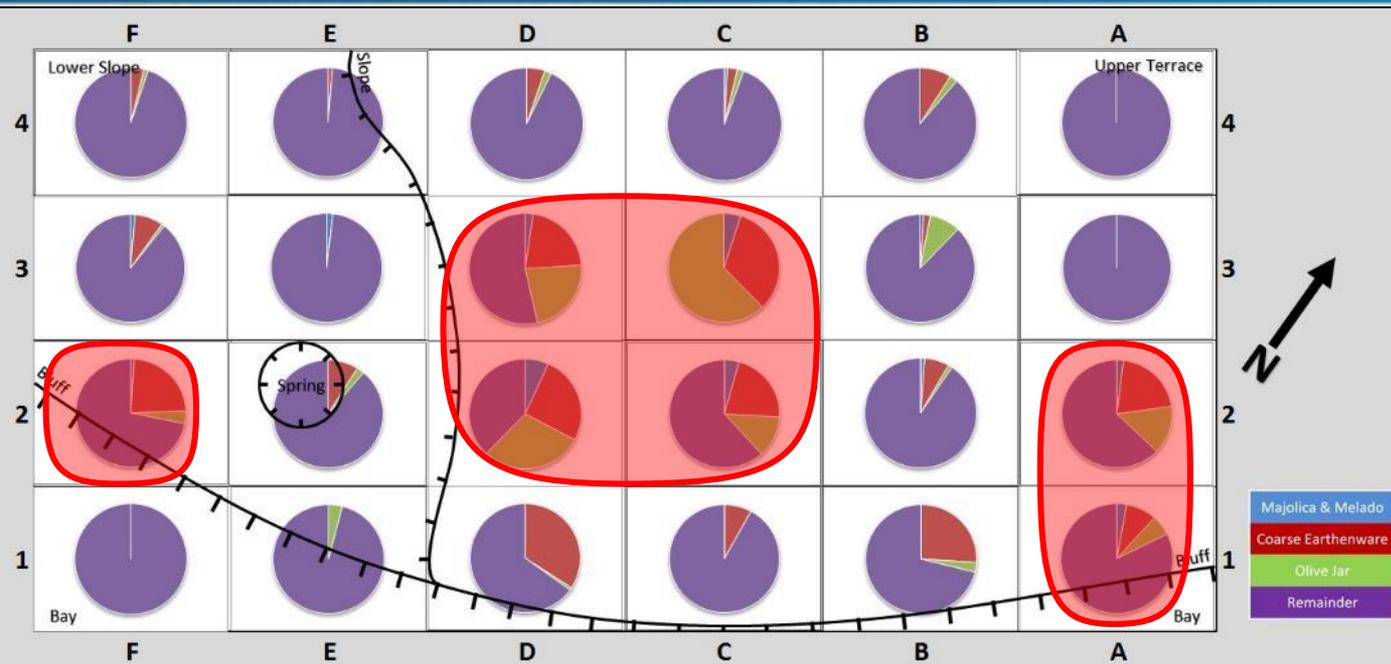




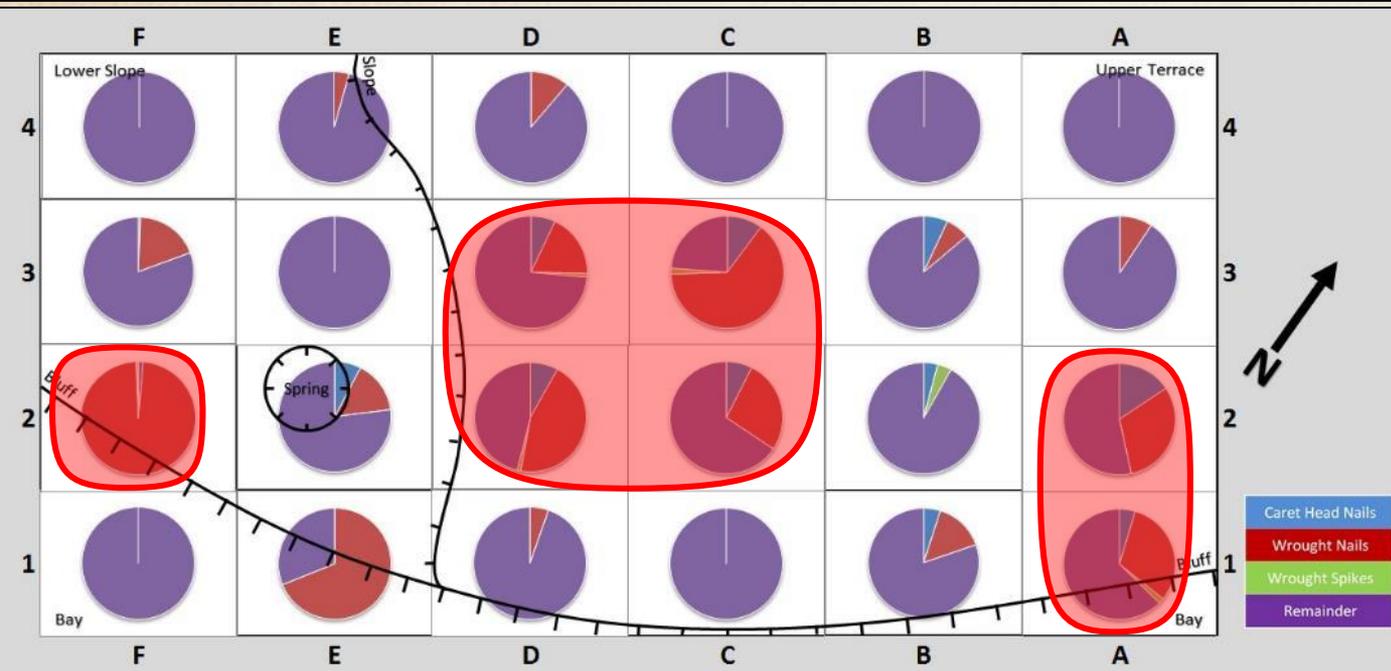
Hypothetical Initial Luna Settlement Layout



Estimated Population of Luna Settlement, 1559-1561



Spanish Pottery
count per square meter
(standardized across site)



Wrought Iron Fasteners
count per square meter
(standardized across site)



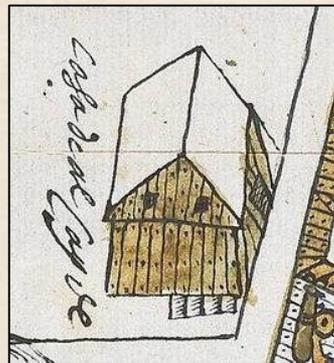
Alternative, Concurrent, or Successive Settlement Patterns



Formal Spanish Town?



Spanish Army Encampment?



Wooden Structures



Tents & Lean-Tos

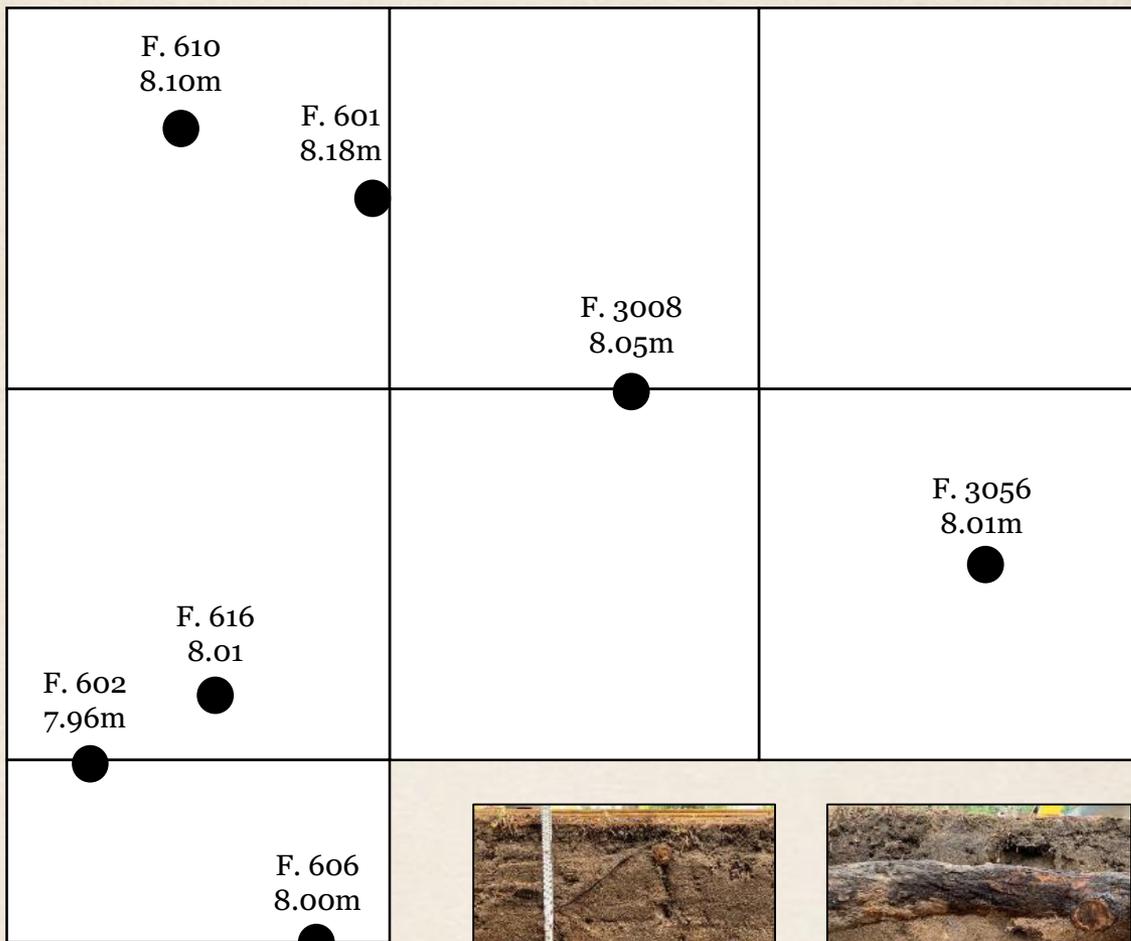


F. 3006 Trashpit Profiles

Composite Map of 2016-2019 2x2m Units with Postholes and Basal Depths



F. 3008 (2016)



F. 3056 (2017)



F. 616 (2019)



F. 602 (2019)



F. 606 (2019)