



Friends of the Randell Research Center

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Pineland's Ancient Landscape

Geophysics Provides Clues to Pineland's Earliest Residents

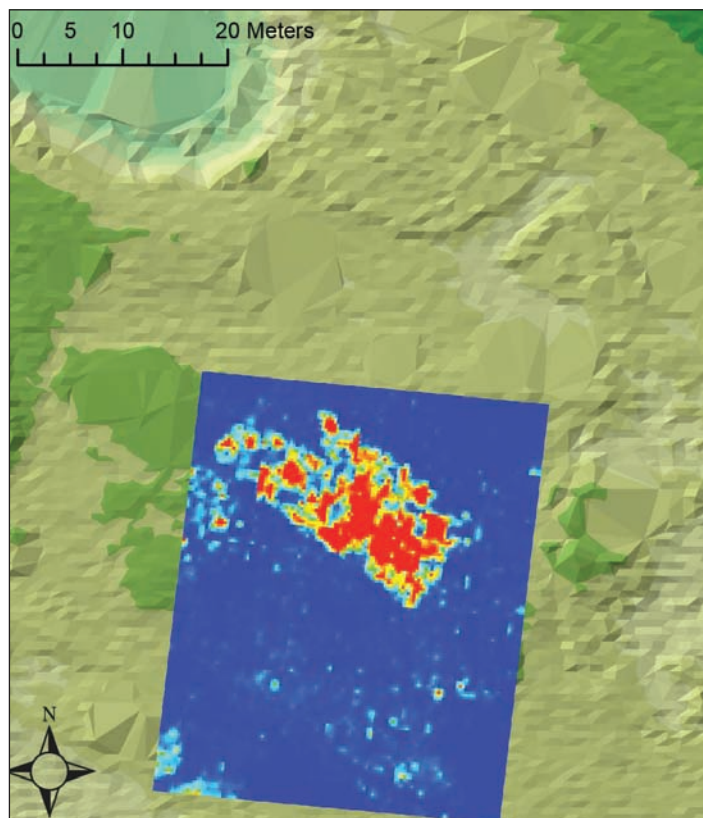
by Victor Thompson, Bill Marquardt, and Karen Walker

The first-time visitor to the Pineland Site Complex is immediately drawn to its impressive mounds, some as high as 30 feet. But veteran visitors know that the high mounds, while important, are only a part of Pineland's 2,000-year story. Pineland's earliest residents, those who lived here between A.D. 50 and 600, built their dwellings at the shoreline, and they did not accumulate high mounds and live on top of them, as later people did.

In 1990 and 1992, archaeological trenches beneath the old cow pasture revealed buried middens and some postmolds (stains left by rotted wooden posts). These were documented in detail by Karen Walker (see *The Archaeology of Pineland*, 2013, pp. 130-134). Another glimpse of these earlier Pinelanders came from John Worth's excavations in Pineland's South Pasture in 2003-2004 (*RRC Friends Newsletter*, March, 2004). With the help of RRC volunteers, John uncovered abundant shells, fish bones, pottery sherds, and shell and stone artifacts, as well as a dark, sandy, highly organic layer indicating intensive human occupation, all dating to the 5th and 6th centuries A.D. As in 1992, numerous postmolds were found, indicating that houses, shelters, or other structures were built there. Underlying levels revealed even earlier occupations, some dating as early as A.D. 230.

Then, in July 2011, a student crew led by Victor Thompson conducted ground-penetrating radar and resistivity surveys on parts of the Pineland site, including the South Pasture where the earlier excavations had been done (*RRC Friends Newsletter*, September, 2011). These techniques work by sending radar pulses and electrical currents into the ground. Materials under the surface, such as remains of structures, middens, ditches, and other features, can be revealed by these techniques. The data collected by these machines are then processed and patterns can be displayed on a computer screen.

The results are surprising. Not only did the remote sensing detect the middens and structural features seen in the 1992 and 2003 excavations, but it also revealed the remains of what appears to be a large rectangular structure, about 75 x 33 feet, between 2 and 3 feet below the surface of an area we call "Surf Clam Ridge." It also suggests that smaller structures are located even deeper.



Ground-penetrating radar slice map (65 to 73 cm below surface) over Pineland's Surf Clam Ridge, showing a probable large rectangular structure. (Map by V. Thompson.)

Remote sensing employed on Citrus Ridge showed equally interesting results: remains of several small circular structures about 3 feet below the surface, as well as a secondary canal from the main Pine Island Canal going toward the burial mound.

Although this was a preliminary study, it demonstrates the great potential of shallow geophysical survey at Pineland. Remote sensing will never replace careful hand excavation in archaeology, but it can greatly facilitate our work by offering a "preview" of what may lie beneath the surface. This means that we may be able to learn about Pineland's earliest people with fewer, but more focused excavations, guided by the images on our computer screens. 🏰

For details of this research, see the following paper:

- Thompson, Victor D., William H. Marquardt, and Karen J. Walker
2014 A Remote Sensing Perspective on Shoreline Modification, Canal Construction, and Household Trajectories at Pineland along Florida's Southwestern Gulf Coast. *Archaeological Prospection*, volume 21, pages 59-73.
- A printed copy of the paper is available in the RRC library at the Ruby Gill House.
 - Previous *RRC Friends Newsletters* are archived: www.flmnh.ufl.edu/rrc/NewsPress.asp

A Record-Breaking Season

More than 8,000 Visit the RRC in Late 2013-Early 2014

by Cindy Bear

What do enthusiasts of the iconic Corvette automobile have in common with fourth graders or with members of a local Red Hat group? What shared experience was had by Canadian and Norwegian citizens along with residents of places throughout the United States? The answer: a learning experience at the Calusa Heritage Trail during the 2013-2014 season.

Thanks to you, our supporters, and our volunteers, this season the Randell Research Center provided tours, classes, and special events at the Trail for many people of diverse ages, backgrounds, and communities. Guided public tours happened from January through April every Wednesday, Friday, and Saturday at 10 a.m. and 1 p.m. for a total of 84 tours attended by an average of 10 folks each tour. Members of 12 private groups learned about the breadth of history and archaeological research at the RRC on tours tailored to the groups' interests. The arrival of the 64 members of the Corvette Club of Venice in 33 classic cars was one of the most unusual ever at the Trail, while the Road Scholar's four different groups arrived with bicycles, by bus, and by boat.

Every Tuesday from December through April, save those where the weather intervened, a Captiva Cruises tour boat




Vintage Corvette automobiles wheel into the Calusa Heritage Trail parking lot. (Photo by D. Patterson.)

docked at the Tarpon Lodge with passengers who enjoyed lunch followed by a tour of our grounds. Five hundred grade-4 students from local elementary schools, accompanied by 26 teachers and 50 parent chaperones, took part in field trips specifically designed for their age. We proudly graduated over 30 adult learners from the Coastal Module of the Florida Master Naturalist Program this season, and happily saw many return as volunteers including at Calusa Heritage Day in March, where over 800 visitors heard lectures by scholars, tasted fire-grilled oysters, toured archaeological exhibits, and tried their hand at basket making.

Many of our 8,000 annual visitors walk the trail independently. During hours of operation at the store and classroom (six days a week) we extended a hearty

personal welcome to each person. We gave talks off-site at several venues, and were interviewed by C-SPAN for television as well as for local and national print media including *American Archaeology* magazine. We committed to training our volunteers and docents, and facilitated weekly "book club" meetings to discuss *The Archaeology of Pineland*.

This was all accomplished because of your support. We receive about 40% of our operating budget from our endowment and 9% from University of Florida sources. The remainder comes from the generosity of members, the donations of visitors you bring and send to the Trail, the purchases you make in our store, and the courses you attend. We receive no operational funds from the city, the county, or the state. We deeply appreciate the trust you have in our teaching, in our research, and in our preservation activities. Thank you.

Please come see us this summer. The Trail is open sunup to sundown, seven days a week, year round, with the store and classroom open Tuesday through Saturday 10 a.m. to 4 p.m. The mornings offer warm, pleasant breezes, while the afternoon summer clouds can be spectacular. But, if summer outdoor forays are not in your future, we look forward to seeing you next season. 

Visitors stroll along the Calusa Heritage Trail during Calusa Heritage Day, March 15, dwarfed by 3-story-high Brown's Complex Mound 1.

(Photo by W. Marquardt.)



RRC/UF and UGA Return to Mound Key

Joint Project Also Includes FGCU Students

by Bill Marquardt and Victor Thompson

Late May and early June, 2014, will find Randell Research Center archaeologists working on Mound Key, in Estero Bay near Fort Myers Beach. Bill Marquardt and Karen Walker, along with University of Florida (UF) graduate students Melissa Ayvaz and Nathan Lawres, will join Victor Thompson and his students from the University of Georgia (UGA). Eight students from Florida Gulf Coast University (FGCU) will also participate, along with faculty members Alison Elgart and Mike McDonald. This study, funded by the Florida Museum of Natural History's Knight Endowment for Florida Archaeology, the National Geographic Society, and UGA, will continue the research begun in May of 2013. The work has benefited greatly from the logistical assistance of Ted, Todd, and Tim McGee, and the kind permission of the Koreshan State Historic Site, which manages the Mound Key Archaeological State Park.

Our 2013 work was the first archaeological investigation at the site in nearly 20 years. Mound Key was the capital of the Calusa during the sixteenth century. A powerful king ruled all of South Florida from this island town. Then known as Calos, the site is a complex of mounded middens that date as early as A.D. 300. Much of what we know about the Calusa capital comes from historic documents and a small amount of archaeological research that has been conducted at the site. Our research is aimed at exploring the nature and functioning of Mound Key as a capital during the sixteenth century at the time of Spanish exploration in southern Florida and understanding how and why the mounds were built up.



Karen Walker (foreground) works on excavation in Mound 1, while Kat Napora (left) takes notes and Melissa Ayvaz (right) labels a bag. (Photo by W. Marquardt.)

One of our key research questions: Is there any structural evidence to support the historic documentation of Mound Key as the capital? Specifically, we want to know if there are any remnants of Calusa buildings, specifically the king's house and any structures associated with the Spanish occupation of the site beginning in 1566. To begin our investigations, we focused on the two largest mounds at the site, because these are the most likely locations for the structures described in the documents. Prior to

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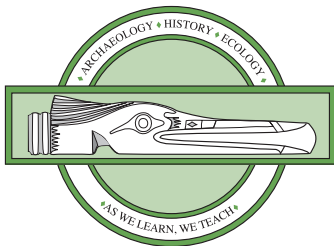
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excavation, we conducted a limited shallow geophysical survey of both mounds. The most productive method during this phase of the project was ground penetrating radar (GPR). Our GPR survey on both mounds provided some insight into the nature of deposits and the presence of possible structures.

We began our investigations on Mound 1, which we predicted to be the location of the king's house described by Gonzalo Solís de Merás as being able to hold 2,000 people. We reasoned that a structure this large would take up most of the summit of the mound, because it is only around 30 meters in diameter. Therefore, the most likely location to find its walls would be right along the top edge of the mound. Indeed, our GPR survey indicated a curving arc of high-amplitude reflections in this area, which we took to indicate possibly the wall of a large structure. Using the GPR survey as a guide, we placed a 2-meter-by-2-meter excavation over the arc. Our excavations revealed two lines of posts associated with a large trench filled in with shell that correlated with the arc in the GPR data. We believe that these posts are part of a large structure on top of this mound. Although further evidence is required, we think that that this represents constructions associated with the king's house at Mound Key.


We also conducted a GPR survey on Mound 2, because previous investigations and documents suggest that this is the location of the Spanish occupation of the site and possibly the location of San Antón de Carlos, the fort established by Pedro Menéndez de

Avilés in 1566. The GPR indicated linear arrangements of high amplitude reflections in this area that were roughly rectangular. Excavations near one of the linear patterns in the GPR data revealed a complex suite of posts associated with many Native American artifacts, as well as Spanish and other European produced artifacts, some of which date to the mid-sixteenth century. Radiocarbon dating by the UGA Center for Applied Isotope Studies also produced dates that cluster around the sixteenth century.

In May-June 2014, we hope to uncover further evidence of the site's 16th-century occupation and Spanish presence. We also hope to define more clearly the nature of the structure atop



Victor Thompson excavates in Mound 2. Flags mark locations of post molds. (Photo by W. Marquardt.)

Mound 1. These findings have great potential to elucidate the early colonial history of Florida, as well as the nature and power of the Calusa Indians. They will provide essential clues to untangling the complicated histories of these peoples and their role in the greater story of the Americas. 

RRC News

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Friends of the Randell Research Center

Pineland, Florida • June 2014

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Sincerely,

William H. Marquardt

Director

Randell Research Center



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