



Friends of the **Randell Research Center**

November 2020 • Vol. 19, No. 3

A Tour of the Islands of Pine Island Sound: A Geological, Archaeological, and Historical Perspective

Part 18: Sanibel Island Geology and Archaeology

by Denége Patterson

Sanibel Island Geology

S*anibel Island is the largest* and southernmost island among barrier islands of Pine Island Sound. At 12 miles long and 2.5 miles wide it is the only one in this region that orients mostly east to west due to bedrock formations.

A strong, longshore current along the entire west coast of Florida carries white quartz-crystal sand from north to south along the barrier-island chain, depositing sand in the northern parts of barrier islands and eroding at passes and inlets. Extreme accumulation occurs near the Sanibel-Captiva Bridge.

Wulfert Channel flows under that bridge, carrying water and sediment from Pine Island Sound into the Gulf of Mexico, eroding portions as it goes, and sometimes filling up with sand. Accumulations of sand from earlier times formed the northwestern portion of Sanibel Island.

Sanibel Island has one of the oldest standing beach-ridge sets of today's barrier islands. The earliest trace of wave action is more than three thousand years old. Beach ridges appear in the J. N. "Ding" Darling National Wildlife Refuge, deposited from south to north. The earliest sets indicate an episode of sea level between one and two feet lower than present.

Sanibel Island Archaeology

One of the most significant archaeological sites on the island is the Wightman Site. In 1895, Frank Hamilton Cushing, archaeologist with the Smithsonian Institution, described it as "an advanced key" with canoe channels along shell ridges lined with mangroves and graded ways (shell ramps) leading up to at least three shell platforms at various levels. In the 1940s, archaeologist John Goggin of



Sanibel Island encloses the south end of Pine Island Sound and is the southernmost of the west-central chain of barrier islands. The Sanibel Bridge is visible on the right. (Photo by Ron Mayhew.)

the University of Florida described it as an "elaborate series of embankments, platforms, mounds, and other features." Goggin observed several hundred potsherds, chert, and shell tools, but wrote they were taken out of context by landowner G. J. Kesson who had displayed artifacts haphazardly. Dr. Goggin guessed, based on the potsherds, that the site might have been occupied by humans beginning about 2400 years ago.

In 1974, the owner of the site, Karl Wightman, gave his consent to anthropologist Dr. Charles J. Wilson to conduct archaeological work. Over the next two years, one visible mound and a flat courtyard were formally excavated. It was a race with bulldozers.

By 1995 only one part of one mound remained untouched by construction. Upon this remnant, geologist Frank W. Stapor, zooarchaeologist Karen J. Walker, and archaeologist William H. Marquardt collaborated on a study to

Continued on page 2



Continued from page 1


refine the timing and magnitude of sea level changes, salinity, temperatures, storms, sediment deposits, erosion, and intervals of habitation and abandonment recorded in ancient layers of the mound.

The lower shell midden showed evidence of people starting around 2400 years ago and lasting about 800 years. Then it was flooded and abandoned for 200 years. Afterward, the same lower shell midden was occupied and built upward. It remained occupied for another 300

years. This confirmed Dr. Goggin's estimate of its earliest date and verified regional sea-level fluctuations and their approximate dates.

By 1978 an intensive survey of the J.N. "Ding" National Wildlife Refuge was performed. Eleven prehistoric sites were recorded, including eight in the mangrove-wetlands and three on the upland-dunes. The sites included an upland shell site without ceramics, a late prehistoric and post-European contact site with an associated canal, a possible burial mound, single burial

sites, two shell middens with plain sand-tempered ceramics, and six shell middens in the mangrove swamp environment.

The eventual decision by Sanibel Island residents to protect lands that included vulnerable archaeological sites was essential and far-reaching. Today, visitors to the Refuge can walk the boardwalk at the Wulfert mound and contemplate how indigenous people of the island survived, adapted, and remained resilient through centuries of time. 



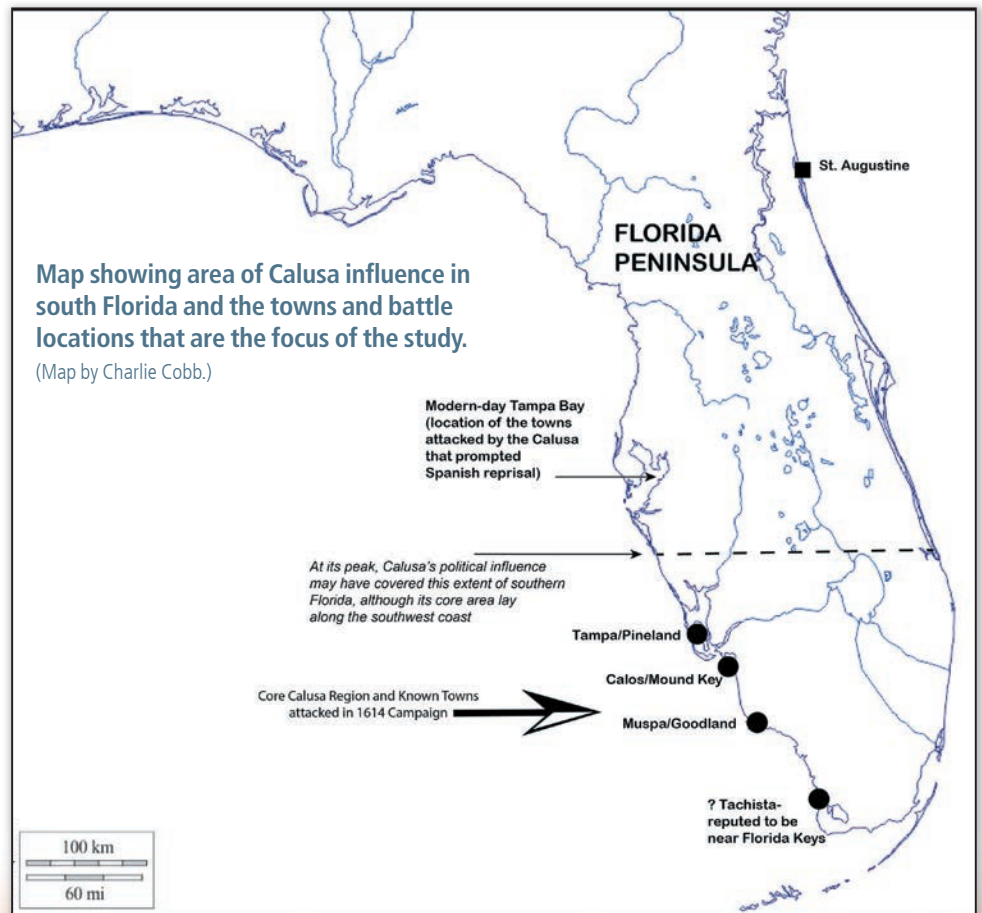
The 1614 Spanish Campaign Against the Calusa

New Project Focuses on Battles

by Michelle LeFebvre, Charlie Cobb, and Gifford Waters

Within North America's rich Native American history, the Calusa of southwest Florida are remarkable in many ways, including their cultural resilience in the face of Spanish colonization efforts in the 16th century. Beginning in December 2020, a new project will document and preserve those efforts.

Prior to 1614, with the establishment of St. Augustine as the Spanish capital of *La Florida*, Spaniards used missionary efforts and military force to influence and control Native American people across northern Florida. Such efforts were not as successful in the southern portions of Florida, particularly among the Calusa. Relying on a large population size, mastery of coastal estuarine waterways, and an extensive socio-political network, the Calusa rebuffed Spanish incursions through the late 16th and early 17th centuries. In an effort to overcome them, the Spanish established alliances with Native groups



Continued on page 3



Visitor Center Opening and Private Tours Beginning

Changes Enhance Public Safety

As we go to print, Visitor Center Restrooms and Gift Store changes to enhance public health and safety are nearing completion. A craving for donuts and clever thinking by Andy Jendrusiak, our Grounds & Maintenance Specialist, led to door tissue dispensers for touch-free access and his master plumber skills came through on conversion of the drinking fountain to a foot-pedal operated hands-free bottle filling station. Restroom fixtures will offer touchless operation for added peace of mind.

Carpenter Dave Roscioli is using his craftsman skills to convert a closet into a staff space with checkout window for gift store transactions. Staff and customers will be required to wear face coverings inside their respective spaces in accordance with University of Florida policy. An exit path from the building to the parking lots is in place and some areas on the

trail are widened so visitors can maintain physical distancing. Jim Niehaus is coordinating the projects with a keen eye toward public and employee well-being.

Private guided tours are now available by request, all group members must appropriately wear a face covering for the tour duration. Public tours begin in January, the Trail is open sunup to sundown daily for self-guided visits.

Education offerings continue via digital platforms. Two sessions of the Conservation Science module of the Florida Master Naturalist Program were taught in September and October and our staff is collaborating with the education team at the Florida Museum for programs available across the state to Grade 4 students.

More details on reopening plans will be posted to our website, sent by email, and added to social media. Feel free to call us at 239-283-2062 for further



Golden rod (*Solidago* sp.) is blooming along the walkway to the Visitor Center. The Visitor Center will reopen in November. (Photo by Kristen Grace.)

information or to schedule a tour. We look forward to seeing you and continuing to learn and teach about the archeology, history and ecology of Southwest Florida. 🍁



Continued from page 2

around modern-day Tampa Bay known to have unfriendly relations with the Calusa. And, in March of 1614, the Spaniards launched two water-borne attacks against the Calusa in response to an attack the Calusa had waged on two Spanish-allied Native American towns in Tampa Bay earlier that year (Figure 1).

The 1614 Spanish campaign was the first large-scale battle between Europeans and Native Americans during the colonial era of eastern North America. Four towns were attacked; Calos (Mound Key site), Tampa (Pineland site), Muspa (Goodland site), and Tachista (location to be confirmed). Funded by the National Park Service's American

Battlefield Protection Program and with the support of the Randell Research Center, the new project will identify and document the four battle sites and raise public awareness of this era of Calusa history.

Archaeologists Charlie Cobb, Gifford Waters, and Michelle LeFebvre from the Florida Museum will lead the project, assisted by archaeologist and historian John Worth from the University of West Florida, and archaeologists and artifact conservation specialists Steve Smith, James Legg, and Chester DePratter from the South Carolina Institute of Archaeology and Anthropology.

The first year of work will include the translation of historic Spanish

documents, fieldwork excursions, artifact conservation, public outreach, and consultation with the Seminole Tribe of Florida's Heritage and Environmental Resources Office. The team will locate and translate select components of over 40,000 pages of colonial Spanish documents and accounts of Spanish Florida and Native American interactions. Fieldwork will include professional systematic metal detection for the identification of colonial era artifacts and strategic shovel testing. Results will be shared through free public lectures, newsletter updates, and other opportunities. If the project succeeds, it will add an important chapter to the fascinating history of the Calusa people. 🍁

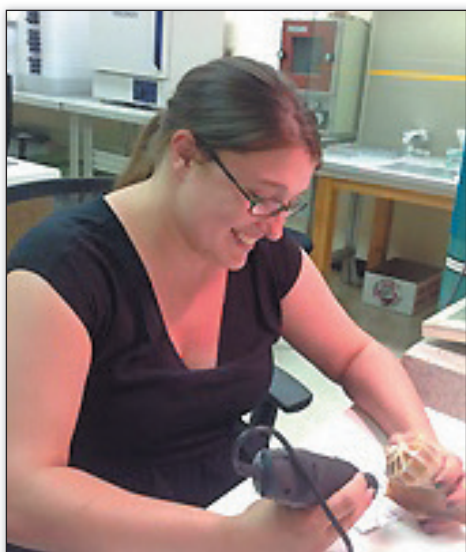


Friends of the Randell Research Center

PO Box 608
Pineland, FL 33945-0608

Non-profit
Organization
U.S. Postage
PAID
Pineland, FL
33945
Permit No. 26

Forwarding Service Requested



Dr. Carla Hadden

Interested in learning about important Earth system issues - air, water, land, and life - affecting the future of our state? Look no further than the past and join us for a free, live, Zoom-based webinar with Dr. Carla Hadden. Dr. Hadden is an environmental archaeologist specializing in zooarchaeology, archaeological chemistry, and radiocarbon dating. She manages the radiocarbon dating sample preparation laboratory at the Center for Applied Isotope Studies and serves as an Associate Editor for the journal *Radiocarbon*. From her lab, she will describe how she analyzes

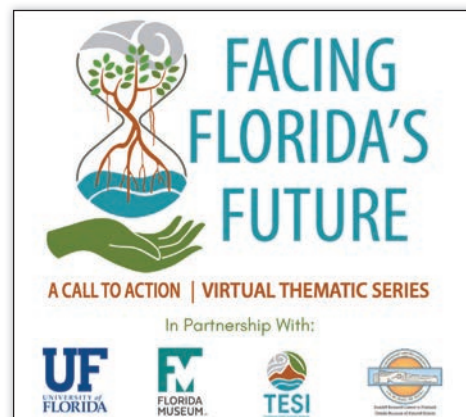
seashell geochemistry from archaeology sites in the Ten Thousand Islands to reconstruct fluctuations in water temperatures and salinities, and the past climate, of Southwest Florida. During her talk, she will give a tour of her radiocarbon lab and show shell specimens used in her work.

To register, visit our Upcoming RRC Events page on our website at www.floridamuseum.ufl.edu/rrc/. The Shell Point Retirement Community is our co-host for this talk, we appreciate their support and assistance to make this and future talks available to interested audiences everywhere.

Facing Florida's Future

Shells: Sentinels of the Sea with Dr. Carla Hadden

Friday, November 6 • 2 p.m. – 3 p.m.



To receive periodic updates about programs and events sign up at www.floridamuseum.ufl.edu/rrc/subscribe/.

RRC News

Editor: Cindy Bear

Writers: Cindy Bear
Charlie Cobb
Michelle LeFebvre
Dené Patterson
Gifford Waters

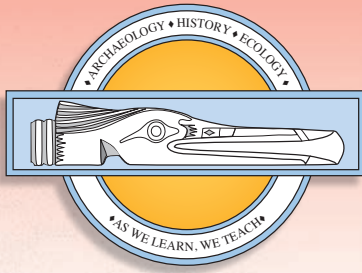


UF UNIVERSITY of
FLORIDA

Gift Shop & Tour Information:
(239) 283-2157

Send questions or comments to:
Randell Research Center
PO Box 608
Pineland, FL 33945-0608

Telephone: (239) 283-2062
Email: rrc@flmnh.ufl.edu
Website: www.floridamuseum.ufl.edu/rrc



Friends of the Randell Research Center

Pineland, Florida • November 2020
Phone 239-283-2062
Email: rrc@flmnh.ufl.edu

Dear Friend,

You are cordially invited to join, or renew your membership in, the RRC's support society, *Friends of the Randell Research Center*. All Friends of the RRC receive a quarterly newsletter and free admission to the Calusa Heritage Trail at Pineland. Supporters at higher levels are entitled to discounts on our books and merchandise, advance notice of programs, and special recognition. Your continuing support is vital to our mission. It means more research, more education, and continued site improvements at the Randell Research Center. Thank you.

Sincerely,

Cindy Bear
Co-Director
Randell Research Center



Please check the membership level you prefer, and send this form with your check payable to University of Florida Foundation, to:

Membership Coordinator • Randell Research Center • PO Box 608 • Pineland, Florida 33945

To join using a credit card, please phone UFF Gifts & Records at (352) 392-8091 or (877) 351-2377 and reference the fund number 05449 or donate online at <https://www.uff.ufl.edu/giving-opportunities/005449-randell-research-center/>.

- | | |
|---|---|
| <p><input type="checkbox"/> Individual (\$30) and Student (\$15): quarterly Newsletter and free admission to Calusa Heritage Trail</p> <p><input type="checkbox"/> Family (\$50): The above + advance notice on special events and programs</p> <p><input type="checkbox"/> Contributor (\$100-\$499): The above + 10% discount on RRC publications and merchandise</p> <p><input type="checkbox"/> Sponsor (\$500-\$999): The above + invitation to annual Director's tour and reception</p> | <p><input type="checkbox"/> Supporter (\$1,000-\$4,999): The above + listing on annual donor plaque at Pineland site</p> <p><input type="checkbox"/> Sustaining Members (\$5,000-\$19,999), Benefactors (\$20,000-\$99,999), and Patrons (\$100,000 and above): receive all of the above + complimentary RRC publications and special briefings from the Director.</p> <p><input type="checkbox"/> Donation: This donation is in addition to my membership in order to support RRC programs. (Please contact us to earmark donations to special projects.)</p> |
|---|---|

Permanent Address

Name

Address

City / State / Zipcode

Email address

Seasonal Address (so we can send you your newsletter while you are away)

Name

Address

City / State / Zipcode

Use my seasonal address from _____ to _____.
(date) (date)

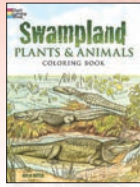
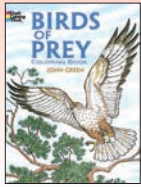
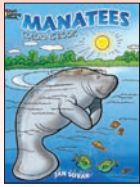


Photo by A. Bell.

For more information about establishing an endowment, creating a bequest or charitable remainder trust, or giving gifts of property or securities, please contact Marie Emmerson, Senior Director of Development, emmerson@ufl.edu, cell: 352-256-9614.
The Randell Research Center is a program of the Florida Museum of Natural History, University of Florida.
Thank you for your support.



Summer Sale Books and RRC Gear



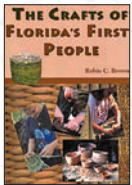
Coloring Books by Dover Publications - Perfect for Summer Activities with Children

All Dover Coloring Books include fun facts. \$3.00 each

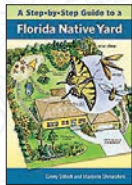
Manatees Coloring Book by Jan Sovak
The World of Turtles Coloring Book by Anthony D'Attilo
Birds of Prey Coloring Book by John Green
Sea & Shore Birds Coloring Book by Ruth Soffer
Swampland Plants & Animals Color Book by Ruth Soffer

Number Ordered	Cost
_____	\$ _____
_____	\$ _____
_____	\$ _____
_____	\$ _____
_____	\$ _____

"How To" Books for Children and Adults



\$10.00
A guide to making Florida Indian tools & containers.
 Softcover.
 Pineapple Press.



\$15.00
Plant lists and care tips to convert any yard to a more natural area.
 Softcover. U Press of FL.

The Crafts of Florida's First People by Robin Brown. Pineapple Press. Softcover
A Step-by-Step Guide to a Native Florida Yard by Ginny Stibolt & Majorie Shropshire.

Number Ordered	Cost
_____	\$ _____
_____	\$ _____

RRC Gear



\$15.00
Calusa Heritage Trail T-shirt with artwork by Merald Clark.
 Specify size:
 S, M, XL, XXL only.

Size	Number Ordered	Cost
_____	_____	\$ _____
_____	_____	\$ _____
_____	_____	\$ _____

Books on Southwest Florida's Geology, Archaeology, History, and Ecology

A Tour of the Islands of Pine Island Sound, Florida: Their Geology, Archaeology, and History
 by Dené Patterson. RRC Popular Series No. 2, softcover, full color, **\$25**

The Calusa and Their Legacy: South Florida People and Their Environments
 by Darcie A. MacMahon and William H. Marquardt, U. Press of Florida, hardcover, **\$35**

The Archaeology of Pineland: A Coastal Southwest Florida Site Complex, A.D. 50-1710
 edited by William Marquardt and Karen Walker, Monograph 4, hardcover, 935 pages, 408 figures, 231 tables, bibliographic references, **\$100**

Number Ordered	Cost
_____	\$ _____
_____	\$ _____
_____	\$ _____

Total for items ordered: _____ \$ _____

Friends of the RRC who give at the \$100 level or above may deduct 10% Discount: — _____ \$ _____

Florida residents add sales tax: _____ + \$ _____

Shipping: Add \$5.00 _____ + \$ _____

Add \$6.00 additional shipping for **Archaeology of Pineland**: _____ + \$ _____

To place order, make check payable to
 University of Florida Foundation and mail to:

TOTAL: \$ _____

Randell Research Center
 PO Box 608
 Pineland, FL 33945.
 Questions? 239-283-2062
 E-mail: rrc@flmnh.ufl.edu

Name (please print): _____
 Mailing address (please print): _____

 Zip code (please print): _____
 Phone number: _____