

Friends of the Randell Research Center

Vol. 7, No. 4

December 2008

Economic Stimulus Package, A.D. 800

New Study Reveals Economic Foundations of South Florida Chiefdoms

by John Dietler

A troubled economy and problems related to climate change are not newcomers to south Florida. Over 1,200 years ago, the once-rich estuarine fisheries of south-west Florida were greatly depleted and the region's Native American inhabitants were forced to rely more heavily on shellfish and



Sonny Cesare and Denege Patterson excavate on Useppa Island (Photo by J. Dietler.)



Volunteers identify lightning whelk fragments in the RRC lab at the Gill House (Photo by J. Dietler.)

difficult-to-get Gulf of Mexico fish for food. This dire situation would have spelled the end of many societies. Yet new research co-sponsored by the Randell Research Center indicates that the ancestors of the Calusa turned proverbial lemons into lemonade. Although they lacked the terrestrial resources that formed the basis of most New World civilizations, the Calusa had enormous numbers of discarded shells at their disposal. Innovative leaders encouraged the use of these shells to create a regionally organized woodworking industry. In doing so, they built an economic engine that helped drive Calusa society to unequalled heights.

My research began with a comprehensive study of the shell axes and adzes held by museums and research facilities in Florida. I measured and photographed 441 woodworking tools from 93 archaeological sites and submitted several dozen specimens for radiocarbon dating and chemical sourcing studies. The evidence is

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John Dietler, Diane Maher, and Pat Townsend examine whelk shells in an excavation on Useppa Island. (Photo by S. Dietler.)

clear — the Charlotte Harbor/Pine Island Sound/Estero Bay estuarine system was ground zero for a major shell-tool manufacturing industry that experienced a substantial reorganization 1,200 years ago. More than 80 percent of the unfinished shell tools, which provide direct evidence of tool-making, came from the region. Sourcing and tool shape studies indicate that the Calusa traded the tools they made with neighboring groups, particularly Lake Okeechobee people. Moreover, the new dates indicate that tool production more than doubled after A.D. 800. Significantly, nearly all of the unfinished tools from this later period are found in major Calusa political centers and a handful of small sites adjacent to the Gulf of Mexico.

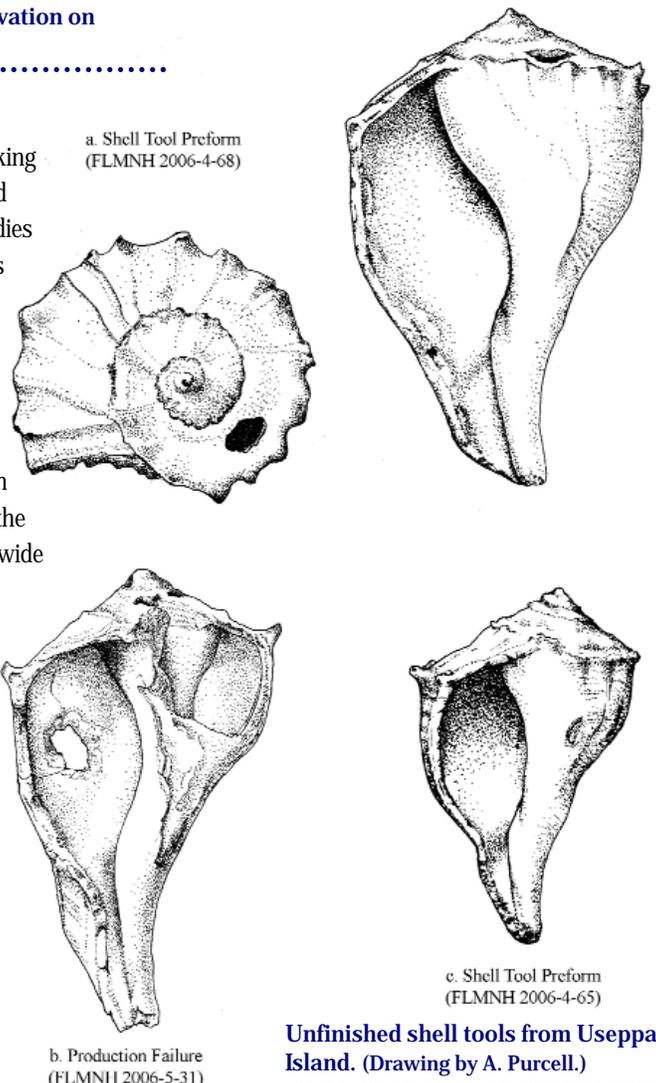
In order to help verify the museum study results, I conducted excavations at two of the smaller sites that had yielded large numbers of unfinished tools. With the help of over 50 Randell Research Center, UCLA, Florida Gulf Coast University, and Useppa Island Historical Society volunteers, the Useppa Island and Buck Key digs produced an unprecedented bounty of toolmaking evidence. These deposits contain the highest volumes of raw materials (lightning whelk shells), shell-working tools (shell hammers, shell

pounders, and stone grinding implements), and shell-tool-making waste products ever documented for this technology. Detailed studies of the manufacturing byproducts indicate that these deposits represent well-organized shell tool workshops where skilled craft specialists produced large numbers of standardized woodworking tools. Radiocarbon dates place these workshops at the heart of a post-A.D. 800 region-wide economic boom.

The available evidence suggests that ambitious leaders in the Pine Island Sound region harnessed emerging shell working and wood working industries in order to increase their wealth and power after A.D. 800. By encouraging shell workers to make large numbers of axes and adzes that could be used by wood workers to create fleets of

canoes, monumental buildings, powerful religious and political symbols, and breathtaking artwork, these leaders transformed a small-scale, locally oriented, and more egalitarian society to that of a larger, outward-looking society, with a strong, centralized government. With a firm economic foundation, the Calusa went on to become the powerful political force that is recorded so vividly in the pages of Florida's history books.

This work was made possible by funding from the National Science Foundation, the UCLA Department of Anthropology, the UCLA Friends of Archaeology, Garfield Beckstead, and Alvin Flury. Research support came from the Florida Museum of Natural History, Historical Museum of South Florida, Florida Bureau of Archaeological Research, the National Park Service Southeastern Archeological Center, J. N. "Ding" Darling National Wildlife Refuge, Useppa Island Club, Barbara Sumwalt Museum, Randell Research Center, UCLA Cotsen Institute of Archaeology, NSF Arizona Accelerator Mass Spectrometry Laboratory, and UCLA Molecular Instrumentation Center. My thanks to one and all.



Unfinished shell tools from Useppa Island. (Drawing by A. Purcell.)

Mystery Cat

Practically Complete Skeleton Added to RRC Comparative Faunal Collection

by Michael Wylde

Last summer, Dr. Karen Walker noticed a scatter of bones in the Northwest Pasture of the Calusa Heritage Trail, not far from the classroom building. She recognized the mandible as that of a bobcat. This was exciting because I had seen tracks near the old Calusa Canal over the summer that looked like bobcat (a bobcat track looks like the track of a domestic cat, but is 2" wide). Karen asked me to collect as many of the bones as possible for use in the comparative collection of local fauna for the RRC. Comparative collections help us identify bones we find in archaeological sites, especially middens. I was fairly successful in my search, finding a representative sample of bones from the skeleton. Assigned the catalogue number RRC-234, our cat was not too creatively dubbed "Bob."

Bobcats (*Lynx rufus*) are small native cats, weighing an average of 15 pounds, standing about 20" high and 33" long. They are orange-brown in color, sometimes fading to pale gray in winter. They have black spots and bars on their legs and rear, and a flat face with black bands radiating from their facial ruff, with slightly tufted ears. Also, not surprisingly, they have a short, "bobbed" tail. They are shy and nocturnal, and stalk and hunt small mammals and birds at night, killing them with a bite to break the neck. In South Florida, large bobcats have even been reported to take small deer. They have their kittens in May, usually two, but up to six in a litter.

Bobcats are found throughout much of the continental U.S., and prefer a habitat of scrub, woods, and swamp, an environment that still describes much of Pine Island today. However, the range of a male bobcat can be up to 400 acres. Even with our extensive agricultural areas, natural bobcat habitat is at a premium on the island.



Skull of bobcat found at Randell Research Center. Note teeth marks on skull. (Photo by M. Wylde.)

Bobcats prefer to remain unseen by humans.

The skeletal remains were processed at the classroom at the Trail with the help of lab volunteers Jessica Ater and Janelle Lowery. Cleaned and labeled, they will help us continue to learn about the natural history of Pine Island. One thing we would like to find out is a possible cause of death. A set of teeth marks shows that part of the skull was crushed. Was this the cause of death, or the result of scavenging? And how long a life did "Bob" live roaming the



A bobcat in the wild. (Photo by D. DeBold; source: Wikipedia Commons.)

Calusa Heritage Trail at night? Experts at the Florida Museum of Natural History may be able to tell us. Hopefully "Bob" has raised lots of family on Pine Island, and these beautiful felines will continue to live quietly among us.

New and Renewing Friends of the RRC from September 2 to November 30, 2008

(* indicates donation of materials or services. Please let us know of any errors or omissions. Thank you for your support.)

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State of the Center: A Report from the Director

The economic downturn has affected everyone, and the RRC is no exception. Our endowment has lost some value, which

means that we will now have less money for RRC operations. Until the recent steep declines, income from our endowment investments paid for 85% of our staff salaries. With loss of market value, we estimate that our endowment income will now fund only 72% of staff salaries, and the economic news may get worse before it gets better. University of Florida budget cuts are responsible for the loss of former coordinator John Worth's position, which still remains unfilled following his departure in 2006 for a job elsewhere. Much of our fund-raising efforts over the past four years have gone into recovery from Hurricane Charley, which has not allowed us to add significantly to our endowment fund.

In short, over the past four years the RRC has suffered a triple whammy – hurricane damages, loss of our only UF-funded position, and now

decreased endowment income. But the news is not all bad. Grants and private funds have been raised not only to rehabilitate but to improve our RRC headquarters, the Ruby Gill House. If all goes as expected, we will be back in our offices and labs by spring, 2009. We have controlled exotic invasive vegetation and planted more than 1,000 native trees since 2004. The Calusa Heritage Trail is visited more frequently than ever, and the gift shop attracts more business each year. Volunteerism is solid, school groups visit the site regularly, site visitation is up, membership is steady, and the site looks better than ever. In spite of undeniable adversity, the RRC is not just surviving but getting better each year. How is this possible?

In my view, our positive outlook can be attributed to two main factors. The first is a stellar staff. Linda Heffner, program assistant, manages the office and accounting and keeps up with the membership with competence and grace, contributing to our favorable standing in the community. Mark Chargois, maintenance specialist, is responsible for the grounds and buildings. He does his work effectively, thoughtfully, and with great pride. Michael Wylde is our

shop manager, lab manager, tour manager, and special-events coordinator. Wait, that's four jobs, right? Michael does them all beautifully, and all on one salary.

The second main factor is the support of our local community and Friends of the RRC, people like you who are reading this newsletter. People who donate money, people who donate materials, people who donate their time – all of you make a difference and help us succeed.

Simply put, the Randell Research Center is prospering in spite of all odds because of a small but dedicated staff and a few hundred good friends who believe in us and in our mission. At this point, we need you more than ever. Somehow, we must find the money to keep operating and improving the RRC in spite of diminished endowment income. We do need your help. If you can afford a tax-deductible gift at this critical time, please make your check to the Randell Research Center and mail it in. If you have some time to donate, give Linda a call at 239-283-2062 and let her know how you can help. Thanks, as always, for your support.

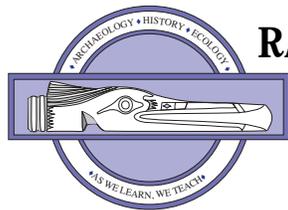
Save The Date!

On February 21, 2009, the Calusa Heritage Trail at Pineland will once again be the site of our popular Calusa Heritage Day. There will be public talks, demonstrations of Calusa crafts, activities for kids, food and drink, and more. As plans develop, information will be posted at <http://flmnh.ufl.edu/RRC/events.htm>



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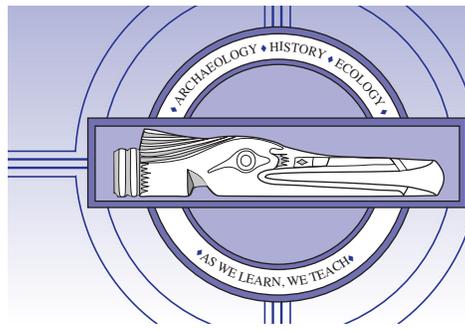
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Friends of the Randell Research Center

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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,

William H. Marquardt
Director
Randell Research Center

Please check the membership level you prefer, and send this form with credit card information or check payable to Randell Research Center, to:

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by Darcie A. MacMahon and William H. Marquardt, U. Press of Florida, hardcover \$39.95

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Sharks and Shark Products in Prehistoric South Florida
by Laura Kozuch; Monograph 2, softcover \$5.00

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The Archaeology of Useppa Island
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New Words, Old Songs: Understanding the Lives of Ancient Peoples in Southwest Florida Through Archaeology
by Charles Blanchard, illustrated by Merald Clark; hardcover \$19.95, softcover \$9.95

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by Robert F. Edic; hardcover \$35.00

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by Robin Brown, Pineapple Press, hardcover, \$29.95

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by John H. Hann, U. Press of Florida, hardcover, \$35.00

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