



**WMS/LSS ARCHAEOLOGICAL SOCIETY NEWSLETTER**

Vol. 23, No. 1 January/February 2012

*A 501(c)3 Corporation and Chapter of the Florida Anthropological Society*

The Warm Mineral Springs/Little Salt Spring Archaeological Society meets the second Tuesday of the month (except June-August) at the North Port United Community Church of Christ at 7:00 PM located at 3450 Biscayne Blvd. Meetings are free and open to the public

**Happy New Year 2012!** Please note below the location of our January 10 meeting. We want to thank all our members for helping make 2011 a great year and wish you all the best for 2012. We start our 2012 speaker series with two outstanding programs you won't want to miss; read on....

**JANUARY 10 MEETING TO UPDATE CURRENT RESEARCH AT LITTLE SALT SPRING BY DR. JOHN GIFFORD AT STATE COLLEGE OF FLORIDA**

This month's January 10 meeting will be held at State College of Florida located at 8000 S. Tamiami Trail (US 41), South Venice/North Port Campus (formerly MCC campus). This will be a special meeting, co-hosted by the University of Miami, State College of Florida, and the WMS/LSSAS.

University of Miami Associate Professor and Director of Research Dr. Gifford will offer a presentation on current research at LSS in a program titled "Sunken Treasures of Little Salt Spring." Dr. Gifford returned January 2 for his annual two-week field session with students in his Prehistoric Underwater Archaeology Techniques class to continue excavations in Operation 14, a 2x2 m unit on the mid-slope of the basin at 8.5 m (25 feet) below surface. The doors will open at 6:30 and the presentation will be preceded by a table-top exhibit of artifacts and specimens recovered from the 13 m basin and the 27 m ledge dating from 6,000–12,000 years old. If you have ever wondered what has been recovered from the depths of the spring, this is your opportunity to find out.



Dr. John Gifford prepares to dive the 27 m ledge in 2011

The presentation will start with an eight-minute video documentary by producer David Porfiri of Mind Flow Media, who was on site with a film crew in 2008 during the initial 27 m ledge work funded by National Geographic. After the

Video, Dr. Gifford will then proceed with a 40-minute presentation on the current research, and there will be time for questions after the presentation.

The following evening, January 11, the same presentation and exhibit will be held at the Selby Library in the Geldbart Auditorium located at 1331 First Street, Sarasota, so our north-county folks can share in the excitement. So if you can't make it to the January 10 presentation and exhibit, you can still attend the following evening in Sarasota. The Sarasota event will begin at 5:30 and run until 7:30.

As an added bonus, many of the bone artifacts recently returned from the conservation lab at Texas A&M will be on display along with shell and stone tools from the site. More than 50 wood artifacts are still undergoing conservation and will be returned in April. Many of these artifacts will be on permanent display at LSS after the new research and education-center building is completed when the University of Miami's LSS capital campaign goal is reached. The conservation of the wood and bone artifacts was made possible by a generous grant from the Jacarlene Foundation, Tampa.

Information will also be provided on the University of Miami's capital campaign for a research/education-center at Little Salt Spring. The facility will provide continued unprecedented multi-disciplinary research at the site, conservation and research laboratory, artifact curation space, a dive locker, offices for staff and visiting scientists, a classroom for UM students, exhibit space, and provide educational opportunities for local school children and the public.

This will be a one-time presentation at State College of Florida and one you won't want to miss.

#### **FEBRUARY 14 VALENTINE'S DAY MEETING WITH DR. ROBIN BROWN**

Dr. Robin Brown will be the speaker at our February 14 Valentine's Day program. The meeting will be held at our regular meeting place at the North Port United Community Church at 7:00 PM. What better place to bring your wife, husband, or date on Valentine's Day than one of our meetings; or just come alone or with a friend! I think the photo Dr. Brown sent indicated that he likes the idea of speaking on Valentine's Day, or at least he is making the best of it.

His topic, "Incredible Preservation of Florida Wet Sites." The importance of Florida's phenomenal wet-site preservation to the understanding of aboriginal Florida people cannot be overestimated. Objects of enduring stone represent only a small fraction of the artifacts

## *The Incredible Preservation of Florida Wetsites*



*Happy Valentines Day  
from  
Robin Brown*

produced by Florida cultures. Ceramic objects last well, but pottery in Florida appeared only 4,000 years ago. Most of the ceremonial and utilitarian things used by prehistoric Floridians over the past 12,000 years were made of wood, hide, fiber, and bone, all of which perish rapidly in Florida's warm, wet environment. So we often wind up studying a culture by the surviving artifacts that represent less than 10% of the things they made for subsistence, personal adornment, and sacred purposes.

Sites such as Warm Mineral Springs, Little Salt Spring, Republic Groves, Bay West, Windover, Key Marco, Hontoon Island, Page Ladson, Lake Monroe, and many more, all possess conditions that facilitate the preservation of material remains from past human activities: continual inundation or saturation in a neutral, anaerobic environment in peat or sand.

Dr. Brown is a medical doctor by profession, having graduated from Tulane Medical School in 1959. He completed his rotating internship at Touro Infirmary and his surgical fellowship at Ochsner Foundation Hospital, both in New Orleans, Louisiana, and his Ear, Nose, and Throat residency at Illinois Research Hospital and Presbyterian-St. Luke's Hospital, Chicago, Illinois, from 1959-1964. He was a medical-practitioner ENT in Ft. Myers from 1964-2000. Prior to his retirement, Dr. Brown began pursuing his other interests, including his love of Florida's natural and cultural history. He is author of three books (all in the WMS/LSSAS library): *Florida's Fossils* (1988), *Florida's First People* (1994), and *The Crafts of Florida's First People* (2002).

This again, folks, will be another interesting meeting you will want to attend.

## DECEMBER 2011 TOPIC ON DIET AND BONE CHEMISTRY

By Judi and John Crescenzo

On December 13, 2011, Dr. Robert Tykot, Professor at the University of South Florida, presented "Reconstructing Ancient Diets of the New World Through Bone Chemistry," a scientific analysis of materials and elemental analysis of skeletal remains at prehistoric sites in the Americas.

As Dr. Tykot explained, faunal and macro-botanical materials do not preserve well over time; they present an inaccurate picture of what people ate because some items preserve better than others. The use of bone chemistry, however, allows archaeologists to quantify findings so that comparisons can be made between sites, populations of males and females, adults and children, and the rich and poor. Combining indirect evidence—skeletal pathology, artistic depictions, historical documentation, plant impressions on ceramics, and evidence of land clearance—with bone chemistry presents a more complete picture of ancient societies.

Maize was domesticated 7,000 years ago in Mexico. It spread north and south, becoming part of the diet anywhere it could be grown. In bone-chemistry studies, Carbon 12 and 13 are used because they don't disintegrate. Eating plants or animals that ate plants deposits carbon into bones, flesh, and hair. All plants do not photosynthesize in the same way. For example, rice and wheat produce C3 and corn produces C4, which are different forms of carbon.

Collagen is made of amino acids in bone, and radiocarbon dating uses this part of bone for dating. Maize is the only C4 domestic plant that was not in the Americas before Columbus; it is high in carbon but low in nitrogen. Other C3 plants include roots, fruits, legumes, freshwater fish, and terrestrial vertebrates, while C4s are also obtained from reef fish, sea turtles, shrimp, and waterfowl. It doesn't matter where C3 and C4 plants are found, as the values remain constant.

Different tissue samples provide comparisons. It takes several years for collagen to form, so it represents the average diet over those years. Bone apatite (calcium hydroxyphosphate) forms from food eaten and represents the average diet. Tooth enamel represents the diet at formation (birth to 12 years, dependent on which tooth). Hair grows continuously and shows short-term dietary variations. Hair and teeth may not match, which means a person lived elsewhere and ate different foods when teeth were forming. For example, if a woman's diet changed, that could mean she moved to a man's family within a patriarchal society; likewise, if a man's diet changed, that



Dr. Robert Tykot visits Little Salt Spring for tour with Steve Koski prior to dinner with the speaker at Warm Mineral Springs Evergreen Café and presentation

could be evidence of a matriarchal society. Hair changes also depend on what was eaten at a given time of year.

Bone analysis requires samples from skull, rib, or leg bones. One gram of bone or 10 mg of tooth enamel is placed in the Mass Spectrometer at USF. Data collected include the collagen yield, percentage of carbon and nitrogen, ratios of carbon to nitrogen, duplicate samples, and consistency with other samples.

Dr. Tykot provided detailed results of his bone-chemistry studies from many sites, including Belize, Guatemala, Ecuador, Peru, and Florida. In Cuello, Belize, he discovered that male and female diets were the same, but maize was higher in the diets of those sacrificed. Dogs ranged in importance dependent on the amount of maize eaten. There was no evidence that deer were tamed and fed maize. Cuello is not near the coast, so seafood was absent from the diet. Pre-classical Cuello bone chemistry showed lower carbon, but by the collapse of the Mayan Empire, there was a huge jump to maize as a protein source. Since maize is only 10% protein, the people must have obtained protein from other sources. As cities grew, deer were no longer found nearby and were more difficult to hunt. Therefore, dietary access played a role in the collapse of the Maya.

Bone-chemistry studies at Iximche, Guatemala, in the later Post-classic period indicate diet issues. For example, a line across a tooth shows that during growth, there was no consistent amount energy; the tooth stopped growing and continued later. In 1000 AD, the people of Ecuador ate maize as corn meal and *chicha*, an alcoholic beverage; they also ate corn-fed llamas. In comparison, the Incas of Machu Picchu in Peru had high nitrogen values, possibly

because they had moved from the coast, or certain people brought seafood to the mountains for consumption by the wealthy.

Maize reached Florida from the north between 2000–1000 BC and 600–900 AD. Bone studies showed that Gulf Coast bayshore people had high carbohydrates and nitrogen, indicating that they ate a lot of seafood. Evidence of some seafood was noted at Crystal River, but the Bayshore people also ate maize. This means that maize came to Florida much earlier than was previously thought.

A portable x-ray fluorescence spectrometer, which can be carried on a plane, was used for studies at Miami One, Weeden Island, and Horr's Island. This technology evaluates the trace elements barium and strontium in bones, and it is not destructive because it analyzes only the surface. When this method was used on the Atlantic coast and in the Everglades, the Gulf-coast sites showed a higher consumption of fish, probably because it is easier to catch fish in calmer waters.

While this was a considerably technical presentation, Dr. Tykot delivered the information in a manner understandable to everyone, and I think all would agree that it was very interesting and informative. We are most appreciative of his taking time from his schedule to share his research with us.

## LAND SURVEY AT LITTLE SALT SPRING TOPIC OF NOVEMBER MEETING

By Judi and John Crescenzo

On November 8th, Steve Koski, Research Associate and Site Manager of the Little Salt Spring Research Facility, presented "Terrestrial Survey at Little Salt Spring." Koski's PowerPoint presentation summarized the results of the 2006–2007 Phase I archaeological assessment survey of the upland portion of the 112-acre LSS property. The survey also included a five-acre parcel north of LSS recently acquired by Sarasota County and North Port, which includes a portion of the Archaic habitation area and cemetery. The survey was conducted by New South Associates of Stone Mountain, GA, and St. Augustine, FL, the company Koski served as project archaeologist before his full-time appointment at the University of Miami. With plans for a research and education center to be built on the property, the University of Miami applied for, and was awarded, a \$50,000 matching grant from the Florida Division of Historical Resources to help fund the study.

During the late Pleistocene when sea level and water tables were lower and surface water was scarce, Little Salt Spring was an oasis in the middle of the state. The



Cindy Thomas, Steve Koski (front), Lisa Leydon, and Andy Belcourt (rear) deep auger test the hammock around LSS

situation attracted some of Florida's earliest inhabitants to the area for the procurement of water and other needed resources, as evidenced by artifacts found in the spring from the Middle Archaic through Paleoindian periods c. 6,000–12,000 years ago. Evidence of human occupation has also been found on the immediate surrounding landscape and adjacent slough. When Price Blvd. was constructed in the early 1970s, 6,000–8,000-year-old burials were uncovered and an upland habitation site was found.

To prepare for archaeological surveys, archaeologists determined where to dig based on the size of the property and the areas to be affected by development. In this case, the entire property was surveyed to determine where artifacts were located to determine past land utilization. Surveys are conducted by digging shovel test pits at certain intervals, screening the removed soil through 1/4-inch mesh, and examining for artifacts. To help guide the fieldwork, background research is conducted to determine where sites might be located. They examine old survey reports, check the Florida Master Site File for previously recorded archaeological sites in the area, and study historic maps. Infrared aerial photographs show the kinds of trees present, and soil-survey maps determine the distance to water and soil type; all determining factors relating to site locations. Aerial photos from 1949, 1972, and 2006 were examined for comparison, indicating conditions prior to and

after the installation of drainage ditches, roads, and buildings in the area.

In 2002, archaeologist George Luer wrote about Little Salt Spring as part of an article in the *Florida Anthropologist* entitled "Three Middle Archaic Sites of North Port." He identified areas adjacent to, but off, the property known to contain part of the Archaic-period habitation site in an area where 25 platted, undeveloped residential lots were located. Sarasota County Commissioners approved the acquisition of 24 of the 25 lots with help from the City of North Port and they are now protected from development. The property will be used as a future passive park. A park planning committee was formed with local citizens to help guide future development and use of the park.

The survey of the LSS property included 425 standard 4-foot-deep, 18-inch-wide shovel tests and 88 6-foot-deep, 12-inch-wide mechanical auger tests to determine the distribution of artifacts on the property. Of those tests, 108 contained evidence of prehistoric visitation in the form of sparse lithic flakes and bone. Findings also included a seasonal campsite with more lithic flakes, scrapers, shell, and a stubby lithic point, probably representing a discarded knife or scraper. The wetland slough was not tested because it contains Archaic burials protected by the university. Lithic artifacts from the land survey were compared with findings from the spring, and differences became evident in the size, material type, and number of tool types relating to activities and procurement of lithic resources. Zooarchaeological screening uncovered bones from animals such as deer, raccoons, turtles, snakes, bullfrogs, and fish. Charred seeds and wood were also found, along with a total of 64 lithic artifacts.

While Little Salt Spring is considered a pre-ceramic site (older than 4,000 years) because no pottery had been found, one shovel test contained several pieces of ceramics from one vessel. In the last few years, several ceramic sherds have been recovered from underwater in the upper shallow basin, indicating that visitation occurred between 2500 BP and AD 1500. The terrestrial survey at LSS helped define the boundary of the site and addressed prehistoric land use and other issues related to occupation.

### DECEMBER 3 FIELD TRIP ON MYAKKA RIVER FUN AND INFORMATIVE

We could not have picked a more pleasant day for our December 3 field-trip riverboat ride on the Myakka River with Terry's River Tours ([www.terryrivertours.com/index.html](http://www.terryrivertours.com/index.html)). Temperatures were warm, the sky was clear, and the river was calm. Twenty-six WMS/LSSAS Members and guests met at Snook Haven



The beautiful Myakka River



WMS/LSSAS members on Terry's River Tours on the Myakka River

at 11:00 AM and boarded Captain Terry's pontoon boat at 11:30. The boat first meandered upriver toward I-75, then turned and headed downriver past Snook Haven another mile or so. It wasn't long before we saw a large alligator eight or nine feet long at the water's edge that sunk beneath the shallow water as we passed. On the way, Terry gave us a colorful history of Snook Haven and of the early settlers along the Natural and Scenic-designated river, its importance to Charlotte Harbor, and the prehistoric Native American presence in the area, beginning with a discussion on Warm Mineral Springs and Little Salt Spring. A variety of birds were observed during the tour, including a red-shouldered hawk atop a tall dead oak, a great blue heron, snowy egrets, a tri-colored egret, a kingfisher, and others. Large oaks with hanging Spanish moss lined the river, with wild lilies blooming along the shore. Cabbage palm, a few dahoon hollies, and saw palmetto provided the

backdrop for the mesic upland, adding to the beauty of the old Florida experience.

After the riverboat tour, we continued to enjoy the afternoon with lunch outside at Snook Haven, now a Sarasota County-owned property purchased with tax dollars to preserve and maintain a piece of old Florida.

**WMS/LSSAS YARDS SALE FEBRUARY 18**

This will be our last newsletter reminder that our annual yard sale will be held Saturday, February 18, at the renowned Warm Mineral Spring Motel, one of the oldest operating businesses in North Port, located on US 41 and Ortiz Blvd. We want to thank all those who have donated this year and in past years, and want to let you know it is not too late to contribute your fine items no longer needed to supporting our archaeological and historic-minded cause.

Last year was our best year yet, raising more than \$1,600, which supports monthly speaker honorariums, publication and mailing of our bimonthly newsletter, memberships to historic-preservation-minded organizations such as Historic Spanish Point, Randell Research Center, Florida Humanities Council, North Port Library, Historic Preservation Coalition of Sarasota County, and more. Donations can be made by calling Hilda Boron at 426-1719.

**2012 WMS/LSSAS MEMBERSHIP DRIVE IS ON!**

It's membership renewal time and we couldn't do it without you! A huuuge thanks go to all our loyal members who have helped to make us who we are and 2011 one of our best years. This past year we had a great series of nine informative speakers, field trips, dinners with the speaker at the Warm Mineral Springs Evergreen Café and Olde World Restaurant, and more.

While our meetings are free and open to the public, we couldn't survive without our members. Memberships help support our efforts, provide a modest honorarium to our speakers, put them up at the famous Warm Mineral Springs

Motel on US 41 if coming from out of town, cover publishing and mailing our bimonthly newsletters, support local and state-wide preservation-minded organizations through membership to the Florida Anthropological Society, Historic Spanish Point, Randell Research Center, Florida Humanities Council, Mound House, Little Salt Spring Research Facility, and others. So, if you enjoy our meetings and think we are doing worthy things, please consider renewing your membership or joining.

For your convenience, an addressed, reply envelope and membership form are included in this newsletter. Many thanks!

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