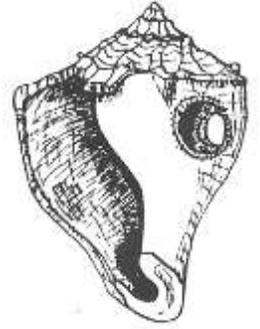


SWFAS

NEWSLETTER

THE SOUTHWEST FLORIDA ARCHAEOLOGICAL SOCIETY



JOHN G. BERIAULT, ACTING EDITOR VOLUME 18, NUMBER 12 DECEMBER, 2002



Rope Bend: This is a postcard image of a famous bend in the Caloosahatchee River, one of several oxbows, though evidently the most pronounced. It took several ropes attached to trees to “warp” a riverboat around the bend, hence the name. The location of Rope Bend was ten miles or so west of Labelle in Hendry County and perhaps twenty or so miles west of the Falls of the Caloosahatchee and the Ortona Canal. This is how the river probably looked to the early Indians of the area...

Questions that Need Answers...

When you arrive at the back page of this issue of the Newsletter you will find an excellent questionnaire and description of various committees. This is the production of Tom Franchino, present SWFAS Board member and who is on our slate of officers to fill next year's term as president, if so elected by you, the members. It's always a concern (or

should be) of any governing group that the members have the chance to fully participate in the organization, involving themselves in everything from committees to positions as officers and board members. The people that are currently your elected representatives are desperate to involve YOU. Please read, answer, and return the questionnaire. Give us the

information we need to involve you.

December Picnic

Also here is some information as to the annual SWFAS December Picnic which will be held at the Collier County Museum, Sunday,

December 15, from 10 to 2.

Please bring a dish to share and chairs. SWFAS will provide beverages and paper plates and plastic utensils.

Inside this Newsletter

- 1 We have Moved! Florida Gulf Coast University is the new site of our General Meetings**
- 2 Can You Canoe? Read Robert Gore, Part Two...**

DON'T FORGET THE PICNIC! SEE NOTICE ABOVE

THE DATE BOOK

December 11th SWFAS Board Meeting – Hampton Inn, Bonita Springs, 7:00 PM

December 15th SWFAS Picnic
7:30 PM Room 149, Reed Hall,
Florida Gulf Coast University



**POTSHERDS
AND
POTSHOTS... AN
ONGOING SERIES BY
ROBERT GORE**

About SWFAS

The directorate: President Betsy Perdichizzi, first vice president Tom Franchino, second vice president Corbett Torrence, membership secretary Charlie Strader, treasurer Charlie Strader, recording secretary Jo Ann Grey, directors Steve Tutko, Sue Long, Dottie Thompson, Jo Ann Grey, Don Taggart, Jack Thompson, John Beriault, Charlie Strader, Theresa (Torrence) Schober, and Dr Susan Stans.

The committees: Field: Beriault, 434-0624; Hospitality: position open; Membership: Charlie Strader, 941-992-6133; Publicity: Dottie Thompson, 597-2269; Sales: position open; Finances, Jack Thompson 597-2269, 774-8517; Lab: (774-8517), Art Lee, 261-4939, Walt Buschelman, 775-9734, Jack Thompson, 597-2269.

To Join: Address your check to the Southwest Florida Archaeological Society, P.O. Box 9965, Naples, FL 34101. Dues are: Individual \$20, Individual Sustaining \$50.00, Family \$35, Student \$15.

Any questions, comments, contributions to the Newsletter: John G. Beriault, acting editor, P.O. Box 9074, Naples, FL 34101-9074 or Email to: JGBeriault@aol.com.

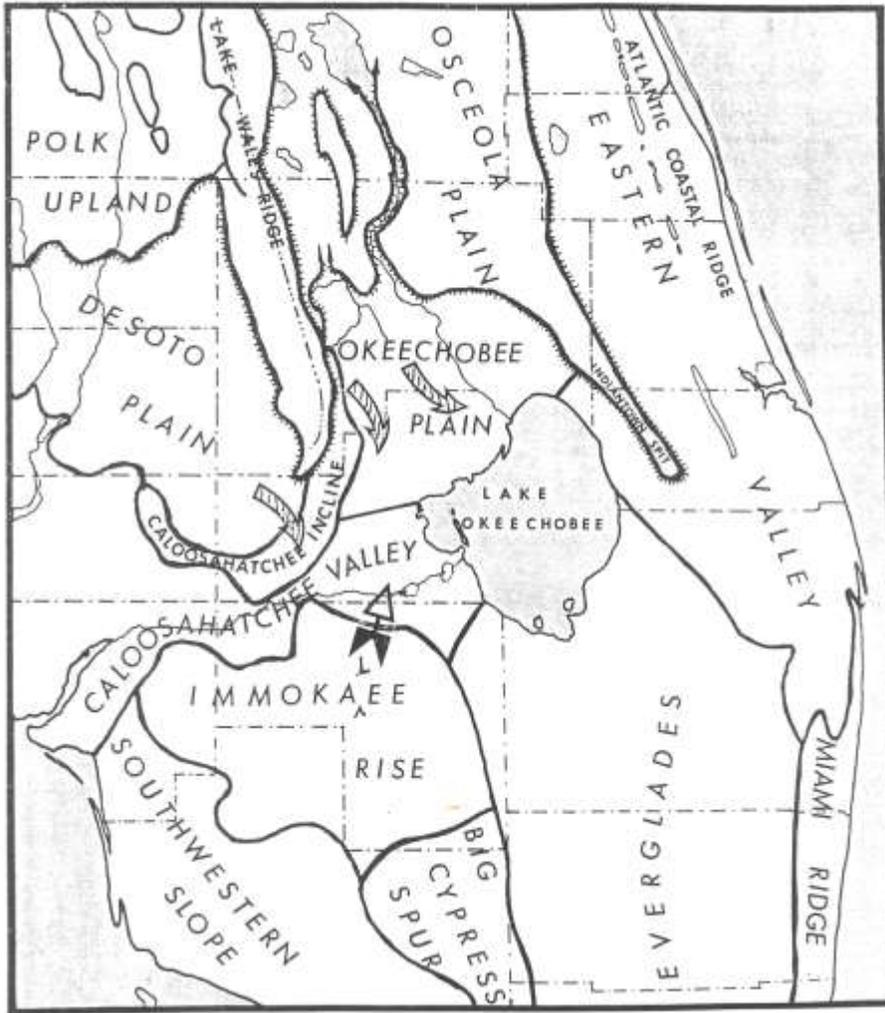
**THE ORTONA ENIGMAS:
CANOES, CANALS,
COMMERCE, AND
CONVEYANCE: II. "AS IF
LAID OUT BY AN
ENGINEER"**

Archie Williams' conclusions notwithstanding, recent studies suggest that the Ortona Canal Complex, consisting today of two canals now measuring from two to three miles long, was primarily built both for conveyance as well as drainage. But at least Buckingham Smith was right--they weren't built by the Seminoles. James Kreamer, Hamilton Disston's engineer, wrote that each canal was almost perfectly straight "as if laid out by an engineer" and that they formed a triangle in which two of the sides connected Lakes Flirt and Hicpochee ("Hiakpochee") to the larger mound at the triangle's apex, while at the same time drained into the upper Caloosahatchee River which

formed the triangle's base. Moreover, because each long canal (at least at the time of Kreamer's description) provided direct access to the Caloosahatchee River, they allowed travel either westward to the estuary at Escampaba (today Estero Bay and/or Charlotte Harbor), or eastward to the Lake of Maya'imi. We shall return to these matters in a later column.

But drainage also seemed to be important. For example, the canals more or less intercepted the flowway of the now defunct Turkey Creek and, east of this, paralleled another larger (but unnamed) swamp. It seems obvious that both these minor hydrological features flooded outward (i.e. more or less southward), especially during years of heavy rainfall, hurricane events, and down-peninsular water transport. This came primarily from the scrub-shrub and pineland areas, and spilled over the Caloosahatchee Incline (perhaps an ancient submarine shoal) from off the eastern DeSoto Plain, and joining with flow from the lower western Okeechobee Plain lying to the immediate west and north of the Lake. The total fall in elevation over six miles was (for Florida at least) a not inconsiderable 20-30 feet or so. But whether the Creek and associated swamp were in existence when the canals were built, or developed afterward, remains unknown.

Drainage is nonetheless supported by 20th century data. Over- flow



into the Everglades. Thus, if the Ortona Canals were used as directing conduits they would have provided a means of alleviating at least some of the excess water around habitation sites, thereby enhancing the area's living conditions.

There is more. The Ortona Canals were not only carefully placed, they also seemed to be carefully designed. The bottom slope from points of origin of each canal, as measured in modern times, was approximately one foot per thousand feet of canal length. This would produce a gentle but nonetheless effective drop of some ten feet over the distances from the topographical high point of 25 feet, upland near the mounds, to the Caloosahatchee River below. IF this gradient existed at the time of their construction, and was not a consequence of infilling or water-scouring caused by nearly two millennia of subsequent sedimentation, it would have required rather careful and astonishingly sophisticated planning. If the slope declined too gradually, for example, sediment build-up would occur, thereby defeating

out of Lake Okeechobee is today controlled by the Hoover Dike, and regulated by the U. S. Army Corps of Engineers. Two somewhat arbitrary

Figure 4: Physiographic landforms above and around Lake Okeechobee and the Caloosahatchee River. Barred arrows indicate general flow patterns; Flagged arrow indicates the Ortona site. (Modified from White, 1970, in Brooks, 1974]

water levels, 14.6 ("lowest allowable"), and 18 feet ("highest allowable"), have been designated. At a Lake water level of 14.6 feet the general direction of escaping waters was primarily southerly and westerly across the basins of Lakes Hicpochee and Flirt, and then either down the Caloosahatchee River or

into the Everglades. At 13 feet the water, as well as disemboguing in the previous directions, also escaped southwesterly below Lakes Hicpochee and Flirt and, joined by flow from the Devil's Garden region, was flushed southward primarily

the purpose of the waterway in the first place. This is because lateral spillover would then take place a shorter distance downstream. On the other hand, too steep a slope would carry water away at higher velocities thereby causing erosion of the canal floor and sidewalls, concomitant lateral

slumping of the canal banks, and perhaps ultimately the collapse of the canal itself. Never mind imputed handling difficulties in rowing dugout canoes.

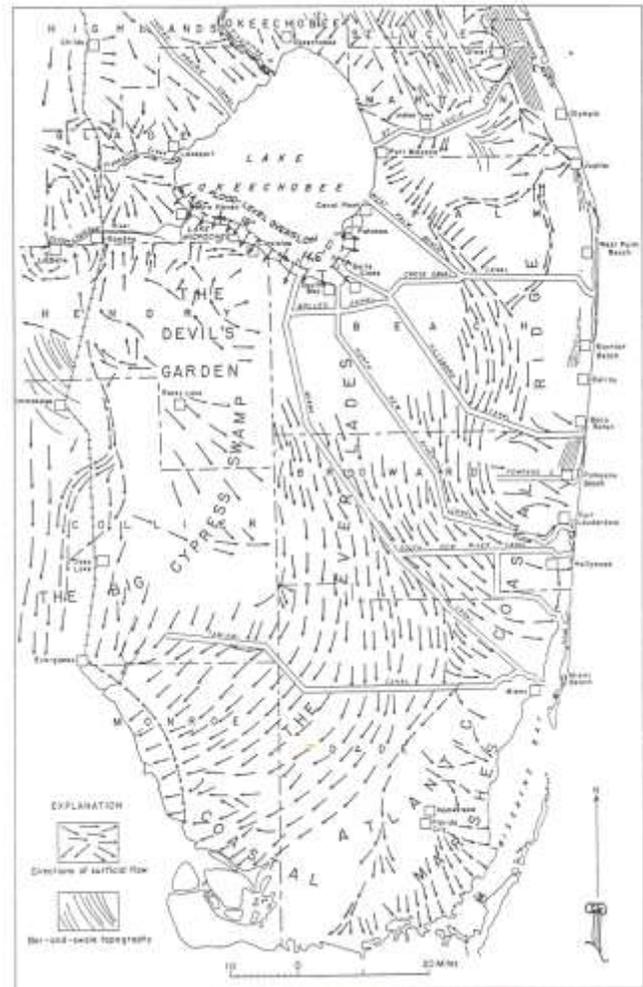
Another related question is: What remedies (assuming any were used) might be available during periodic backflooding of the canals caused by rising water levels spilling out from the Lake, or running downslope into the Caloosahatchee River from the Devil's Garden area, particularly in wet years? [See Figure 5]

It can also be asked: Did sealevel rises play any role? Considered overall, they may have indeed, although just what these effects might have been are difficult to clarify. For example, a rather rapid sealevel increase occurred between 7,000-2,000 years BP (ca. 5,000 BC-0 AD), during which the Gulf of Mexico rose from 7 meters below present sea levels to 3/4 meter below today's level, for a total increase of about 22 feet (264 inches). This rise, averaging about an inch every 20 years, meant that at the putative time of arrival of the Ortonans 2,700 years ago the Gulf of Mexico had already risen to nearly its present level. If the radiocarbon dates of the canal soils are accurate this would have given the Ortonans some 1,000 years to become familiar with the hydrological vagaries of their environment--if they had settled in the first place where the canals now occur.

But of even more interest are data from four other researchers which suggest that between about 50 BC-450 AD sea levels continued to rise

to about 1.2 m (nearly 4 feet) higher than levels today, followed by a 0.6 m (about 2 feet) drop over the period between 450-850 AD. The Ortona people are hypothesized to have started digging their canals around 250 AD. There thus may have been no incentive to dig a

Maybe. But because Florida is essentially a karsty limestone-geology peninsula, higher sea levels would have had a multitude of effects on groundwater resources, salinizing some, raising others to greater levels, and certainly affecting sheetflow rates and directions to at least some



conveyance-drainage system until then.

Are these dates merely a coincidence?

Figure 5: Surface water drainage in the Lake Okeechobee and Everglades Watersheds. Note the arrows of Flood Level Over- flow along the southwestern margin of the Lake, and the downslope flow into the Caloosahatchee River between Goodno and Lake Hicpochee. [From Parker. 1974]

degree--as long as the rainy seasons remained relatively regular occurrences. And remember, too, that most ground water, whether shallow or deep, not only runs downhill from up- peninsula, but comes from someplace else. Looking at a satellite image of Florida it is easily seen that Lake Okeechobee is not only the largest terminus, but the southernmost for a series of more than 100 shallow lakes, large and small, that puncture the sand-ridge backbone and its karsty side shelves of our state.

In any event, not only water presence, but water velocity was quite likely a critical factor in canal construction. The Ortona engineers were apparently familiar with some velocity/volume aspects so that an optimum amount of water would need to be shunted at a similarly optimum rate of flow. Recent calculations indicate that the configuration of the Ortona Canals could allow passage of 97-138 cubic feet of water per second, flowing at a rate of slightly under three feet per second. Slow but steady.

For purposes of comparison, dry season/wet season water flow measured at Bridge 105 on the Tamiami Trail at the eastern edge of the Big Cypress Swamp, some 70 miles south-southeast of the Ortona Canals, varied between 30 and 1,230 cubic feet per second, respectively. These are modern-day values; flow rates might well have been lower or higher before the region was dredged and drained. The original Disston drainage, for example, is estimated to have produced a discharge rate of some

1,400-1,700 cubic feet per second, or about ten times that engineered within the Ortona Canals. But Hamilton Disston's dredges were steam-operated; the "dredges" of the Ortona (supposedly sticks, paddles, baskets, shell-shovels) were run strictly by hand. And the Ortonans did not have dynamite.

Further "improvements" to the modern Caloosahatchee Canal in the twentieth century (the original of which was dredged by Hamilton Disston's crews in the early 1880s) now produce an estimated flow rate of nearly 8,000 cubic feet per second down the River during the wet season! That's some 60 times the aboriginal engineer's flow rate. Yet, - as great as all this drainage seems, it is really a very small and metaphorical drop in the Lake Okeechobee drainage bucket. On the other hand, for the Ortonan engineer, water control, rather than water removal was probably the overriding concern. Consider, too, that the relatively unstable, and oft times heavily laden aboriginal canoes would have been far more maneuverable at the slower (originally) planned rate, especially if the aboriginals posted several "walkers" along side to stabilize the canoes as they traveled up or

down the canal lengths. In this case, slower would be both better and safer. So it can be logically concluded that shunting, rather than total drainage, of incoming Okeechobee Watershed waters was the main basis for the Ortonan engineering equation. -,

The Ortona Canals thus seemed obviously constructed for the dual purposes of maximum conveyance combined with limited bypass- drainage. Their narrow floors, broad upper levels, more or less straight alignments, their location traversing higher to lower parcels of land to connect waterbody to waterbody, and even their direction of orientation slightly angled to allow easy entry or exit of the main River, support this supposition. This being true, the previously noted metaphorical allusion of engineering dividers becomes even more apt: the western divider-line points toward the coast; the eastern line points past Lettuce Lake and Lake Hicpochee into Lake Okeechobee itself. They were as effective as any road signs on a watery highway could be.

Even so, it may now be asked: Was this the primary impetus for canal construction and direction? The answer may lie both in demographic data collected over nearly five centuries of colonial occupation, and archaeological data collected over the past 100 years. To begin with, the engineering investigations, as we have seen, suggested that the Ortona tribespeople had chosen

the site for their settlement rather carefully. But why they located exactly where they did is based on at least three assumptions, and must always be tempered with our acceptance of the fact that conditions 1,700 years ago were almost certainly different from those seen today.

The first assumption is that if the Ortona people actually lived on-site then they had to have been quite familiar with the seasonal surface hydrology around Lake Okeechobee. They had to have known that the Lake would aperiodically overflow, or the Caloosahatchee River back up, or both, and either a little or a lot, at certain times every year. This backflow would completely inundate the adjacent lands, and perhaps even the higher scrub-shrub and pinelands that had developed north of the village mound. The question that arises then is: Why build in the middle of such a flood plain? And particularly on one which might become completely flooded from the western shoreline of the Lake up to and westward beyond Lake Flirt? One answer that we shall discuss next time is: maybe it was not always so wet all the time at THAT time.

**Ruins and Rainforest:
The Ancient Maya and
Natural History Brought
Together in Belize**

I was fortunate to meet some of you when I presented to your organization and I would like to personally invite those of you who are interested to visit one of the most unique and fascinating areas of the world.

country.

If you would be interested in becoming involved with the Lamanai Archaeological Project (LAP) or visiting this area of northern Belize as well as 6 other spectacular ancient Maya cities in



In the country of Belize, specifically at the Maya site of Lamanai, we bring together community development, archaeological research, natural history, and the ancient Maya in a way few are able to do. Our project includes not only a first-class traditional tour of 7 ancient Maya cities but also provides the opportunity to become part of a project that is truly making a difference for our host

April 2003 please feel free to contact:

Laura Howard, M.S. **BEYOND TOURING: Maya Archaeology and Natural History Programs**
750 Lock Rd, #103, Deerfield Beach, FL 33442
Lamanai Archaeological Project (LAP) P.O. Box 63, Orange Walk, Belize, Central America

US Phone: 954.415.2897 -
954.574.9965 - Fax:
954.360.9387

Email: LauraHoward1900@aol.com
<http://www.cincpac.com/afos/posts/lamanai/>
<http://www.lamanai.com> &
<http://www.lamanai.org>

SWFAS 2003 Nominations for Officers & Trustees

Nominating committee:
Charlie Strader, & help from
various Board Members
- General membership to vote at
January's monthly meeting, which
serves as SWFAS annual business
meeting.
- Nominations from the floor can
still be accepted until vote.

OFFICERS:

President: Tom Francino
1st VP: Corbett Torrence
2nd VP: Theresa Schober
Recording Secretary: Jo Ann Grey
Treasurer: Charlie Strader
Membership. Sec: Charlie Strader

TRUSTEES:

Last year of 3 year term:

- John Beriault

Second year of 3 year term:

- Don Taggart

- Dr. Susan Stans

First year of 3 year term:

- Jack Thompson

- Sue Long

- Betsy Perdichizzi

- Bud House

- Liz Clements

- John Worth

A Walk Through Time: Archaeological and Historical Tours of the Mound House

The Mound House, a cultural and environmental learning center on Fort Myers Beach, is the oldest standing structure on Fort Myers Beach, with portions of the house dating to 1906 and additions occurring in 1912, 1921, 1958, and 1980. The Mound House also sites atop a Calusa Indian shell mound. The Calusa began construction of the Mound sometime before 100 B.C. and abandoned their village site in A.D. 600. Although no longer living at the site, the Calusa continued to fish and repair nets along the mound's edge into the thirteenth century. Archaeological evidence suggests that the site may have also been occupied by the Spanish in the sixteenth century in association with their Mission attempt on Mound Key (ca. 1567-1569). From 1700 until the mid-1800s, Cuban fisherfolk lived on the site.

On Saturdays at 10 a.m. and 12 p.m., tours lead by archaeologist Corbett Torrence explore the deep history of the Mound House and Fort Myers Beach from the Calusa Indians to

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the present. The Mound House also opens its doors to the public every Wednesday between 10 a.m. and 2 p.m. for guided tours of the house and general history of Fort Myers Beach were you can learn about the lives of the people who lived here during the twentieth century.

Reservations for tours are not required. The Mound House is located at 289 Connecticut Street. Parking is available on site. Grounds are open daily for walking and bicycling sunup to sundown. For more information call 765-0865

SWFAS MEMBERSHIP COMMITTEE SURVEY, 2002

PLEASE COMPLETE AND RETURN AS SOON AS POSSIBLE. FORM MAY BE RETURNED AT A MEETING TO A DIRECTOR OR MAILED TO: SWFAS, P.O. BOX 9965, NAPLES, FL 34901.

A. **PURPOSE OF QUESTIONNAIRE:** The Bylaws of SWFAS provides for the activation of committees depending on the needs of the society and the availability of qualified members. Budgets for committee activities are developed by the committee and approved by the Board of Directors. Please circle each committee you would be interested in being a part of, so that the Board may decide which committees to activate.

NAME (S): _____ DATE: _____

ADDRESS: _____

PHONE#: _____ EMAIL ADDRESS: _____

1. Are you a year round resident? Yes ____ No ____

If no, what month or dates are you out of the areas: _____

2. Are you retired? Yes ____ No ____ (If no, list current profession) _____

3. Are you presently a student? Yes ____ No ____ (if yes, where) _____

4. Time that you may be available for committee activities:

Year round _____ Months _____

Days of the week preferred: Sun ____, Mon ____, Tues ____, Wed ____, Thu ____, Fri ____, Sat ____

Mornings ____, Afternoons ____, Evenings ____

5. Member of SWFAS since (approximately) _____ years.

B. PLEASE CIRCLE THOSE COMMITTEES YOU WOULD LIKE TO PARTICIPATE IN.

a. The Field Committee shall organize, survey, excavation of test pits, soil sampling, and similar activities, including the maintenance of appropriate records and protection of material removed from sites. It shall be responsible for preparation and submission of site forms to the state.

b. The Laboratory Committee shall be in charge of cleaning, identifying, marking and storing material from surveys and test pits prior to their being returned to the owners of sites or their being donated or placed on long term loan with the Collier County Museum or other similar institution, including the provision and maintenance of necessary equipment and material, and arrangements for outside laboratory or expert services. It shall actively assist those writing technical papers based on activities of the Society. It is responsible for maintenance of the laboratory building.

c. The Program Committee shall be responsible for the provision of speakers and other programs for general meetings of the Society and for field trips.

d. The Hospitality/Social Committee shall greet guests and new members, provide refreshments, and keep our organization fun and enjoyable.

e. The Education Committee shall maintain and cooperate contact, with education museum and library officials of Collier and Lee counties and assist them in providing programs to increase students' knowledge of the area's past and respect for it.

f. The Finance Committee shall be in charge of fund-raising activities such tax deductible gifts, as the sale of T shirts and holding garage sales.

g. The Governmental Relations Committee shall keep SWFAS informed of legal matters bearing on the area's pre-history and, in consultation with the directorate, make such representations as may be considered appropriate.

h. The Public Relations/Media Committee shall publicize meetings and other activities of the Society in print and electronic media, in cooperation with other committees.

i. The Newsletter Committee shall be charged with editing and publishing a monthly Newsletter to acquaint members with the organization's activities and related matters and to further the Society's goal of self education.

j. The University Liaison Committee will work at generating interest in our society amongst the student body and faculty of FGCU. The Committee will also seek to promote cooperation, and the sharing of resources, between the Society and the student body and faculty. The committee may also provide scholarships to selected students.