RECAP OF NORTHWEST FLORIDA QUATERNARY STRATIGRAPHY FIELD TRIP

Dr. Jon Bryan of Northwest Florida State College hosted a field trip entitled “Quaternary Stratigraphy along the Gulf Intracoastal Waterway, Walton and Bay Counties, Florida,” on October 12th, 2013. The field trip was held in conjunction with the 6th Annual Mattie Kelly Environmental Symposium on Choctawhatchee Bay.

About 20 participants departed from Point Washington Boat Ramp, south Walton County, aboard boats provided by the Florida Geological Survey and the Choctawhatchee Basin Alliance. The tour extended about 15 nautical miles along the Intracoastal Waterway from the mouth of the Choctawhatchee River in eastern Choctawhatchee Bay to West Bay in Panama City, Florida.
The tour route featured well-exposed and almost continuous outcrops along a dredged waterway, in some places more than 50 feet high. Several stops were planned to examine Quaternary strata including cross-stratified dune sands, *Ophiomorpha* sands, peat, and humate precipitates associated with freshwater-brackish water interfaces.
Kathleen Shelton-Lowe With a Group of Students from Pensacola State College

The Group at an Outcrop in Bay County, FL
SIXTH ANNUAL MATTIE KELLY ENVIRONMENTAL INSTITUTE SYMPOSIUM

The Mattie Kelly Institute hosted their annual symposium on Choctawhatchee Bay on October 11 – the day preceding our coastal humate field trip. The symposium was held in the Science Building of the Northwest Florida State College in Niceville. Presentations addressed:

- Impacts of the Deepwater Horizon oil spill
- The Restore Act intended to help mitigate those impacts - beach renourishment typically lasts only 7 years
- Water quality – 5 contiguous watersheds covering 5,000 mi² – mostly in Alabama contribute to the bay; that complicates planning
- Projects to improve water quality – decline from a highly productive system to dead in less than 30 years; Perdido Bay – lost 90% - 95% of seagrass beds in that time; water clarity is severely degraded
- Coordinate projects to improve cost-effectiveness and correlating projects to issues/outcomes
- Sediment contamination by PCBs due to accidental release from Monsanto plant in 1969 into Escambia Bay and efforts to define and remediate the impacts
- Coastal Dune Lakes – these lakes are unique and globally rare
- Geology of the Gulf Intracoastal Waterway, Walton and Bay Counties, Florida – presented by Dr. Jon Bryan, a good introduction to what many of us observed on the field trip the following day.

The symposium presented good discussions of policy and technical issues affecting this bay system – issues that affect many other water bodies in our state.

GCAGS ANNUAL MEETING, NEW ORLEANS, OCTOBER 2013

On behalf of SEGS, President John Herbert attended the Gulf Coast Association of Geological Societies' annual Meeting this year. It was a tough job; but someone had to do it. His meeting notes follow.

As usual the conference was primarily devoted to energy-related issues like:

- Regional Controls on Desoto Canyon Oil and Gas Accumulations
- Potential for infill wells in mature fields
- Turbidites and presalt microbialites
- Geology of Mexico

This year’s convention featured a Groundwater and a Coastal Processes Technical Track. Talks addressed issues like:

- Fracing and water use
- Salination of aquifers and relation to groundwater extraction for municipal use and to oil/gas production.
- Methods to detect leakage at frac sites, including using nanoparticles as fluid tracers
- Movement of sediment in shallow coastal bay during storm events

The luncheon presentations were especially interesting. Mr. John Dribus (Schlumberger) discussed how geologists have used the concepts of plate tectonics to project oil and gas-prone basins in both directions across the South Atlantic. Understanding that South America and Africa formed by the breakup of Gondwana during the early Cretaceous, and that the geology on both sides of the Atlantic (pre- and syn-rifting) would be very similar, geologists were able to follow transform faults and fracture zones across the Atlantic and projected the prolific oil producing Santos-Campos Basin of Brazil to the Kwanza Basin, Angola. These basins started as anoxic freshwater lakes that accumulated organic-rich material that subsequently acted as oil source rock. The basins then became hypersaline and accumulated microbialite carbonates that are the hydrocarbon reservoirs. This was all then covered by thick salt deposits. Then going from west to east, geologists followed fracture zones and transform faults from the Tano Basin, Ghana to the Guyana-Surinam Basin – both are turbidite oil plays. To put this all in perspective - Brazil is developing the Western Hemisphere's largest oil finds in three decades, presalt oil accumulations estimated at 20 billion barrels.

Dr. Pete Rose presented "M. King Hubbert, the 'Peak Oil' Fallacy, and U.S. Energy Policy". Mr. Hubbert considered only 'water-floored' conventional reservoirs in his evaluation. Hubbert correctly predicted the 1966-1972 peak in U.S. oil production but he did not understand the potential of unconventional reservoirs (tight
formations or gas, deep water plays, North Slope for example). Vincent McKelvey (USGS Director at the time) disagreed with Hubbert’s assessment. McKelvey knew little about oil & gas (his experience was in phosphate mining) and believed the rate of resource production (any resource) is controlled by economics (Google the term McKelvey Box for an explanation). Hubbert predicted the global peak for oil production would be 1995; the current estimate is 2020+. Dr. Rose knew M. King Hubbert personally and the discussion of the personalities involved was very interesting.

One important event during the convention was the awarding of the Outstanding Educator Award to our own Natalie Whitcomb. Natalie was not able to make the trip to New Orleans to receive the award Sunday evening because she had to be in class Monday morning but I had the honor of making the presentation to a “virtual Natalie”. Let’s all congratulate Natalie on this great accomplishment when we see her next.

An interesting tidbit from the GCAGS Annual Board Meeting that preceded the technical sessions is that GCAGS member societies range from 4,000 members (Houston), to 400 (Lafayette), to 30 (Mississippi). Each society faces its own set of challenges. Lafayette sees themselves as a farm club for Houston because many young members end up leaving Lafayette to work in the big city; all of Mississippi’s members are over 50 years old.

Finally, the 2014 GCAGS Annual Meeting will be held in Lafayette, Louisiana and will be hosted by the Lafayette Geological Society. Save the date - October 5-7. The conference will feature an Environmental track so start thinking about your abstracts now.

**MEMBERSHIP**

Another year is almost over. It's time to start thinking of SEGS dues again. SEGS takes pride in providing lots of good outdoor geological recreation and education for a very small cost. We hope that you enjoyed some of the many benefits offered by SEGS this year, including field trips to:

- Thomasville, Georgia Ochlocknee and Little River mines in the Palygorskite district of north Florida-south Georgia; February 15
- Central Florida Sand Mines and Fulgurite Hunt; April 20
- Quaternary Stratigraphy along the Gulf Intracoastal Waterway, Walton and Bay Counties, Florida, October 12, 2013;
- SMR Aggregates shell pits in Sarasota, November 9, 2013

And if you were a member in 2012 you may recall our trips to:

- Florida Caverns and Florida HiCal Pit
- SMR Aggregates Shell Pit
- Central Florida Phosphate District
- Graves Mountain mineral collecting, Georgia.

We are very proud of SEGS accomplishments, with emphasis on field trips, typically including significant planning and property access effort, prepared field guides, presentations by property owners and/or technical experts, and pre-trip dinner gatherings. We try to arrange trips to a variety of geologic settings to cover a range of interests (paleontology, mineralogy, stratigraphy, mining geology, environmental issues) and to make sure we visit sites throughout the state – so all of our members have equal opportunities to participate without needing to travel long distances.

Welcome to the new members who joined this year. We hope you and all of our previous members will renew their memberships. 2014 dues are payable as of January 1st.
On November 8th and 9th, 2013 we gathered in Sarasota, Florida, for a meeting and field trip to SMR Aggregates shell pit. This popular field trip, once again led by Roger Portell, was booked 3 weeks in advance. For our Friday evening meeting, we met at the Linger Lodge Restaurant and Campground located on the beautiful Braden River.

SMR Aggregates sells ornamental shell as far north as the Carolinas and as far West as Louisiana.

Many stuffed items on the walls and ceilings watched over us as we ate dinner and held our meeting. SEGS member Ed Rectenwald gave a presentation about a well recently drilled into the Cretaceous in Polk County. The well is being used as a deep injection well for wastewater from a power plant. Core samples were available for viewing.
On Saturday morning, we all met at the Holiday Inn Express parking lot and headed to SMR Aggregates, where the shell beds of the PlioPleistocene Tamiami Formation are mined, including the famous Pinecrest Beds. We started at the plant and were given a brief introduction by Gene Crenshaw, the company president. As the mine is only operating a few days a week, eight more years are anticipated before the mine closes.

Gene Crenshaw and Roger Portell

We then headed to the pits, which contain some of the most species rich and densely packed fossil horizons known in the world. The Pinecrest Beds alone may contain over 1,000 species of shelled marine mollusks. Some vertebrate fossils were also found. We even saw excavators in action. Everyone went home with plenty of loot!

Finally, many of us met for lunch afterwards at Stonewood Grill and Tavern. The restaurant staff must have been puzzled by the fossil dust they had to cleanup, as everyone displayed their best finds on the table.

Newsletter Editor with Plenty of Loot

The SEGS Group at SMR Aggregates
The nominating committee was given the task of putting together a slate of officers for our organization to serve in 2014 included Wink Winkler (chairman), Andy Lawn and Tom Scott. Several officers, namely Marc Hurst, John Herbert and Harley Means agreed to serve another year in their current positions; Past President, President and Secretary/Treasurer respectively. Therefore the committee’s task this fall was to review our current membership rolls and identify active members to run for the important position of Vice President. The Vice President is tasked with running our field trip(s) and annual meeting. As such the committee took care in deciding who to approach to fill this position, and we are pleased to present you with three excellent of nominees for 2014 SEGS Vice President. Ballots will be distributed soon.

Mike Alfieri, P.G., is a professionally licensed geologist in twelve states and a certified/registered hydrogeologist, with over fifteen years of experience. As a Senior Principal Geologist at SDII, he serves primarily as a forensic geologist evaluating geologic hazards and hydrogeologist for water supply projects. He has extensive experience with geologic and hydrogeologic evaluations for geotechnical and foundation engineering design and construction projects across the US.

Mike has served as a contributing author and technical reviewer on behalf of the National Ground Water Association (NGWA), the National Cave and Karst Research Institute, and ASTM International, where he also chairs ASTM Subcommittee D18.21.03 Well Design, Maintenance & Construction. He is a former inaugural Chair of the NGWA’s Deep Groundwater Investigations Interest Group, as well as a former Chair of the NGWA’s Groundwater Modeling Interest Group, and has served as an executive board member and past-Secretary for the FAPG - The Florida Section of AIPG.

Bryan Carrick, P.G., has had a widely-varied career. After a stint as a US Army field medic, he worked in the petroleum industry as a log analyst and wellsite geologist. Then his career focus shifted to environmental assessment and remediation, where he held supervisory and management roles. More recently, he held a position with the St Johns River Water Management District, where he was responsible for review of Consumptive Use Permit Applications (large volume water withdrawals) and recommending approval or denial of permits to senior management or the Governing Board. The review involved extensive hydrogeological evaluation of aquifer performance, capacity and sustainability.

Currently, Bryan makes sure Seminole County Solid Waste maintains its regulatory compliance with a myriad of federal and state permits that govern the operations of a solid waste collection facility and a large landfill. He also manages the landfill’s gas collection system, which supplies fuel for an on-site electrical power generation station.

Greg Mudd, P.G.’s educational background includes Bachelors of Science (BS) and Masters of Science degrees in geology from the University of Kentucky. His graduate work was focused on structural geology of the Great Smoky Mountains area of Tennessee with the intention to have a career in oil and gas exploration; however, a downturn in the industry led to an enthusiastic transition to environmental geology and a move to Florida.

Greg has been employed in the environmental consulting industry in Florida for over 20 years, and has been involved in a wide range of projects. He is a licensed Professional Geologist in Florida with work experience in all areas of the State. His primary interests are environmental assessment and remediation but he is always accepting to new career challenges and exploring the other subdisciplines that the science of geology has to offer. Mr. Mudd has been a member of SEGS for approximately five years and is a former board member (newsletter editor) with the Florida Association of Professional Geologists (FAPG).
LOUISIANA BOARD OF PROFESSIONAL GEOSCIENTISTS

It is not late to be grandfathered as a Professional Geoscientist in the State of Louisiana. Visit lbopg.org and complete the requirements listed there by December 31, 2013, to apply for grandfather status. The formal application process will begin later. Upon receipt of a grandfathering application and the regular application form, along with the other required documentation and fees, the Board will decide upon issuance of a P.G. License.

PRESIDENT'S MESSAGE

I want to thank those SEGS members who have volunteered to serve on one or more committees. Their hard work is already helping the four member executive committee plan for 2014. Please take a minute to thank these folks next time you see them in your personal or professional lives – or when you see them at one of our field trips.

**Field Trip Committee**
Chair: George Edwards (gedwards@atlantic.net)
Members: Samantha Andrews, Clint Noble, Tom Scott, Natalie Whitcomb

**Membership Committee**
Chair: Andy Lawn (alawn@hsweng.com)
Members: Dave DeWitt, Tom Scott

**Newsletter Committee**
Chair: Marc Hurst (marc.hurst@independentgeo.com)
Members: Samantha Andrews, Greg Mudd

**Nominating Committee**
Chair: Wink Winkler (wwinkler@jahna.com)
Members: John Herbert, Andy Lawn, Tom Scott

SEGS has grown over the past several years, leading to increased interest, involvement and accomplishments. We have established a Field Trip Committee that has identified a number of potential field trips and is working to evaluate our options for next year.

We encourage you all to print the attached membership application to share with friends/colleagues who would benefit from these opportunities. Please get your $35 membership check in the mail for 2014 so that we may plan and budget for exciting trips in 2014. Also, don’t be shy about providing suggestions to and participating in one of our SEGS committees - Membership, Nominating, Field Trip Planning, and Newsletter.

Finally, we would like to populate the calendar on the SEGS website with meetings of other societies (USGS, Alabama Geological Society, Georgia Geological Society, Everglades Geological Society, etc.) to keep us all informed of those events - and so we don’t schedule a field trip or meeting that conflicts with them. Help us out and let us know of those happenings.

John Herbert, 2013 President

The Southeastern Geological Society (SEGS) is a non-profit group of avocational and professional geologists dedicated to advancement of the geological sciences.