



"The best geologist is the one who has seen the most rocks."

H.H Read, FRS, 1940

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2014 Summer Newsletter

RECAP OF SANTA FE RIVER FIELD TRIP

By Samantha Andrews

On June 28, 2014, SEGS hosted a field trip to the Santa Fe River in north-central Florida. The Santa Fe River is fed by numerous springs, including Ginnie Springs and Poe Springs, and is a major tributary of the Suwannee River. The river dissects an area that has been extensively karstified, and spans part of a transition zone between confined and unconfined regions of the Floridan aquifer system. The river originates in the Northern and Central Highlands of the eastern part of the basin where the Floridan aquifer system is confined and overlain by clay and limestone sediments of the Hawthorn Group that create an intermediate aquifer system and upper confining unit, and variably thick sands that create a discontinuous surficial aquifer system. From there, it flows onto the Gulf Coastal Lowlands where the Floridan aquifer system is unconfined and either exposed at the land surface or overlain only by variably thick sands.



Springs along the Santa Fe

The trip was led by Peter Butt, part owner of Karst Environmental Services, Inc., and was attended by 23 SEGS members and their guests. A dinner meeting was held at the Conestoga Restaurant in Alachua, Florida on the evening before the trip. Pete showed us pictures and maps of the areas we would visit. We also saw the aftermath of his alligator encounter!

On Saturday morning, we launched our canoes and kayaks at the Highway 27 bridge and traveled to our takeout point at Highway 47 near High Springs, Florida.



Karst Features along the Santa Fe

The following is paraphrased from the field trip guidebook. *The Santa Fe River provides one of the best localities in the world to observe and study groundwater/surface water interactions. In this region, the river is actually the top of the Floridan aquifer system, that is, there is no confining layer separating the aquifer from the land surface; and the rocks beneath the river are completely saturated. Groundwater and surface water are readily exchanging (aquifer–river–aquifer) along the entire reach of the Santa Fe to its confluence with the Suwannee River. Beyond the obvious springs, where groundwater discharges into the river, there are also several points where the river loses water to the aquifer via well-developed cave systems and where that water is discharged back into the river via resurgences. Resurgence of river water is distinguished by its color and temperature—different from typical groundwater. There are two basic mechanisms for the river water intrusion into the aquifer. Where the aquifer is confined or partially confined, rising river stages drive water into the aquifer through the spring vents—this is the situation at most of the springs along the Suwannee River. The second mechanism is active in regions where the aquifer is unconfined and the river forms the top of the aquifer. In these regions, rising river stage drives river water into the aquifer directly along the river floor causing an increase in spring discharge, albeit dark water. This is the situation at most of the Santa Fe River springs. One very well known point of exchange between the river and the aquifer is the Devil’s Ear cave system which is an anastomosing network of underwater conduits that trend parallel and sub-parallel to the river. The main conduit in the cave system trends east more than 4,500 ft upstream from the entrance at Devil’s Ear spring at a depth of approximately 30 m below the water surface. Three springs (July, Devil’s Eye, and Devil’s Ear) discharge water from the cave to the river that consists of groundwater and recirculated river water. Water clarity in the conduits is typically clear but becomes turbid during higher stages of the river or after flood events. During periods of turbid water discharge at the three springs, cave divers report that clear water enters the main passage from the northern conduits and mixes with turbid water from the southern conduits producing the turbid water discharge visible at the spring vents.*

We visited Labatt’s Blue Spring, Fenceline Spring, Poe Springs, and Watermelon Springs, and moved on to Lilly Springs, where we met and chatted with the local personality and springs caretaker Naked Ed (yes, he lives up to his name!). After leaving Naked Ed, we visited Rum Island and Blue Springs Group. We took a break at the Blue Springs Park and cooled off

in the spring water. Downstream from there we observed Devils Eye/Ear Group, July Spring, and Ginnie Springs, where we stopped for lunch provided by the Ginnie Springs park café. After lunch, we headed further downstream to Siphon Creek Cave System, Big Awesome Suck, Little Awesome Suck, Camp Spring, Tract One Siphon, and Myrtle's Crack. Some were brave enough to test out the "cracks" by cooling off in their depths. The canoes and kayaks were taken out at Santa Fe River County Park and everyone caught the shuttle back to the rental location.

FIELD TRIP ANNOUNCEMENT: CUMBERLAND ISLAND

Our next field trip will be a visit to Cumberland Island. A dinner meeting is scheduled for 6:00-8:00 PM Friday, September 26th, at Seagles Restaurant in St Marys, Georgia. Dr. Gale Bishop, Professor Emeritus of Georgia Southern University will give a presentation on the shoreline and geomorphic processes of Cumberland Island.

The field trip is scheduled for 8:00 AM - 5:30 PM, Saturday, September 27th. We will take the 45-minute ferry trip to the island. On the island, we will travel by foot, and will hike approximately five miles or around the island while making several stops to observe prominent geologic, geomorphic, paleontological, and cultural/archeological features on the island. Lunch and beverages will be provided. Hydration fluids will also be provided during the hike.

Mr. John Fry, Chief of Resource Management for the National Park Service at Cumberland Island, will lead the field trip. Mr. Fry has intimate knowledge of the island and its cultural and geological history. Additional trip commentators and subject matter experts on the hike will be Dr. Gale Bishop, Dr. Fred Rich (Professor of Geology at Georgia Southern University), and Dr. Fred Pirkle.

More detailed information, including registration and liability release forms, is available online at www.segs.org.



Wild Horses at Cumberland Island

FLORIDA IS THE FLATTEST STATE

Now it's official; Florida is the flattest state. Geographers at the University of Kansas and the United States Department of State analyzed elevation data from the Shuttle Radar Topography Mission. They subdivided 48 states and the District of Columbia into 90 meter square cells and classified each cell as not flat, flat, flatter, or flattest (Dobson, J.E, and Campbell, J.S., 2014, Flatness of the United States, in Geographical Review 104(1), p. 1-9). Florida was ranked the flattest state. The flattest five states also included Illinois, North Dakota, Louisiana, and Minnesota. West Virginia was ranked the least flat, followed by Pennsylvania, Kentucky, New Hampshire, and Vermont.

FIELD TRIP ANNOUNCEMENT: ALAPAHA RIVER/CODY SCARP

A field trip to the Cody Scarp, a persistent topographic break that defines the physiography of North Florida, is scheduled for Saturday, November 8, 2014.



Fractured Rock along the Alapaha River

The Alapaha River flows from Georgia through Florida's Hamilton County towns of Jennings and Jasper into the Suwannee River. Numerous stream-sinks exist in the river bed with a very large hole that accepts about 750 cubic feet per second (that's 485 million gallons a day!) located a few miles south of the Georgia state line. During the low-flow season, typically in mid-November, the entire river flows into this hole, leaving a hikeable dry riverbed, with sections that are at times over 25 feet deep!

We plan to hike the riverbed and down a distributary of the Alapaha known as the Dead River. This half mile run ends in a stream sink where an excellent section of basal Hawthorne is exposed. Specimens of water-weathered Suwannee Limestone and Hawthorn Group can be collected, along with surprisingly clear quartz gravel that most of us have never seen.

Several miles downstream is the Alapaha Rise, a spring located about a half mile upstream from the confluence of the Alapaha and Suwannee Rivers. This spring includes much of the Alapaha river water that flows through underground conduits. It produces substantial flow of tannin-stained river water to the Suwannee River, ranging from 350 to 1,000 cfs. We might choose to canoe a portion of the Suwannee and observe the echinoid-rich Lower Oligocene Suwannee Limestone.

We intend to visit these and other hydrogeomorphologically-produced karst features with the assistance of fellows that coordinated an SEGS trip there in 1981 (Guidebook #23), which Tom Scott said was the best SEGS trip ever!

BY-LAWS REVISION

SEGS needs to revise our by-laws to bring us into compliance with IRS code. George Edwards (past SEGS V.P.) kindly submitted to the Executive Committee a draft set of by-laws that we have tweaked and are now submitting to the membership for approval (see the newsletter attachment). The revised by-laws are more complete, “tighter”, and provide us more flexibility than the existing by-laws...and they comply with IRS requirements. The Executive Committee wants to split the Secretary/Treasurer position into two positions so we can reduce the work load on our long-serving Secretary/Treasurer Harley Means while simultaneously providing an opportunity for someone else to serve the organization. Our existing by-laws do not allow that. Therefore, we need to change the by-laws before we announce a slate of candidates for the next election.

We will discuss the draft by-laws at the Cumberland Island field trip dinner meeting (Friday, September 26th) and will hold a vote then. If you will not be attending the field trip, please review the by-laws and submit your vote via email to John Herbert at jrherbert1863@yahoo.com before the meeting.

PRESIDENT'S MESSAGE

There is lots going on as we pass the mid-point of August. The Executive Committee and Nominating Committee are coordinating a revision to the organization's by-laws and election of officers for calendar year 2015. The plan is for the SEGS membership to approve the new by-laws and to then hold our election. We want to approve the by-laws in advance of the election because we want to move forward with the Secretary and Treasurer as separate offices – they are combined under our existing by-laws. We plan to discuss the by-laws at the Cumberland Island field trip meeting and announce the slate of candidates at the Alapaha field trip meeting. The by-law revision is discussed elsewhere in this newsletter.

We are working to bring the organization out of the Stone Age – establishing an arrangement with PayPal so members can pay dues and field trip fees online. We will still have to send registration documents by mail or scanned via email, and can still pay with a check, but we hope the PayPal payment option will make life easier for our members.

And our Field Trip Committee is arranging our third and fourth field trips of the year. The field trip to Cumberland Island is especially near to my heart – I did my thesis on the Outer Banks of North Carolina and have wanted to arrange a field trip focused on coastal processes since joining SEGS. And Andy Lawn is taking us to his old stomping grounds (thesis area) for a trip to the Alapaha River. Keep your eyes out for that announcement.

Thanks and I look forward to seeing you in the field.

John Herbert,
SEGS President - 2014



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

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BY-LAWS

OF

THE SOUTHEASTERN GEOLOGICAL SOCIETY

Adopted xx, xxx By The Executive Committee

ARTICLE I

DEFINITIONS

“**Executive Committee**” means the Executive Committee of The Southeastern Geological Society, Inc. (SEGS). “**Corporation**” and “**Society**” mean the Southeastern Geological Society. “**Geologist**” means any person who has earned a college or university degree in Geology. The Executive Committee is the Board of Directors of the Society.

ARTICLE II

PURPOSE

The purposes for which the Corporation is organized are as follows:

1. To advance the science of geology by encouraging professional development and interaction among members; to conduct meetings for the presentation of scientific papers and studies in the field of geology, and the discussion of geological topics; and to organize and carry out field trips to sites of geological interest and significance.
2. To operate exclusively for charitable and educational purposes within the meaning of Section 501(c)(3) of the Internal Revenue Code of 1954 (or the corresponding provision of any future United States Internal Revenue law).
3. To conduct programs and activities; raise funds; request and receive grants, gifts, and bequests of money; acquire, receive, hold, invest and administer, in its own name, securities, funds, objects of value, or other property, real or personal; and make expenditures to or for the direct or indirect benefit of the Society and its programs.

ARTICLE III

PRINCIPAL OFFICE

The principal office of the Corporation shall be located at 5002 NW 16th Place, Gainesville, FL, 32605, or such place as may be designated from time to time by the Executive Committee.

ARTICLE IV

MEMBERSHIP

Membership in the Society shall consist of the following classes:

- a) Active Member
 - b) Associate or Student Member
 - c) Honorary Member
 - d) Lifetime Member
1. Active Member: Any person who is a geologist by the definition of these By-Laws is eligible to become an active member by application and the payment of dues.
 2. Associate Member: Any person interested in geology, but lacking the qualifications to be an active member, is eligible to become an associate member by application and the payment of dues. Associate members enjoy all rights and privileges of active members, save they may not vote or hold office.
 3. Honorary Member: The Society may bestow an honorary membership upon an individual for outstanding contributions to the science of geology or to the Society. Honorary members shall not be required to pay dues, but shall enjoy all rights and privileges of Active Members, save they may not vote or hold office.
 4. Lifetime Member: The Society may bestow a lifetime membership upon an individual for outstanding contributions to the Society. Lifetime members shall not be required to pay dues, and shall enjoy all rights and privileges of Active Members, including that they may vote and hold office.

5. **Application for Membership:** Every applicant for admission to active or associate membership in the Society shall submit his or her name and qualifications in application, accompanied by the payment of the current dues, to the Executive Committee, which, after due consideration, shall judge whether or not the applicant's qualifications meet the requirements of the Society. Upon approval of an application and payment of current dues, the applicant will be a member in good standing.
6. **Removal of Member:** Members may be removed from membership for failure to pay dues. For proper and sufficient cause, and after reasonable notice and hearing, the Executive Committee may remove a member from the Society.
7. **Dues:** Annual membership dues in the Society shall be determined from time to time by the Executive Committee, are payable by the first of the year, and the Secretary shall notify each member that dues are payable. Dues not paid by the Spring meeting are considered delinquent, and a member who fails to pay annual dues by December 31st will be dropped from membership in the Society. New member dues paid at the Fall meeting or by the end of the calendar year shall apply to the following year.

ARTICLE V

EXECUTIVE COMMITTEE

1. **Management:** The business and affairs of the Corporation shall be managed by the Executive Committee, which shall be comprised of the Officers.
2. **Number of Officers:** There shall be at least five officers, consisting of the President, the Vice-President, the Secretary, the Treasurer, and the Immediate Past-President. Each of these five offices will be filled by a separate individual except that the Secretary and the Treasurer may be filled by the same person. The Executive Committee may establish other officer positions from time to time, as it deems necessary. The Officers shall be the Directors of the Corporation.
3. **Length of Terms of Officers:** Officers shall hold office for one year, or until their successors have been appointed or elected.
4. **Nominating and Election Process:** The President, with input from the nominating committee and others, shall present to the Society, at least fourteen days before the annual meeting each year, the names of the individuals recommended for election to the Executive Committee at that time, and the members of the Society shall elect officers from this slate. The Executive Committee may set forth specific election procedures from time to time.

5. **Vacancies:** In case of a vacancy in the Executive Committee, the Officers, by majority vote, may elect an officer, from among the active members of the Society, to serve until the next election of officers.

6. **Removal of Officers:** Following a two-thirds majority vote of the Executive Committee at any Executive Committee meeting in which there is a quorum, the Executive Committee may at their discretion, remove any officer from the Executive Committee who 1) Has been absent without excuse from two consecutive Executive Committee meetings, or 2) Has not performed duties in a proper, ethical, or satisfactory manner. The officer to be removed must be notified in writing of the proposed removal at least fourteen days prior to the meeting at which the vote of removal is to take place.

7. **Executive Committee Meetings:** The Executive Committee shall meet at least four times each year at such a place as they may deem from time to time, and may at their discretion meet more often. Meetings may be assembled (face-to-face), or by any suitable electronic means and may be called by the President or by any two officers. The Secretary shall give notice of each regular Executive Committee meeting orally, by mail, or electronically, to each officer at least two days prior to the meeting. At any meeting attended by all the officers, or for which waiver of notice is provided by any officer absent, any business may be transacted notwithstanding the lack of due notice of the meeting. The parliamentary procedures specified in the current version of Robert's Rules of Order shall govern all deliberations, when not in conflict with these By-Laws.

9. **Quorum:** Thirty three and one-third percent of the Executive Committee shall constitute a quorum for the transaction of business.

10. **Written Record of Resolutions:** The Secretary shall record all resolutions passed by the Executive Committee.

11. **Compensation:** Officers serve on a voluntary basis and will not be compensated for fulfilling those obligations to the SEGS. Reimbursement for travel and out-of-pocket expenses for special out-of-town meetings may be approved by the Executive Committee.

12. **Liability of Officers:** The Officers of the Corporation shall not be personally liable for monetary damages to any person for any statement, vote, or decision regarding organizational management or policy unless a) the officer breached or failed to perform his duties as an officer and b) the breach or failure to perform is: 1) a criminal offense, unless the officer had reasonable cause to believe the conduct was lawful, 2) a transaction from which the officer derived an improper personal benefit, 3) reckless, or 4) an act committed in bad faith or with a malicious purpose.

13. **Conflict of Interest Policy:** In order to prevent the personal interest of staff members, board members and volunteers from interfering with the performance of their duties to the Corporation or to prevent activities which would result in personal, financial, professional or political gain on the part of such persons at the expense of the

Corporation, the Corporation has adopted the following conflict of interest policy and practices, to-wit:

1. Officers, staff members and volunteers of the Corporation shall furnish to the Executive Committee written notice of all conflicts of interest, which shall include but not be limited to the following:

- a. An officer related to another officer or staff member by blood, marriage or domestic partnership.
- b. A staff member, interpreted as an employee of the Corporation, who acts in a supervisory capacity to or is related to another staff member whom he or she supervises.
- c. An officer individually, or the company or organization of which they are employed, stands to benefit from a transaction involving the Corporation.
- d. An officer's employer receives gifts or grants from the Corporation.
- e. An officer or a staff member is a member of the governing body of a contributor to the Corporation, with the term "contributor" to refer to financial support additional to mere payment of a membership fee.
- f. A volunteer who works on a regular basis on behalf of the Corporation who meets any of the situations or criteria listed above for officers.

2. In the event of a possible conflict of interest or any of the conditions listed above, the Executive Committee shall determine whether a conflict of interest exists, and, if so, the Executive Committee shall vote to authorize or reject the transaction or take other action deemed necessary to address the conflict and protect the Corporation's best interest. Both votes shall be by a majority vote without counting the vote of the interested officer, even if this results in less than a quorum contributing to the vote.

3. Any officer or committee member of the Corporation who is formally considering employment with the Corporation must take a temporary leave of absence as an officer or committee member until the position is filled. If such officer or committee member accepts said employment, such individual must resign as an officer or committee member. A request for a temporary leave of absence shall be in written forms submitted to the Secretary/Treasurer or President and the request and any action taken shall be reflected in the minutes of the Corporation.

4. An interested officer, officer or staff member shall not participate in any discussion or debate of the Executive Committee or of any committee or subcommittee in which the subject of the discussion is a contract, transaction or situation in which there may be a perceived or an actual conflict of interest. However, such member, officer or staff member may be present to provide clarifying information in such a discussion or debate unless objected to by any present officer or committee member.

5. Anyone in a position to make decisions about spending of the Corporation's resources or who stands to benefit from such decision, has a duty to

disclose that conflict as soon as it arises and he or she should not participate in any final decisions.

6. A copy of this conflict policy shall be given to all officers, volunteers or staff members as well as key committee members on a regular basis. Each officer and staff member shall sign and date an acknowledgement of receipt of this conflict policy at the beginning of his or her term of service or employment and such acknowledgement shall be updated periodically by submittal of a written conflict of interest disclosure form. A failure to submit such reports annually or inadvertent omittance to submit said periodic reports does not nullify this policy.

ARTICLE VI

MEETINGS OF THE SOCIETY

The Society shall hold meetings from time to time at the discretion of the Executive Committee and the pleasure of the SEGS. Matters to be brought before the membership shall be published to the membership by any reasonable means at least two weeks prior to each such meeting. An annual business meeting will be held in the spring. Voting shall be conducted by printed or electronic means by active members of the Society, and the result will be decided by a plurality of votes returned to the Secretary/Treasurer by a date indicated on the ballot.

ARTICLE VII

OFFICERS

1. **Election of Officers:** The Society shall elect Officers, from active members by means of a ballot in the following manner: the President shall appoint a Nominating Committee as described in Article VIII, paragraph 1.A., which shall prepare a slate of nominee(s) for each office, each of whom have indicated they will serve if elected. The Nominating Committee shall submit the slate prior to a Fall meeting at which nominations are announced as candidates. A printed or electronic ballot shall be issued to active members, listing the candidates for each office, with space for at least one write-in candidate for each office. The ballots shall be returned to the Society by December 1 and counted by the Secretary-Treasurer prior to the end of the year. Election shall be decided by a plurality of votes returned. Nominees shall be limited to acceptance of one office position – except for the Secretary and Treasure which may be held by the same person.

In case of a tie vote, the Executive Committee shall cast one additional deciding vote. Results of the election shall be announced prior to a Spring meeting, and the new officers will assume their duties immediately.

2. The General Officers of the Corporation shall be a President, a Vice President, a Secretary, a Treasurer, and the Immediate Past President. The offices of the Secretary and of the Treasurer may be held by the same person. The term of office of each officer shall be one year. All officers must be members of the Corporation. The Executive Committee shall have the authority to appoint such other officers and agents as it may deem necessary and who shall exercise such powers perform such duties as the Executive Committee shall determine from time to time.

3. Removal of Officers: For proper and sufficient cause, and after reasonable notice and hearing, the Board may remove an Officer.

4. Vacancy: In case of any vacancy in any office, the Board will meet at the earliest convenient opportunity and by a majority vote, elect a successor to hold the office for the remainder of the term.

5. Duties of Officers:

A. President: The President shall preside at all meetings of the Corporation and of the Executive Committee; shall generally supervise the business of the Corporation, subject to the control of the Executive Committee; shall have all powers and duties usually incident to the office of President in similar corporations; and shall perform such other duties as may be required by the By-Laws or the Executive Committee.

B. Vice President: The Vice President, in the absence of the President, or in case of a vacancy in the office of President, shall exercise the powers of the President.

C. Secretary: The Secretary shall keep the records of the meetings of the Corporation and its Directors as described in Article V, paragraph 10; shall maintain the membership book, and shall perform such other duties required by the By-Laws or by the Executive Committee,

D. Treasurer: The Treasurer shall maintain the finances of the Corporation; keeping accurate accounts of all monies received by the Corporation; and shall make reports on the finance of the society at all meetings.

E. Past President: The Past President shall provide continuity to the Executive Committee by sharing institutional knowledge regarding rationale for past actions with the Executive Committee.

ARTICLE VIII

COMMITTEES

1. The committees of the Corporation shall be:
 - A. The Nominating Committee, members of which shall be appointed by the President. The responsibilities of the Nominating Committee shall include developing a slate of Officers to be recommended to the Society at the Annual Meeting, as described in Article VI, Paragraph 1.
 - B. Ad Hoc Committees: The Executive Committee or the President may appoint ad hoc or short term committees that are limited in purpose and scope, for the performance of special tasks.

ARTICLE IX

CONTRACTS, CHECKS, DEPOSITS, AND FUNDS

1. General: Except as the Executive Committee may authorize in some manner, all checks, drafts, and other instruments for the payment of money, and all instruments of transfer of securities shall be signed in the name of the Corporation by the President or the Treasurer, or by such other Officers or agents or employees of the Corporation as may be designated by the Executive Committee. Checks or other instruments in the amount of Five Hundred Dollars (\$500.00) or less may be signed by one officer; checks in excess of that amount shall be signed by two officers or authorized agents. The Executive Committee may from time to time authorize and empower one or more Officers or agents of the Corporation to execute and deliver any documents or do other acts on behalf of the Corporation, including any necessary action dealing with Government agencies or authorities.
2. Deposits: All funds of the Corporation shall be deposited in a timely fashion to the credit of the Corporation in such banks, trust companies, or other depositories, as the officers select from time to time.
3. Gifts: The Executive Committee may accept on behalf of the Corporation any contribution, gift, bequest, or devise for any of the purposes provided in the Articles of Incorporation or these By-Laws.

ARTICLE X

SEAL

The Corporate seal shall be circular in form and shall have inscribed the name of the Corporation.

ARTICLE XI

FISCAL YEAR

The fiscal year of the Corporation shall begin on 1 January and end on 31 December.

ARTICLE XII

AMENDMENTS

The Executive Committee shall have the authority to make, alter, amend and repeal the By-Laws at a regular or special meeting of the Executive Committee, by a majority vote of the quorum present at such meeting.