



Friends of Congaree Swamp News

www.friendsofcongarree.org

Winter 2023

Save the date

Adopt-a-Trail Workday

The next adopt-a-trail workday will be **Sunday, Feb. 26**, from 9 a.m. to around 1:30 p.m.

We'll tackle whichever of the park's trails need the most attention. We should be able to hear the Yellow-throated Warbler, always the first migrant to return to the park and our mascot for the winter trail clearings.

We will meet at the Harry Hampton Visitor Center. Work gloves, light hiking boots, plenty of water and a snack are recommended.

If you have loppers, long-handled shears or saws with guards, bring them along. Park staff will provide gear if you do not have any.

Congaree geology hike

Learn about the complex geology of the Congaree

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Big trees 50 years later

Editor's note: This is the second of two articles about John V. Dennis and his contributions to the establishment of Congaree National Park.

By John Cely

The name John Dennis (1916-2002) should be better known to visitors and friends of Congaree National Park. Dennis, a free lance biologist and author, was the first naturalist to conduct detailed inventories of the park's flora and fauna, going back to the 1960s.

In 1972 he authored an article, "Big Trees of the Congaree Swamp," published in the National Parks and Conservation magazine, which summarized his Congaree experiences.

Dennis was often accompanied by his friend Harry Hampton, who first introduced him to the park in 1965. I can only imagine, as the first naturalist to explore Congaree's depths, how Dennis must have felt as a trail blazer in this virtual *terra incognita*.

Dennis's main claim to fame was as an Ivory-billed Woodpecker

searcher, an obsession that was first established when he found the almost-extinct woodpecker in Cuba in 1948 and made one of the few photographs ever made of the bird.

His connection to the Ivory-bill was what led to his first trip to Congaree at the behest of Richard Pough of the American Museum of Natural History. It seems fitting then, that Dennis's article, one of the first that brought national attention to what was then a little-known area, begins with looking for Ivory-bills at Congaree from an airplane 400 feet above the forest floor during the "leaf-off" season (an effective search technique as the bird's black and white wing pattern is diagnostic in flight).

Although Dennis never found the Ivory-bill at Congaree, he did find many other things that captured his attention. He was fascinated by the presence of very large, and old, loblolly pines within



Ivory-billed Woodpecker

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President's Corner

Dr. John Grego

Bridge J workdays

We have been in contact with Charles Aznive, the park's maintenance director, to take on more ambitious trail maintenance projects beyond our quarterly trail clearings.

In November, Charles arranged supervisory staff for a Friends work day on Bridge J over Circle Gut on the Kingsnake Trail.

Bridge J has been closed for three years, and ACE crews working under park maintenance staff supervision had removed much of the old bridge and placed piles, girders and decking for the new bridge and one of its approach ramps.

Friends members met Sean Kelsay and other staff at Bridge J and we worked until early afternoon driving piles for the remaining approach ramp. We spent much of the day taking turns on the pile driver, while also operating the gas-powered auger, Sawzall, circular saw and power drills. We gained respect for the park's current construction standards for the bridges, with all pile assemblies



Volunteers at work on Bridge J

driven at least 8 feet into the ground.

We scheduled another workday during the holidays with Sean again providing adult supervision, even though his seasonal work detail had ended. In the interim, an ACE crew had completed work on the second approach ramp, and we laid out the remaining decking then secured all decking (previously tacked in place with a nail gun) with screws. Though kick railing needs to be added, the bridge was sufficiently complete that Sean was able to radio park staff that Bridge J was once again open.

We hope to continue work on substantive projects on roughly a monthly schedule. A likely upcoming project will be the damaged bridge immediately south of Bridge J, once flooding in the park subsides

sufficiently to plan more than a week ahead.

Thanks to Friends members who have volunteered to date, including Bailey Slice Parker, Scott Wietetcha, Ray Davis, Clay Parker, and Michael Browning.

Robin Carter journals

At a December Lunch-and-Learn, I presented Robin Carter's contributions to birding at Congaree National Park, as gleaned from transcriptions from his journals to eBird.

After Robin passed away in 2008 (see our Fall 2008 newsletter for an overview of Robin's contributions to the park), his widow Caroline Eastman donated his voluminous birding materials to Caroliniana Library at the library's request, including 50 notebooks with birding lists from 1970 to 2008.

Since then, USC South Carolina Honors College students in my Congaree National

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Dr. John Grego, President
Sharon H. Kelly, Editor

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Annual meeting reminder

Don't forget! Friends of Congaree Swamp's annual oyster roast and business meeting will be held Sunday, March 12, at Belle Grove.

Registration begins at 2 p.m., followed by nature and cultural history tours on the 800-acre property. Supper will follow the 5 p.m. business meeting—oysters, chili, roasted vegetables and desserts. Beer, wine and non-alcoholic beverages will also be available.

Belle Grove is located off Bluff Road, 5.6 miles east of the I-77 ramp. Turn right at the sign for Belle Grove. If you pass the Westinghouse plant, you've gone too far. Follow the dirt road at the turn for .2 miles.



Westinghouse plant relicensed; situation improved, but contaminants still remain

After the final Environmental Impact Statement for Westinghouse's Columbia Fuel Fabrication Facility was released in July 2022, Nuclear Regulatory Commission (NRC) staff recommended renewing Westinghouse's license for an additional 40 years, though advocacy groups, including Friends of Congaree Swamp, had recommended a shorter license.

There was certainly speculation about legal action during the course of the relicensing process, but none was taken after NRC's decision.

S.C. Department of Health and Environmental Control's February 2019 consent agreement remains in place and its remedial investigation continues. As such, DHEC's

website remains a useful resource for tracking progress on the consent agreement.

The most recent annual groundwater monitoring report was released in late November, covering semiannual monitoring of over 100 wells in October 2021 and April 2022.

The report notes no new sources of groundwater contamination, but provides insights into the status of contaminants in groundwater. Chlorinated Volatile Organic Compounds (CVOCs) concentrations are above their maximum contaminant level in both the upper and lower portions of the surface aquifer, though the most prevalent CVOC, Tetrachloroethylene (or PCE), is no longer used at the plant.

By-products of the two

main CVOCs are found south of the Sunset Lakes in the floodplain, including vinyl chloride above its maximum contaminant level.

Westinghouse's consultants argue that the presence of by-products of degraded CVOCs in the floodplain suggests that natural remediation is taking place, though in our permit comments we argued strenuously that migration below the Sunset Lakes (located on Mill Creek) and into the larger floodplain provided evidence of an active and mobile plume that required remediation.

Fluoride and nitrate are still widely prevalent in groundwater, with some detections in the Black Creek aquifer, which lies

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“Wood Basket of the World” Conference

Join the University of South Carolina and its community partners at the “Wood Basket of the World” conference Friday through Sunday, April 21-23, 2023.

This three-day conference will explore how lumber, the South’s largest industry, shaped and continues to shape South Carolina. Through field trips, talks, and poster sessions, speakers and participants will explore the arrival of big lumber, the production of wood products, forest conservation and destruction, and much more.

Friday, April 21 and Sunday, April 23 will be spent touring Millford Plantation, Francis Beidler Forest, Lake Marion,

and Congaree National Park.

On Saturday, April 22 (Earth Day) participants will gather in downtown Sumter for a public conference featuring research presented by emerging and established scholars and practitioners through talks and poster sessions, followed by a tour of Turkey Creek, long home to many wood products industries now being reimagined as a greenway.

The Hyatt Place Hotel in downtown Sumter will serve as conference headquarters. Visit the conference website at <https://woodbasketoftheworldconvening.square.site/> for registration information, schedule and speakers.

Westinghouse

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below the surface aquifer.

Like the CVOC constituents, fluoride has also been detected south of the Sunset Lakes in the floodplain.

Uranium remains in groundwater at three monitoring wells inside the building complex. Technetium-99, which was the subject of an inconclusive two-phase source investigation, was detected above the minimum contaminant level at two different sites at the plant.

Again, the inconclusive source investigation for Tc-99 was one reason we argued for a shorter timeframe for permit renewal. Tritium is apparently not produced on-site, but was nonetheless monitored at 20

different wells. There have been no readings of tritium above the minimum detection level over the last 8 years.

There was much discussion between NRC, Westinghouse and the S.C. Department of Archives and History surrounding Denley Cemetery, the historic African-American cemetery onsite. Generally, recommendations were made to ensure that any new monitoring wells or other site activity would not disturb unmarked graves.

In inspecting maps of contaminant plumes, it was interesting to note that both nitrates and CVOC’s were detected within the Denley Cemetery’s footprint.

Westinghouse has begun testing for trends over time for contaminants in their respective groundwater plumes, measuring

plume area, contaminant mass in the plume, and average contaminant concentration.

The testing so far is based on only five timepoints—from April 2020 to April 2022—and most trend results are either inconclusive or show stable trends over time.

There are some convincing decreasing trends, particularly with Technetium-99, and only one increasing trend—the plume area for nitrate.

Other reports that we have come to anticipate, including sediment sampling and freshwater sampling, were not available on the website for analysis.

It is unfortunate that the groundwater monitoring report is not more timely, with the most recent monitoring data over six months out of date.

Save the date

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River valley from Dr. David Shelley, the man who wrote the book (and drew the map) on **Saturday, March 18.**

On this half-day trip, David will discuss the geology of the northern Congaree River floodplain margin in Richland County.

As David notes, “margins are where it’s at” geologically, topographically and ecologically. We will learn about river terrace complexes and many kinds of boundaries found between river deposits.

Expect to study the Cedar Creek bluffs, alluvial fans, and groundwater rim swamps—all with a dose of geologic history from the last ice age to the present.

We will meet at the Harry Hampton Visitor Center and carpool to Garrick Road, South Cedar Creek landing, and Bannister Bridge before returning to the Visitor Center.

Bring a lunch, snacks and water and be prepared for early spring weather. This outing is solely for members of Friends of Congaree Swamp and will be limited to 15 participants. We should finish about 2 p.m.

Butterweed hike

Join us on **Saturday, April 15**, to enjoy butterweed in bloom.

Butterweed blooms with



Butterweed

wild abandon at Congaree National Park, and the Fork Swamp Trail is one of the most accessible and reliable places to witness butterweed as far as the eye can see.

Fork Swamp Trail has plenty of other interesting flora and other sites, including an old river levee at Bates Old River.

Keith Bradley, a botanist with the S.C. Department of Natural Resources and an affiliate faculty member at the University of South Carolina, will share his knowledge of butterweed (*Packera glabella*) and other early spring flora on this short hike.

Meet at the Fork Swamp trailhead at 9:30 a.m. This is a short hike that can be wet in places. Regular hiking boots should be sufficient. This outing is solely for members of Friends of Congaree Swamp and will be limited to 15 participants.

Dawn Chorus

This year’s Robin Carter Dawn Chorus Walk will be held **Sunday, May 7**, beginning at 5:30 a.m.

Robin Carter, who passed

away in 2008, started the dawn chorus event at Congaree National Park in 2005. The dawn chorus was one of many birding events that Robin originated at the park and that we work to maintain through the present day. To celebrate Robin’s legacy, the event is held on International Dawn Chorus Day.

Participants will meet trip leader Irvin Pitts at the Visitor Center. The early hour will provide an opportunity to listen for the pre-dawn sounds of owls, nightjars, and migrating thrushes before the dawn chorus starts in earnest.

Bird song experts will be on hand to help you identify what you hear, or you can just listen and take in the experience.

Birds observed during the Dawn Chorus will be included as part of the North American Spring Migration Count day at the park. Stick around if you would like to help out!

The hike will be followed by a free breakfast at 7:30 a.m., organized and prepared by Friends members.

The breakfast menu changes slightly from year to year, but should include shrimp and creamy grits, scones, biscuits, a breakfast strata, fresh fruit, juice and coffee.

To sign up for any of these events, contact John Grego at (803) 331-3366 or [friends of congaree_swamp@gmail.com](mailto:friends_of_congaree_swamp@gmail.com).

Dennis

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Congaree's dense hardwood forest. Dennis correctly noted how the "not infrequent occurrence of hurricanes along the Atlantic coast" would open the dense canopy and allow for sunlight-loving young pines to get established.

Dennis also correctly noted that even with large canopy gaps, it would take a forest fire in the floodplain during a drought to burn the combustible material that would create the bare earth "seed bed" needed for the pine seedlings to get established.

In this respect Dennis may have gotten it wrong, since fire seems to be a very rare occurrence in bottomland forests even during droughts, and Hurricane Hugo showed us that large canopy gaps in the absence of fire were filled by sweetgum and other hardwood seedlings.

Thanks to Chick Gaddy, Mark Kinzer and other forest ecologists and historians, we now think that the big Congaree pines represent, for the most part, previous anthropogenic clearings in the floodplain, especially those from 19th century cowpens [open-range stock grazing operations].

Dennis noted the ages of some of the old loblollies, based presumably on fallen trees that had been cut by hunt club members to clear Sims Road and various jeep trails. He forecast the results of Neil Pederson's pine study at the park by twenty years when he noted the different

pine age classes ranging from 150 years to one stump with 320 growth rings documented by Professor Wade Batson.

Dennis commented on the park's hydrology and geology, discussing oxbow lakes and providing a hydrological preview examined in much more detail 40 years later by Haiqing Xu and Ray Torres of the University of South Carolina's Geology Department.

His article went into some detail about the park's cultural features—the cattle mounds, antebellum dikes and dams, and other features—even getting the correct date of Adam's dike along the western boundary by a recently cut tree on its top that dated to 1842!

In one tantalizing sentence Dennis noted the presence of flowering dogwood on one old cattle mound, a species I have never seen in the Congaree floodplain.

His comments on the green "sinker" cypress logs that never made it out of the swamp still holds true today, as they are found scattered throughout the forest floor, with many clearly visible at the bottom of Cedar Creek at low water.

Dennis was intrigued by the old, moldering cypress stump "gardens" with "walking" red maples as the star feature. He was also impressed by the sizes of some of the virgin cypress that were left behind uncut.

The largest, with a trunk "approximately ten feet in diameter" above the buttress and the largest cypress he had seen anywhere, was actually

located in a cut-over swamp off the Beidler tract. Sadly this giant, probably located on the old Georgia-Pacific tract adjacent to the park, was probably cut years ago.

Another cypress that caught



Stump Gut bald cypress, 2014



Stump Gut bald cypress, 2022

Dennis's attention was a very large hollow one in a remote part of the swamp that required boosting himself ten feet up to peer into its cavernous interior. The base of the hollow tree was five or six feet below ground level and large enough to "pitch a tent."

As he poked around the

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Dennis

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tree's interior, looking for bats or chimney swift nests, a piece of the rotten wood interior dropped on his head, harmlessly, but he decided that he had had enough hollow-tree exploring for the day. This tree sounds like a perfect description of the famous 26-foot hollow cypress tree near Stump Gut.

Dennis commented on the public perception of the swamp as gloomy and treacherous, a perception that is still all too prevalent. He observed that perpetual shade has a depressing effect upon many people and that

after camping for a week in a remote section of the park, he felt “hemmed in” and in need of the open sky. I also felt the same during my first years of exploring the park—the relief of seeing a horizon or open sky was palpable but with time I got over it and now never think about it.

Dennis's “moments of gloom” in the swamp were rare because he quickly got distracted by the swamp's beauty and beckoning mysteries.

Like someone else I know, Dennis concluded that he never tired of the swamp and with every trip there were “new discoveries and new adventures.”

In many ways Dennis's

1972 Congaree is the same as the Congaree of 2023. In other ways, it is not. There were no beavers, coyotes, armadillos, and few wild pigs, all now widespread and impacting the park's ecosystem in various ways.

Exotic, invasive plants that were absent or scarce 50 years ago—stilt grass, ligustrum, Japanese climbing fern—to name a few, have spread throughout the park.

But change is to be expected, even within parks, wilderness, and other natural areas. These changes, however, don't alter the fact of Congaree's amazing biodiversity, its one-of-a-kind forest, and the many adventures and discoveries that await the curious visitor.

Grego

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Park service learning course transcribed journal entries to eBird as a course project, then I took up the project shortly after retirement.

USC History professor Jessica Elfenbein volunteered to have students in her HIST 300 classes provide a final assist as the project drew to a close last fall. All told, more than 10,000 separate entries were uploaded to eBird, with 360 of those unique to Congaree National Park.

Robin's observations at Congaree National Park, dating from his and Caroline's first visit in January 1986,

filled out a 20-year period in eBird observations at the park that was otherwise surprisingly sparse.

Some exploratory analyses indicate that Robin and Caroline's observations account for 80 percent of the records from that period. With the records now available for research, an obvious next step would be to use Robin's records to study trends in species observations.

Downloading, filtering and analyzing eBird data is not for the faint of heart even under ideal circumstances, and Robin's records do pose challenges. Robin's notebooks include most of the meta data

(location, effort and weather) useful for eBird entry, but trips to the park often combined multiple locations.

In order to be consistent with Robin's later entries once he adopted eBird in 2006, any location information is saved as text rather than being linked to an eBird location.

Some of these challenges would be insurmountable for a larger regional analysis, but could be resolved for an analysis specific to Congaree National Park.

Any attempt at analysis will take a back seat to final revisions to eBird records to resolve any inconsistencies or shortcomings in the data transcription process.



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