



Friends of Congaree Swamp News

Save the date

Adopt-a-Trail Workday

The Pawpaw Adopt-a-Trail Workday will be held **Saturday, Aug. 29**.

It's time for clearing on the Sims Trail, the Boardwalk, and the Weston Lake and Oakridge trails.

Trails have received a good amount of attention since the onset of the COVID-19 crisis from park staff, ACE volunteers, student interns, and Friends members, so we should not face the overwhelming trail damage we have seen in the last several years.

We will work in smaller groups than usual (not that our groups are ever so big) as a means of social distancing. Pawpaw is usually ripe for sampling along the way.

We will meet at the Visitor Center at 9 a.m. and will finish in the early afternoon. Be prepared for warm weather, spiderwebs and

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Water/Ways taking shape

Planning continues for Water/Ways, a Smithsonian traveling exhibition scheduled to open at the park Nov. 14 and continue through Jan. 14, 2021.

Water/Ways takes a deep look at this essential component of life on our planet, which powers the environment's engine, impacts



climate and helps shape and sculpt the landscape. The Congaree exhibit will focus on the influence of water in the Midlands.

Chief interpretive ranger Gregory Cunningham has been assisted by Claflin University intern De'Nazia Dukes in event planning. It remains difficult to fully detail how the exhibit in the Visitor Center will be managed, but we anticipate a reservation system throughout the exhibit's run. A slideshow or virtual tour of the exhibit should be available as well.

A grand opening weekend is in the works along with several water-related events, including a couple upcoming service events. Details are not fully available, but set aside Saturday, Sept. 19, for a Beach/River Sweep trash pick-up at sites along U.S. 601 and National Public Lands Day, Saturday, Sept. 26, for a paddle and clean-up on Cedar Creek. Both events will be suitably designed to ensure social distancing.

Other plans include a S.C. Humanities Communal Pen writing workshop in December conducted by jazz artist and educator Eboni Ramm. During the workshop, coordinated through the park's Forest Wellness Program, participants will explore their relationship to the park and local community through the Water/Ways theme.

Friends of Congaree Swamp will be donating a computer kiosk to the park service to accompany the Water/Ways exhibit so visitors can interactively view water-related videos by the park, Friends and other advocacy organizations. Friends has already compiled flood videos and excerpts from an oral history interview with Rev. Ulysses Barber and Lessie Portee Rice on baptism, legendary waterman Irvin Portee, and fishing. The park will be able to use the kiosk in the Visitor Center after the exhibit ends.

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President's Corner

Dr. John Grego

COVID-19 and the fall schedule

As we reported in our last newsletter, our scheduled spring activities at the park were canceled. Technically, we did have a spring North American Migration Count . . . a rather grand and dubious label for a single person's birding activities along the park's perimeter without setting a foot inside the park.

With all access to the park closed, Friends of Congaree Swamp was able to negotiate a couple trail-clearing activities with park maintenance staff in late May and early June, provided we worked in groups of one or two and only in the park's backcountry.

Given these constraints, we did not advertise the trail-clearing events among the general membership, an omission noted by a couple Friends' members who reached out to me after seeing albums from our trail-clearings posted on Facebook.

With the park re-opened, we will be advertising some of our usual fall events to our membership, though we will still need to limit group size and follow common-sense social distancing measures.

Unfortunately, our featured fall event, the Annual Meeting and Oyster Roast, will be canceled this year. In general, though, we are fortunate that many of the other activities we make available to Friends members can still proceed.

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Friends of Congaree Swamp advocates for Congaree National Park and its unique environment.

Dr. John Grego, President

Sharon H. Kelly, Editor

Conservation Commission grant

Our Richland County Conservation Commission Community Conservation grant to extend the Fork Swamp trail (see the map in our Summer 2019 newsletter) had to be modified due to staff's reluctance to construct bridges over guts along Bates Old River's bank. Given all the damage to the park's bridges in recent years, and the frequent flooding experienced on the eastern end of the park, we understood the staff's decision.

In casting about for an alternative, park maintenance chief Charles Aznive proposed a spur trail from the Visitor Center parking lot to the Bluff Trail, which would provide visitors with access to a hiking trail directly from the parking lot.

Park staff has completed the spur, and agreed to a spur on the Fork Swamp Trail as well. The new arm of the trail will continue along the jeep road that forms the southern loop of the current Fork Swamp Trail all the way to the junction of Bates Old River and the Congaree River. The existing jeep road is in good shape and would require minimal additional clearing.

The first part of the extension, unfortunately, crosses a frequently flooded clearing and may need to have a boardwalk constructed to be successfully negotiated much of the time.



*Spur trail
to Bluff
Trail*

Upper Cedar Creek Trail Guide available

By John Grego

The Upper Cedar Creek Trail Guide has been completed and is posted under the Visit tab on our web page. The guide encompasses the Cedar Creek trail from the Bannister Bridge landing to the South Cedar Creek landing.

University of South Carolina Honors College student Aaron Martin worked on a Cedar Creek trail guide as part of his senior thesis last year.

This is our tenth trail guide, most of which were completed by Honors College students as either class projects for the Congaree service course or as senior theses.

Prior to publishing the guide, I paddled the route with Neal Polhemus for a few additional photos and landmarks. To our dismay, we encountered more than 25 portages on the 6.2-mile route, though the final mile was relatively clear due to work the previous summer.

The guide was modified to

include strong admonishments in the introduction about the trail conditions paddlers were likely to encounter.

Things took a delightful turn this summer with the arrival of an ACE (American Conservation



American bur-reed forms an underwater forest

Experience) volunteer crew to clear the portages.

ACE was founded in 2004 to coordinate volunteer work on conservation projects on public lands, though its mission has since broadened.

The ACE crew initially cleared the trail upstream from South Cedar Creek landing to the Oakridge Trail bridge over Cedar Creek, then cleared over a mile

of trail downstream from the Bannister Bridge landing.

Since then, they have alternately cleared large trees from the park's surface trails and worked upstream and downstream from the bridge over Cedar Creek at the former hunt club clearing to remove the remaining obstacles.

They also plan to tackle the lower section of Cedar Creek before their departure in September. A couple of the larger portages may be beyond their capabilities, but it's great to know the Upper Cedar Creek Trail Guide can actually be put to good use.

We have plans to work on the Middle Cedar Creek trail guide, from South Cedar Creek Landing to Elder Lake, during UofSC's Fall 2020 service course on the park.



Cedar Creek

Westinghouse required to prepare EIS

After submitting comments on Westinghouse Electric Company's Environment Assessment in November 2019, we received the good news in June 2020 that Westinghouse will instead prepare a much more extensive Environmental Impact Statement as part of its relicensing.

Though several advocacy groups provided comments, the state Department of Health and Environmental Control's aggressive requests for an Environmental Impact Statement, first in November 2019, and then again in April 2020 held the most sway.

In particular, DHEC argued that the February 2019 Consent Agreement between DHEC and Westinghouse, regardless of additional problems it had revealed, was no substitute for an Environmental Impact Statement. Persistent and thorough reporting by Sammy Fretwell of *The State* ensured problems at the plant remained a topic of public attention.

We recently reviewed public documents on Westinghouse since our last review in November 2019 in preparation for our comments on the draft Environmental Assessment. As we noted in the Winter 2020 newsletter, results of testing mandated by DHEC's consent agreement with Westinghouse were pending and we were anxious to review what these investigations uncovered.

The most important investigations addressed

sediment sampling in the floodplain, an investigation of the East Lagoon (a wastewater lagoon with an aging, 1980's-era liner, now to be retired), a Technetium-99 source study, a study of nearby private wells, surface water sampling, fish sampling in the Congaree River, and groundwater well monitoring.

A Remedial Investigation Summary report comprised many of these issues. Encouragingly, DHEC shared some pointed critiques in its review of the Remedial Investigation Summary report.

Sediment sampling.

Detection of uranium in sediment/sludge samples from storm water ditches, wastewater treatment plant lagoons, and both Upper and Lower Sunset Lake on Mill Creek precipitated further study under a Sediment Transect Sampling Work Plan.

Sediment sampling included the East Lagoon and sanitary lagoon as well as waterbodies in the floodplain. Sediment sampling in Upper and Lower Sunset lakes and the channel of Mill Creek was required under the Consent Agreement, and results from the sampling were troubling. Fluoride and nitrate were detected in many of the samples, and uranium was detected in the wastewater treatment lagoon and four samples from the Sunset lakes.

As DHEC noted in its comments on the Remedial Investigation report, the presence of uranium in the

Sunset lakes was unexplained. Westinghouse speculated the uranium may have resulted from a 1971 spill of 1 to 1.5 million gallons of wastewater, while DHEC noted that information from the spill had not been shared in Westinghouse's reporting since 1975.

Fish tissue study. As part of the Consent Agreement, Westinghouse tested for uranium and fluoride near its outflow on the Congaree River, as well as two control locations far downstream (near U.S. 601) and far upstream (near the Thomas Newman boat landing) from the outflow.

Westinghouse has a permit for the outflow to discharge process wastewater, contaminated wastewater, and sanitary wastewater; the first two may include uranium. Results from the study indicated that fish at the discharge were in slightly poorer condition and had conclusively higher concentrations of fluoride than fish from the control sites, though no differences in uranium concentration were found.

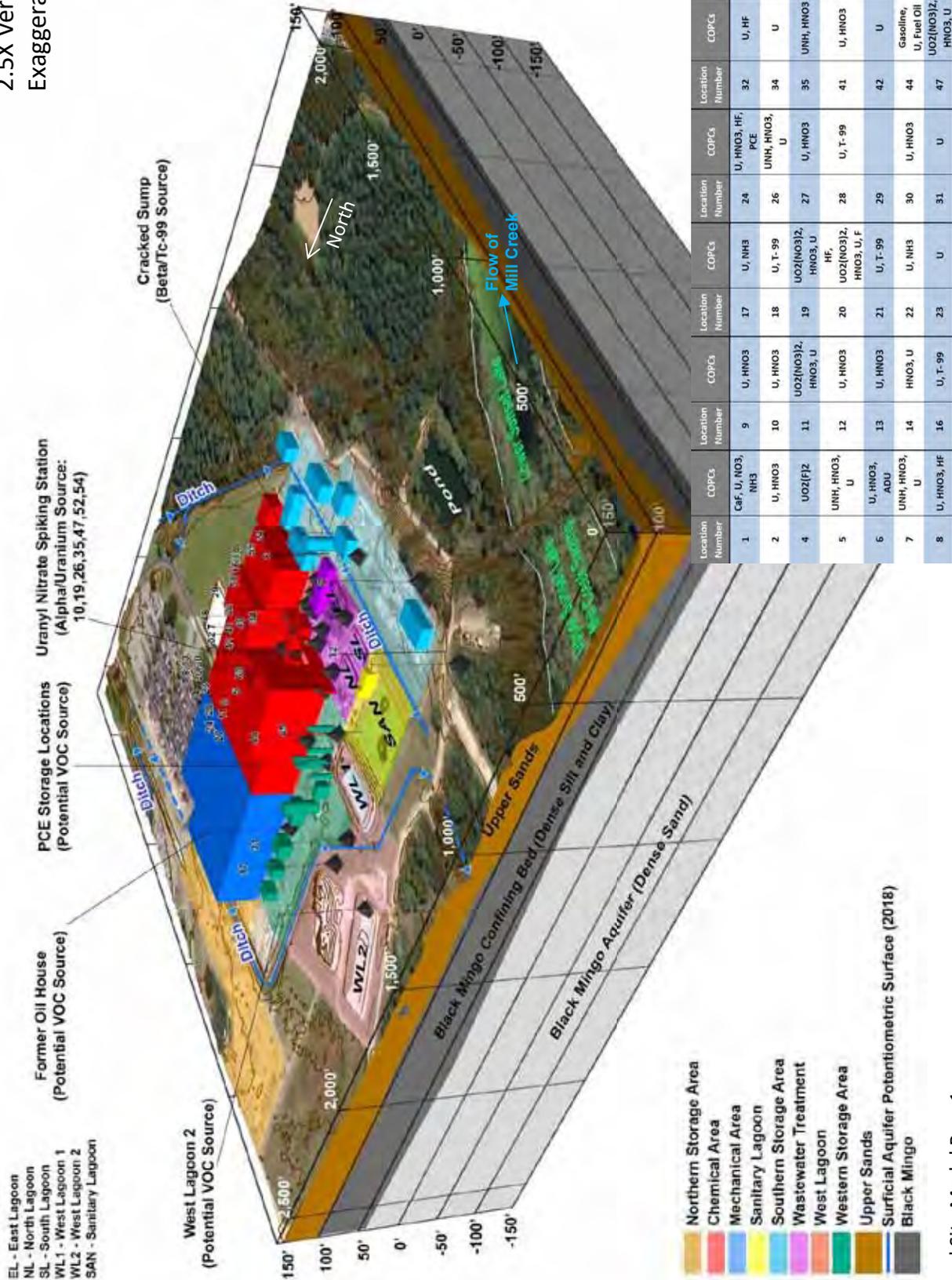
Westinghouse tried to argue away the results for fluoride by citing possible alternative explanations for the fluoride results, none of which were explicitly tested.

Technetium-99 source study. Technetium-99 (Tc-99) is a man-made radionuclide and hence

See Westinghouse, page 7

Site CSM Block Diagram – Known Spills

2.5X Vertical
Exaggeration





Little Lake

Save the date

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bugs. Work gloves, light hiking boots, plenty of water, and a snack are recommended. If you have loppers, long-handled shears or bow saws, bring them along. Park staff will provide gear if you do not have any.

Please contact John Grego at friendsofcongaresswamp@gmail.com or (803) 331-3366 if interested.

Running Creek Paddle

Come explore Congaree National Park's eastern reaches **Saturday, Oct. 17**, with a paddle along Running Creek to scenic Big Lake and Little Lake.

The trip will pass open wetlands along with water tupelo and ancient bald cypress, spared from cutting because they were hollow or otherwise damaged. Other highlights

include close-up views of wading birds, anhinga and possible alligator sightings.

The paddle is similar to the one organized by John Cely last spring to introduce Friends members to new recreational opportunities within the park's series of property acquisitions since 2005 and Friends' acquisition of adjacent lands along the northern bank of Running Creek.

Bring your own canoe or kayak. We will launch from the primitive landing on the east side of Bates Old River. To get there from Bluff Road, turn south on U.S. 601 and look for the entrance to the launch site 1.16 miles south of the railroad track at Wateree. Look for a pull-off on the left (east) side of 601 and take the dirt road leading to Bates Old River. For those driving north, the pull-off to the landing is about a

third of a mile on the right after you cross Bates Old River.

Regardless of which direction you come from, **make sure that you use your turn signal well in advance of the turn to alert trailing traffic.**

This is about a five-mile round-trip paddle. We would like to get under way by 9 a.m., so come a little early in order to get launched and have your gear ready.

Leave your coolers and lunch behind, but bring a snack and beverage for the paddle. A change of clothes in a well-sealed garbage bag is recommended. The launch site may be a little muddy, so rubber boots or old tennis shoes may be in order.

This trip is limited to 12 canoes/kayaks with members getting preference. Contact John Cely at cowasee@gmail.com or (803) 782-7450 to sign up. If conditions are too dry, we will alternately paddle Cedar Creek.

Water/Ways

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To complement the exhibit, a symposium on Thursday evening, Jan. 7, and Friday, Jan. 8, will focus on History and Culture, Recreation and Ecotourism, and Water Issues facing the community and the park.

Speakers will include a mix of academics and resource agency researchers, community partners and park enthusiasts

Look for more details in the November newsletter.

Westinghouse

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its presence in groundwater, unlike Uranium isotopes, is impossible to dispel. The East Lagoon was initially believed to be the source of Technetium-99 contamination, but a work plan was set up to identify alternative sources, as well as the extent of Tc-99 contamination.

Tc-99 was tested at a variety of potential sources in two different phases and neither phase has conclusively established a source. The Phase I study identified Tc-99 in the sediments of the East Lagoon and Alligator Pond and in groundwater, but not in soil or surface water samples, and was unable to identify a source for the contamination.

Additional process sites were sampled in Phase II to understand the extent of contamination and identify its source. Unfortunately, the reported results, while identifying high levels of Tc-99 at several locations, are identified only by the acronym for the sampling location, and are difficult to interpret. Further, the source remains unidentified. DHEC has asked that a much more sensitive test be used to detect Tc-99 concentrations.

Private wells. It was natural for local residents to be concerned about their water supply wells when news of groundwater contamination at Westinghouse was reported.

In addition to other sampling programs, 30 upgradient private wells and 4 side-gradient/

downgradient private wells within a one-mile radius of the plant were recently sampled. Most wells were upgradient, and unlikely to be affected by groundwater contamination. Further, ongoing clean-up activities at SCRDI, the superfund site on Bluff Road (see our Winter 2019 newsletter for additional details), actually provides another layer of protection. Any contamination plume in that direction from Westinghouse would be captured by the injection-recovery wells at SCRDI.

Nonetheless, it was with some relief that no evidence of CVOC (Chlorinated Volatile Organic Compounds) contamination from Westinghouse's activities was detected in any of the wells.

Groundwater sampling. The groundwater sampling system now comprises over 90 wells, with 29 added as part of the consent agreement, including several placed in the floodplain for the first time. Unfortunately, some of the floodplain wells detected CVOC's including a couple that were placed on the opposite side of Mill Creek and the Sunset Lakes from the plant.

Westinghouse argued that there was evidence that floodplain soils were degrading the CVOC's, but DHEC was particularly troubled by the presence of any CVOC's in wells downgradient of Mill Creek and the Sunset Lakes, since there was no obvious explanation of how a contaminant plume could pass under the lakes. DHEC felt that there was more that

needs to be learned about the surficial aquifers at the site.

Groundwater contamination by fluoride, nitrates, CVOC's, and radionuclides has been well-documented for years. Three different contaminant plumes have been identified for CVOC's: a western groundwater "area of concern", a main contaminant plume that flows directly toward the floodplain, and an eastern plume.

Most of the nitrate and fluoride contamination is downgradient of wastewater treatment lagoons. Uranium above MCLs (Maximum Contaminant Levels) is present in a small plume adjacent to one of the plant's buildings.

Surface water sampling. Surface water sampling had been intermittent in the past, but sampling conducted as part of the Remedial Investigation found fluoride in all samples collected, nitrate in several, and CVOC's in two. Sampling included drainage ditches, Gator Pond and Upper and Lower Sunset lakes. Uranium was detected in all samples, though an order of magnitude below the MCL; no Technetium-99 was discovered in the water samples.

The review proved timely, since August 31 looms as the deadline for providing comments on the scope of the Environmental Impact Statement. This will provide Friends of Congaree Swamp and others with the opportunity to request additional investigations for the Environmental Impact Statement.



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Please keep your information current to receive special notices about field trips, events, scheduling changes and acknowledgements in addition to a quarterly newsletter.

*For a contribution of \$35 or more, you may choose one:

- Baseball cap maroon _____ tan _____
Tan visor _____
Bandana with map of Congaree National Park gold _____ blue _____ red _____

**For a contribution of \$100 or more you will receive a copy of "The Natural History of Congaree Swamp."

In addition, I would like to donate \$ _____ as a gift.

Thank you for supporting Friends of Congaree Swamp!

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