

Florida Specifier

since 1979

The Next Full Moons

October's Full Moon reaches peak illumination at 4:55 p.m. EST on Sunday, Oct. 9, 2022. It's known as the Hunter's Moon.

November's Full Moon reaches peak illumination at 6:02 a.m. EST on Tuesday, Nov. 8, 2022. It's known as the Beaver Moon.

Practical Information For Environmental Professionals

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Have a story idea or lead?

Have an idea for a story? Would you like to submit a column for consideration? Please, let us know. And remember to fill us in on your organization's new people, programs, new offices, projects or technologies — anything of interest to environmental professionals working in Florida.

Send to Florida Specifier, 2901 1st Ave. N., Suite 202, St. Petersburg, FL 33713.

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Wastewater no waste of time

Autistic artist finds passion, inspiration from industry

By MALLORY CHAPUT
Contributing Writer

My friend, fiancé, and I were wandering the streets one warm and humid Florida night under the soft glow of the moon. My friend, such as myself, has autism and one of her special interests is the coyote, a misunderstood animal. I came from a very rural area and never really spent much time exploring cities in my younger years.

Exploring our small Florida city was a mesmerizing experience for me, looking at all the glowing orange lights and walking through an industrial park was captivating. My friend, being from New York City, missed walking the streets at night and she was thankful that we could accompany her, since she is in her 50s and struggles with some health issues. For me, it was a fleeting new experience and I fell in love with it. I love the peacefulness at night when the world is quiet and in a dream state. One night, when scouting for coyotes, we walked on our usual sidewalk past some tree lines, crossing



Image courtesy of Mallory Chaput

Above is Mallory Chaput's first water treatment art. Mallory has autism and a strong desire to be a wastewater treatment operator. She seeks input from professionals about the industry and can be reached via LinkedIn or email at mgchaput@gmail.com.

several streets, and going a bit further to an area that had a large patch of woods.

My friend wanted to stop and sit down on the sidewalk to listen for coyote howls, but there was a loud noise behind us. I looked over at it and saw a bunch of strange buildings. I assumed it was a manufacturing plant, but it stuck with me.

I went to google maps to find places to go on our night-

ly outings. When I zoomed in on the area where we were, I saw it, the "manufacturing plant" and I was perplexed. I looked at the tanks from the satellite view and it just dawned on me that these were sewage treatment tanks, which I never really paid any attention to or seen before. It reminded me of a large version of the bog filters for my koi pond and I immediately

was fascinated.

I planned a trek for us in a park just behind the plant. When we went to this fountain park, I was greatly captivated by the buildings and tanks that seemed to wrap around us. There was a mysterious floral smell coming from this plant, it smelled like vanilla and laundry detergent; this ignited my curiosity.

To STUDENT Page 2

Bounty Hunters take aim at Burmese pythons

By BLANCHE HARDY, PG

Pythons are an invasive, non-native species that have become established and are spreading throughout South Florida. While non-threatening to humans, they are apex predators with insatiable appetites and pose direct threats to native wildlife.

Every year Florida Fish and Wildlife Conservation Commission (FWC), the South Florida Water Management District, and participating partners conduct a round up to remove snakes from the Everglades. FWC lists five species of Pythons, Boa Constrictors, and four species of Anaconda to be hunted and removed during the state's annual event.

Pythons represent a significant impact to native prey, including marsh rabbits, deer, wading birds, and even alligators. Their aggressive consumption of native wildlife deprives Florida's native predators, such as panthers, raptors, bobcats, and alligators of primary food sources.

Pythons are semi-aquatic creatures;

first spotted in 1979, they thrive in Florida's Everglades. FWC identifies them as having assumed a top position in the food chain. Although they grow to great lengths, they are challenging to locate in such a wet environment.

These snakes were likely introduced into Florida's native environment by accident or by intentional release by pet owners no longer interested in caring for them.

They are prolific breeders; a female

python can lay roughly 100 eggs per year.

This year's annual Florida Python Challenge, commonly called the Python Bowl, was held Aug. 5-14. The challenge garners national attention and is an opportunity to share information about the damage pythons cause, encourage the public to continually remove these invasive snakes, and highlight the importance of responsible pet ownership so non-native species are not released into the wild.

To PYTHONS Page 16



Photo courtesy of The South Florida Water Management District

The South Florida Water Management District is taking action to eliminate invasive pythons by accepting applications for new python removal agents.

If PFAS everywhere, what is point of remediation?

By **CHAD NORTHINGTON, PE, Regensis**

The environmental calamity caused by PFAS (per- and polyfluoroalkyl substances) continues to surprise and alarm communities on a global scale.

Recently, Stockholm University published a study finding PFAS to be widespread in rainwater at concentrations above the latest US Environmental Protection Agency (EPA) drinking water Health Advisories.

Hard to believe but true: rain falling anywhere on Earth, even in Tibet and Antarctica, is now considered 'unsafe' for drinking.

With PFAS confirmed to be fully entrained in the hydrologic cycle, some might question how it is possible to clean up the "forever chemicals." After all, if PFAS are everywhere, what is the point of remediation?

While it is true that we are all exposed to PFAS to such a degree it is literally in our blood, there is more concern for those drinking the water or eating the fish downstream of highly contaminated PFAS sources. For these populations, the risk of potential health consequences, including hypertension, decreased fertility, thyroid disease, and cancer is far greater if these PFAS sources are not addressed.

In Florida, the most notable PFAS sources are burn pits, where firefighting foams containing PFAS were sprayed onto the ground, impacting groundwater and nearby drinking water wells. Drinking water impacts from these PFAS sources have fueled cancer fears and prompted visits from Erin Brockovich in Florida communities such as Satellite Beach, Cocoa Beach and Patrick Space Force Station.

Remediation of PFAS source zones is clearly needed to prevent further PFAS exposure. The immense scale of the PFAS problem demands remedial solutions be economically and environmentally sustainable.

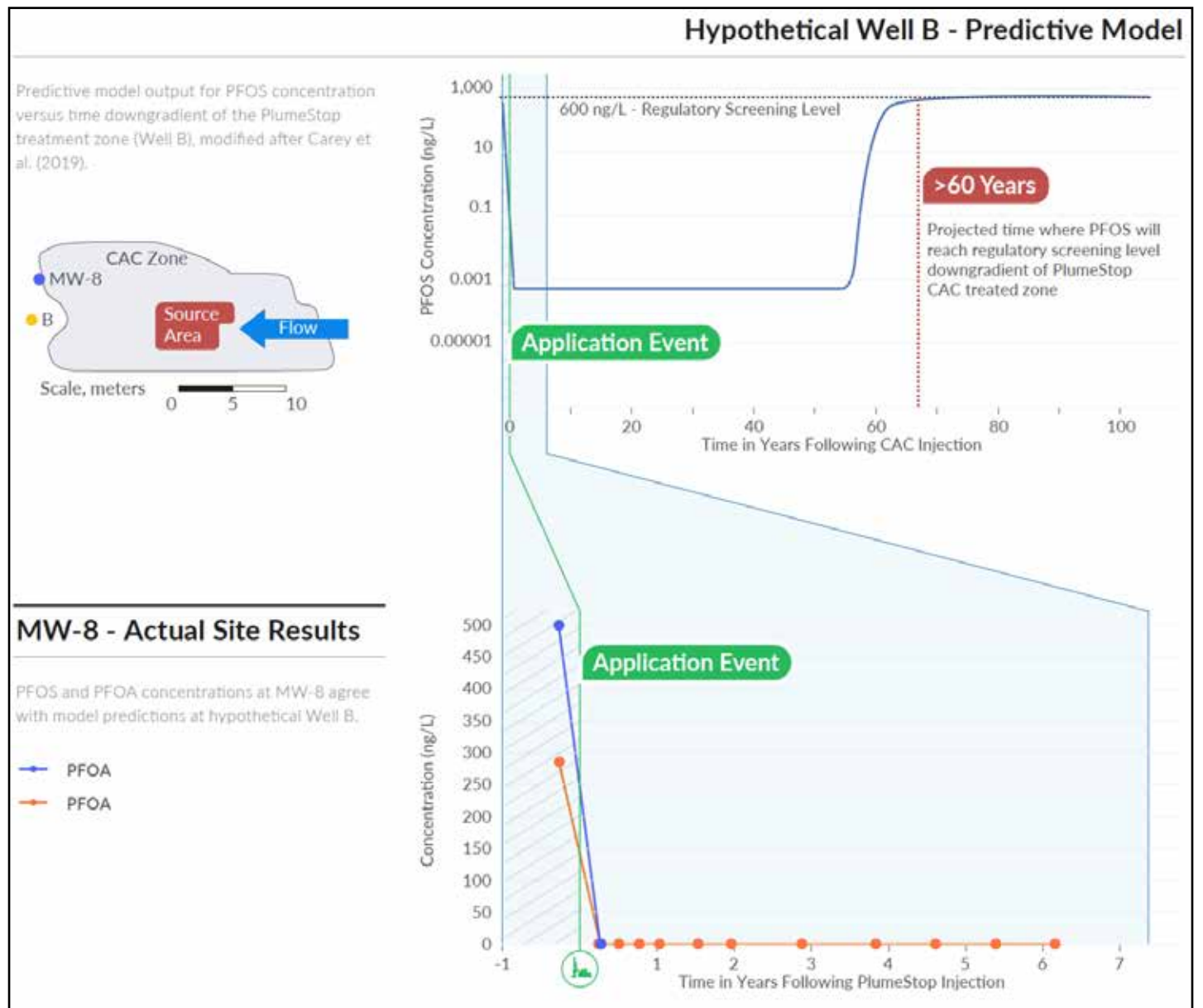
Enhancing PFAS plume retention to prevent exposure risk

In the latest issue of *Remediation*, groundwater remediation experts state enhancing a PFAS plume's retention using an in situ-applied sorbent technology like colloidal activated carbon (CAC), "can play an important role in reducing PFAS mass flux and providing long term protection to downgradient groundwater receptors."

And, in fact, CAC already is playing a role, removing PFAS from groundwater, mitigating potential exposure risks, and reducing liabilities at PFAS-impacted sites since 2016.

The patented CAC material, commercially known as PlumeStop, is injected into PFAS-impacted groundwater, typically in the form of permeable reactive barriers (PRBs) that capture and contain PFAS in place as groundwater moves through them. These PRB treatments are designed to stop PFAS movement (i.e. PFAS mass flux) in groundwater for decades after a single application.

The approach has proven effective across 28 sites globally. It is the only injectable amendment shown to consistently remove PFAS from groundwater over the long term, including the world's first in-situ treatment of PFAS, demonstrating 100% PFAS removal (i.e., from several thousand parts-per-trillion to non-detectable levels) for more than six years, thus far. A peer-reviewed study completed by a third-party modeling expert, predicts that this one-time treatment will effectively contain PFOS, the primary PFAS of con-



PlumeStop CAC treatment of PFOS - predictive model results over the next 100 years and actual results through six years of performance monitoring.

cern, at the source for more than 60 years.

Material scientists at REGENESIS have also developed a concentrated form of CAC (i.e., SourceStop, patent pending) to restrict PFAS leaching through soils beneath highly concentrated source zones. SourceStop's minute particle size and colloidal form make it more than ten times more effective in reducing total PFAS leaching than commodity powdered activated carbon (PAC).

Full-spectrum, low-cost, sustainable remediation solution for PFAS available

Applying the CAC technologies directly to the source zone to eliminate a PFAS plume's fuel supply and at down-gradient plume areas to halt further PFAS migration is a full-spectrum solution to eliminate PFAS exposure risk. Optimized source-zone/plume combination treatments can approximate a permanent solution for PFAS, with performance warranty options available at qualifying sites.

CAC treatments are the lowest cost and most sustainable solution for PFAS in groundwater. They avoid the capital-intensive installations and long-term operation & maintenance programs involved with extracting and treating the water above the surface (i.e., pump and treat). Further, these treatments do not produce emissions or consume energy over the long term and have earned favorable Green and Sustainable Remediation (GSR) ratings from regulatory agencies in the U.S. and internationally.

Since CAC treatments occur below ground, they also avoid generating PFAS solid waste materials--an important consideration, as there have yet to be any safe disposal or incineration methods identified for PFAS wastes.

The EPA's current Interim PFAS Destruction and Disposal Guidance suggests that the safest way to manage PFAS solid wastes is to store them onsite until further research is conducted. This suggestion,

perhaps, provides the clearest statement of the PFAS-waste-disposal dilemma.

The present and future of PFAS remediation

On Sept. 6, 2022, the US EPA published its proposed rule for public comment to designate PFOA (perfluorooctanoic acid) and PFOS (perfluorooctanesulfonic acid) as hazardous substances under CERCLA. Once finalized, this ruling will provide the necessary authority to facilitate PFAS cleanups.

Many more PFAS-contaminated sites will soon be discovered following the EPA's April 2022 directive to use the

National Pollutant Discharge Elimination System to identify PFAS sources. Once identified, there will be an urgent need to ensure these sources do not lead to more contaminated groundwater and PFAS exposures.

This need will be balanced by an equally urgent need to control costs and implement remedies that are sustainable. The PlumeStop and SourceStop CAC technologies are poised to meet these critical needs — now and into the future. ●

Chad Northington, P.E., based in Tallahassee, is Senior Technical Manager at REGENESIS.