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Climate change study 5

Work is underway to assess the effects of rising sea levels and climate change in Collier County. The effort is expected to provide tools for determining the potential dangers of rising sea levels and how to go about addressing them.

What federal enforcement? 6

Three recently released reports reflect major slowdowns in federal criminal prosecutions and civil actions, as well as dozens of regulatory rule roll-backs at the Trump administration's U.S. Environmental Protection Agency.

Red Tide Institute formed 7

Mote Marine Laboratory announced formation of the Red Tide Institute. The group will be dedicated to "translating red tide research into practical mitigation tools" to improve the quality of life in coastal communities.

CCR contamination 9

A recent review conducted by EarthJustice found that impoundments at coal-fired power plants are leaking coal combustion residual contaminants into groundwater at dozens of locations in the Southeast U.S.

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Gov. Ron DeSantis recently signed an executive order to implement major reforms addressing harmful algal blooms in Florida's waterways.

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Got a story lead?

Got an idea for a story? Like to submit a column for consideration? Fire when ready. And don't forget to fill us in on your organization's new people and programs, projects and technologies—anything of interest to environmental professionals in Florida. Send to P.O. Box 2175, Goldenrod, FL 32733. Call us at (407) 671-7777; fax us at (321) 972-8937, or email mreast@enviro-net.com.

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Photo courtesy of Clark Environmental Inc.

Brian Lapointe, PhD, a research professor at FAU's Harbor Branch Oceanographic Institute, uses a pole sampler to collect the blue-green alga *Microcystis aeruginosa* during a bloom at North Shore Park in North Fort Myers. LaPointe recently discussed research on the causes of harmful algal blooms with state lawmakers. See column on Page 10.

Arsenic-contaminated sludge disposal morphs into political issue in Polk County

By ROY LAUGHLIN

Several years ago, officials with the city of Fort Myers discovered a series of nearly forgotten lime sludge-filled pits on city property, residue of the water softening process used there in the 1950s and 1960s.

The city was in the process of donating the property to Habitat for Humanity as a site for housing.

The pits did not completely span the acreage intended for donation, but the sub parcels they occupied were not suitable for building houses as the sludge was too "soft" to support a structure.

The pits are adjacent to neighborhoods with groundwater arsenic levels that exceed Florida's 10 micrograms per liter standard for drinking water.

There is some disagreement regarding whether or not the lime sludge is the source of arsenic in the groundwater. But either way, the Fort Myers City Council wanted to put the abandoned property to good use.

City officials studied four options before deciding to excavate 30,000 tons of lime sludge to create stormwater ponds and a park around the ponds.

The decision seemed spot-on. The lime sludge could be excavated and removed quickly, the flooding in the adjacent Dunbar neighborhood could be reduced and the city had the available funding from stormwater taxes to underwrite the project.

The city hired PPM Consultants as prime contractor on the project. PPM hired a trucking subcontractor to haul the lime sludge to the Polk County city of Mulberry, where another subcontractor, Clark Environmental Inc., would

blend the sludge with sawdust, or Portland cement if necessary, to stabilize it so it could be placed permanently in Republic Services' Cedar Trails Landfill in Bartow, a regional Class 1 landfill.

According to Beth Clark, president of Clark Environmental, the decision to remove, process and dispose of the sludge was based on straightforward objective considerations.

The Clark facility is appropriately permitted by the Florida Department of Environmental Protection and has the processing capacity to take as much

sludge as could be excavated and transported daily.

Plus, they have a facility where all material would be processed inside buildings on an impervious surface, with a leachate control system and under a roof designed to prevent contact with rainfall.

Further, concrete walls and berms would provide an additional level of protection for containing material while

SLUDGE
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FRC 2018 in review:

State's soil and groundwater cleanup business remains focused, effective, productive

By ROY LAUGHLIN

The 2018 Florida Remediation Conference in December continued its role as the Southeast's premier showcase for the soil and groundwater cleanup industry's best projects and future prospects.

The trend for the enterprise has been upward for the past four years and conference presentations reflected this trajectory. This year's talks marked a notable uptick in the technical quality of the presentations, and level of sophistication of the projects described.

The conference's technical agenda featured the rapidly evolving issue of environmental contamination by perfluorinated compounds. The need for environmental cleanup is increasingly accepted as a priority that may involve many of those present at this year's conference.

With the expected release of a human health assessment document by the U.S. Environmental Protection Agency and recent reporting of the results of nationwide military base monitoring, the outlines of a needed remediation effort are becoming clearer—even if the schedule for implementing such an effort remains uncertain.

"The conference provided a lot of great information for the emerging compound that's getting a lot of attention nationally and here in Florida," said Jim Langenbach, PE, senior principal environmental engineer for Geosyntec Consultants in Florida and FRC conference chair.

"Our regulatory presentations were also very informative and provided some great 'must know' information for

FRC
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EPA seeks comment on draft toxicity assessments for perfluorinated compounds

Staff report

The U.S. Environmental Protection Agency prepared a draft toxicity assessment for two classes of perfluorinated compounds, and will soon open a 60-day public comment period.

The agency's toxicity assessments are for hexanoic, or GenX, compounds, and butanoic perfluoroalkyl substances. These are for six- and four-carbon fluorinated alkyl compounds, respectively.

Perfluorinated compounds in these two categories are predominantly used in or on consumer products because they repel water, grease and oil. They prevent staining

of carpets, and reduce textile flammability. They are not used as firefighting foams.

EPA Acting Administrator Andrew Wheeler noted that the draft assessments are part of developing an EPA management plan for perfluorinated compounds, which is yet to be completed.

"We are releasing the draft assessments now to provide the information—and give the public opportunity to provide input—as soon as possible," Wheeler said, explaining why these assessments were being issued separately from the management plan they are intended to support.

Scott Pruitt, Wheeler's predecessor,

withheld the release of a human health assessment for the octanoic perfluorinated compounds last year.

The draft assessments are available at www.epa.gov/pfas/genx-pfbs.

MATS rule revision. When the Obama administration calculated the costs and benefits for EPA's Mercury and Air Toxic Standards several years ago, they estimated that the price of complying was much smaller than the benefits to human health and the environment.

That rule has been the subject of constant carping by the regulated industries because the EPA cost-to-benefit calculations included co-benefits to meet justification requirements.

The EPA is now proposing a rule change after "properly evaluating" the cost of coal- and oil-fired power plants to comply with the MATS rule.

The Obama administration's EPA staff estimated compliance costs to range from \$7.4 to \$9.6 billion annually. The current EPA rewrite pegs benefits attributable to regulating hazardous air pollution emissions from power plants to range from \$4 to \$6 million annually.

As a result of these purported discrepancies, EPA proposed "to determine that it is not 'appropriate and necessary' to regulate HAP emissions from power plants under Section 112 of the Clean Air Act."

In its announcement, the EPA correctly characterized the cost analysis that the Obama administration conducted in 2012. What it failed to mention is that the benefit calculation estimated an additional \$80 billion in co-benefits arising from reductions of soot and nitrogen oxides that would also occur from the same technology that reduces mercury in coal and oil burning power plant emissions.

The EPA's announcement said that the emissions standards and other MATS requirements established in 2012 would remain in place. Furthermore, the new rule will not remove coal- and oil-fired power plants from the list of

sources that are regulated under Section 112.

But when the co-benefits the rule would provide are ignored, the atmosphere is likely to contain more substances deleterious to human health. A few fossil fuel companies stand to avoid as much as \$10 billion in regulatory costs annually as well.

Meanwhile, even without this rule change, the Rhodium Group reports that U.S. greenhouse gas emissions increased 3.4 percent in 2018, the second highest annual increase in 20 years.

EPA issues SIP requirements. In early November, the EPA issued its final state implementation plan requirements for implementing National Ambient Air Quality Standards for ozone.

Those standards, established in 2015, apply to any non-attainment area in the U.S. as well as 13 northeastern states that experience excess ozone levels because of atmospheric transport and concentration.

The EPA said the rule clarifies that states can take advantage of Clean Air Act tools for regulatory relief for areas that could meet ozone standards—but for the contributions outside their control.

The agency characterized less stringent adherence to ozone standards as "additional flexibilities to meet 2015 ozone standards."

Jargon aside, the new rule sets in motion the use of new "implementation tools" that will apply to states and local governments that could allow for higher ozone exposure concentrations for longer exposure times.

The EPA is still required by the Clean Air Act to designate areas as either attainment or non-attainment areas. The agency concluded this recurring effort in the summer of 2018.

The Clean Air Act also requires state implementation plans to maintain NAAQS in all areas of the country as well as in designated non-attainment areas.

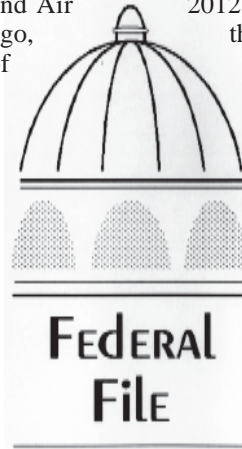
In December, EPA Acting Administrator Wheeler stated in a press release that "for power plants covered by this program for cross-border ozone, nitrogen oxide emissions dropped by over 20 percent—roughly 80,000 tons—just since the 2016 ozone season."

He further noted that, based on air quality data and modeling, by 2023 no remaining non-attainment or maintenance areas for the 2008 Ozone NAAQS in the Cross-State Air Pollution Rule update regions will exist.

It remains to be seen if relaxing ozone regulations in regions where atmospheric circulation concentrates it from continent-wide sources will keep public health effects to a minimum.

Environmental justice grants. The EPA Environmental Justice Grant Program is requesting small grant applications.

This year, Congress appropriated \$1.5



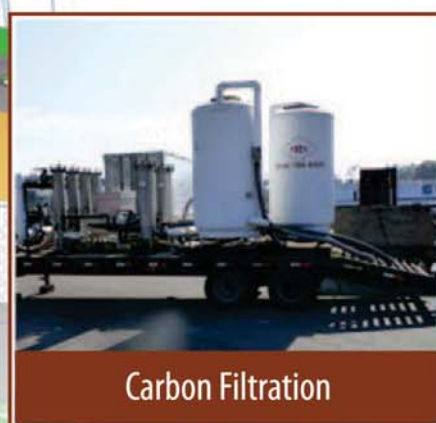
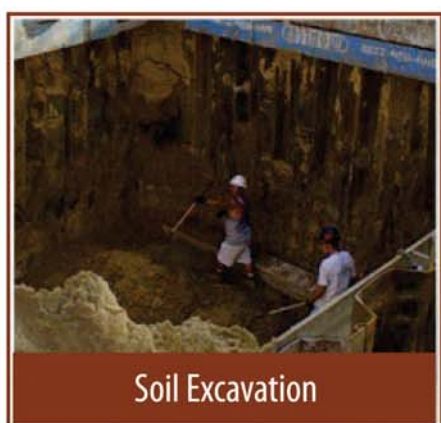
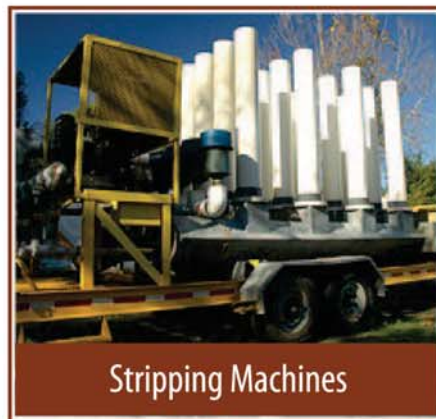
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Bloomberg awards St. Pete \$2.5 million to address the impacts of climate change

Staff report

Former New York City Mayor Michael Bloomberg awarded \$2.5 million to the city of St. Petersburg as one of 25 cities selected to receive resources and technical support to help them achieve their climate goals under Bloomberg's \$70 million American Cities Climate Challenge.

The St. Petersburg award and expansion of the challenge from 20 to 25 cities was announced jointly with St. Petersburg Mayor Rick Kriseman in early January.

Orlando was also selected for a \$2.5 million award as one of the five added cities.

"With Washington asleep at the wheel, cities like St. Petersburg that are taking bold action on climate change are more important than ever to encourage even more bottom-up progress," said Bloomberg, the United Nation Secretary-General's Special Envoy for Climate Action.

"The response to our Climate Challenge has been so positive from mayors around the country that we've decided to select five additional winning cities," he said. "Tackling climate change goes hand in hand with improving public health and creating jobs, and it's great to see cities leading where Washington won't."

St. Petersburg officials will work with Bloomberg Philanthropies to implement the city's climate plans including creating the first utility community solar program promoting energy equity for low income areas.

The city also plans to scale up financing models for energy efficiency and renewables, and expand its residential solar co-op program.

Flagler Beach projects. Two anticipated coastal projects will soon kick off in Flagler Beach.

The \$22.4 million State Route A1A project involves 3.5 miles of roadway improvements including 1.3 miles of roadway that collapsed during Hurricane Matthew. The project is anticipated to extend into 2020.

The second project is more encompassing. Flagler County and the U.S. Army Corps of Engineers will begin a nearly \$99 million beach renourishment project covering 2.6 miles of beach between South 7th and South 28th Streets.

The project enters into the planning phase this year with the award of a contract anticipated in May. Sand will be dredged from an offshore location and construction is expected to begin in May next year.

The projects are not anticipated to conflict with one another.

Flagler County is also restoring hurricane-damaged dunes along 12 miles, 67 percent, of the county's coast. The \$28 million dune restoration project is anticipated to wrap up in the spring.

Sunbreak Farms permit status. In a fourth go-around, the South Florida Water Management District requested additional information from Sunbreak Farms LLC in an effort to assure that their land application of partially treated human waste will not impact surface waters discharging into the C-25 Canal, Taylor Creek or the Indian River Lagoon.

The 6,500-acre plus facility straddles St. Lucie and Indian River counties, west of Interstate 95 between Vero Beach and Fort Pierce.

Sunbreak proposes applying 80,000 tons of compost on the land annually. The compost would be comprised of 60,000 tons of yard waste and 20,000 tons of Class B biosolids, partially treated sewage sludge, per year.

Spreading Class B biosolids is prohibited within the Lake Okeechobee and St. Lucie River watersheds to the south.

In a January letter, the district requested supporting geotechnical analysis or an on-site pilot test to demonstrate that existing soil conditions and the proposed draw-

down methodology can achieve groundwater levels stated in Sunbreak's Compositing Water Table Protocol.

In addition, the district asked for a demonstration that operation of the proposed stormwater management system will not adversely impact receiving waters or downstream properties.

Lastly, in the absence of submittal of the district's requested monitoring plan, the district requested an "alternative" that demonstrates the pollution abatement practices proposed in the facility's design are functioning properly and meet the district's regulatory objectives.

Sunbreak has 90 days to respond to these latest requests.

Lidar data collection. Woolpert Inc. was contracted through Dewberry Engineers Inc. to collect high-resolution lidar data in support of the U.S. Geological Survey's 3D Elevation Program.

3DEP is managed by the USGS National Geospatial Program with the goal of systematically collecting 3D elevation data covering the conterminous United States, Hawaii and the U.S. territories in eight years.

Woolpert will be collecting approximately 10,000 square miles of data across the peninsula of Florida, from St. Johns County to Palm Beach County, as well as six inland counties.

The data will be produced based on the recommendations of a Florida statewide lidar working group, which includes representatives from the Florida Department of Emergency Management, the Florida Department of Transportation and the five water management districts.

Sam Moffat, Woolpert's geospatial program director, said the high density of the QL1 data, collected at eight points per square meter, will be "the most accurate surface model the state has ever had," enabling features to be mapped that couldn't be in the past.

The lidar collection began in December, with deliveries beginning in mid-2019.

Deltona suspends recycling. In early January, the Deltona City Commission temporarily suspended recycling operations within its waste collection service area.

The January commission meeting

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Florida Notes



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South Florida WMD cancels option to buy EAA land from U.S. Sugar Corp.

Staff report

In December, the South Florida Water Management District Governing Board voted to terminate a 10-year-old agreement that would have allowed the district to purchase 107,000 acres of land. The board vote was unanimous.

In 2008, then-Gov. Charlie Crist negotiated an agreement between U.S. Sugar Corp. and the SFWMD to buy 187,000 acres of sugar land for \$1.75 billion. If purchased, that land would have provided a direct overland flow path between Lake Okeechobee and Everglades National Park.

After the initial agreement, the district purchased 23,000 acres. Then the recession hit, cutting deeply into state and district tax receipts.

Gov. Crist renegotiated the initial plan to include a 10-year option to buy an additional 107,000 acres. That 10-year option no longer exists as a result of the district board's vote.

The decision not to buy the land south of Lake Okeechobee ends any reasonable prospects of restoring historical water flow from Lake Okeechobee to Everglades National Park and Florida Bay within a reasonable time frame.

Two years ago, the Florida Legislature approved funds to build a reservoir southeast of Lake Okeechobee, but its capacity will be less than half of what is needed.

Competent scientists and environmental activists expected the state could obtain enough land for an effective reservoir system by exercising the purchase option.

Recently elected Gov. Ron DeSantis criticized the sugar industry and campaigned in general terms against the status quo of privileged political and economic advantage exercised by the sugar industry's control of the Everglades Agricultural Area.

The Everglades Foundation criticized the water management district for failing to wait until the governor-elect could play a role in the decision.

The foundation, one of the few Florida environmental organizations that backed DeSantis' candidacy, expected the governor-elect would support the reservoir plan south of Lake Okeechobee developed in principle eight years ago.

The district board's decision subverted

the governor-elect's possible role and added significant complexity, expense and delay to any effort to divert drainage away from mid-Florida coastal estuaries.

Hernando reclaim project. The Southwest Florida Water Management District, Hernando County Utilities and Hernando County are proceeding with construction on a joint project to provide cleaner reuse water to its water customers.



The project centers on the Glen Wastewater Treatment Plant that is being upgraded to

produce reuse water that is cleaner and, in particular, contains lower levels of nitrogen.

A new three-million-gallon tank will store the highly treated reuse water for irrigation and industrial processes.

With the additional of available reuse water, the county utility is planning an extension of reuse water distribution pipelines along County Line Road and then to the Brooksville Tampa Bay Regional Airport with side branches to provide reuse to more Hernando County residents.

Reduced nitrogen loading will be necessary going forward to meet new environmental regulations intended to reduce nitrogen loading to surface and ground waters.

The benefit to all stakeholders is that irrigating with reuse water reduces potable water withdrawals from the Floridan Aquifer.

By producing cleaner reuse water, the Hernando County plant will help reduce nitrogen loading to the Weeki Wachee springshed.

The project is expected to be completed by the end of summer, 2019.

Chipley sprayfield. At its December meeting, the Chipley City Council approved the purchase of 485 acres for use as a sprayfield for its wastewater treatment plan effluent.

The approved price, \$1,747,000, is about \$200 per acre more than the appraised price of \$1,649,000 for the acreage.

Although the increase over the appraised price was a topic of discussion during the city council meeting, city officials told the council that the difference was within usual negotiating margins.

In addition, they said the property is well suited for sprayfield development, and that the 485 acres is expected to meet Chipley's sprayfield needs for the next 50

years.

City officials plan to sell the currently used Davidson sprayfield. Proceeds from that sale will be used to help pay off the debt service on the \$13.4 million wastewater treatment project.

Flagler Beach marsh restoration. In December, the St. Johns River Water Management District approved a project to restore 40 acres of salt marsh in a larger project area of 113 acres of state-owned land near Gambles Rogers Memorial State Recreation Area in Flagler Beach.

The planned project involves lowering dredge spoil piles and closing drainage ditches to return degraded marsh habitat to wetlands.

The project will be divided into phases, the first of which will be the 40-acre phase on the east side of the intracoastal waterway.

The ditching and dredge spoil mounds were created during the 1960s and 1970s for mosquito control.

One of the goals of the project, according to district officials, is to create a marsh with increased storage capacity to create a buffer against flooding. It would be created in such a manner as to improve the habitat value for fish and wildlife.

The restored marsh land would filter nutrients from water eventually released to adjacent waterways.

Among the organizations that have endorsed the project are Flagler Audubon, Audubon Florida, the Nature Conservancy and the Environmental Council of Volusia and Flagler Counties. The Florida Fish and Wildlife Service provided a \$300,000 grant to help pay for the work.

In spite of a few opponents largely asking for special considerations, project supporters outnumbered critics.

In approving the project with a few concessions for buffers, the district tried to assure critics that their voices were heard. On the whole, however, the project was approved as planned using methods that have been successful in other parts of the SJRWMD, notably methods used in the Indian River Lagoon.

FPUA sewer line extension. The Fort Pierce Utilities Authority received a \$1.9 million grant from the Florida Department of Economic Development's Florida Job Growth Grant Fund to underwrite water and sewer line extensions along DiGiorgio Road in the southern part of the city.

The funding arrived in time for the planned start of a \$2.6 million project to begin in April. FPUA will cover the remaining \$650,000 cost of the project.

When complete, the project will provide potable water and wastewater treatment to about 160 acres of land that includes 37 industrial parcels.

One of the commercial beneficiaries is Orchid Island Juice, which produces Natalie's Orange Juice and recently opened a 55,000 square-foot warehouse on DiGiorgio Road.


Lee County water treatment plant online. After a decade of planning and the expenditure of \$75 million for construction, Lee County's Green Meadows Water Treatment Plant is now in operation.

The new plant, with a capacity of 14 million gallons a day provides potable water for up to 60,000 homes.

Currently, about 20,000 homes in Lee County receive potable water from the plant. The new plant will also meet future needs for water as the county's population increases.

The project renovated a 40-year-old water treatment plant fed by 27 wells. The upgrade included additional source water wells, and a 2,900-foot-deep injection well for the disposal of wastewater treatment concentrate.


According to local news accounts, the new plant now has treatment equipment that can purify water from three different groundwater sources. The methods include reverse osmosis for removing the salt and minerals from deep groundwater.



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Researchers study effects of climate change, sea level rise in Collier County

By PRAKASH GANDHI

Work is now underway on a study to assess the effects of rising sea levels and climate change in Southwest Florida's Collier County.

The researchers hope the effort will provide the coastal county and the cities of Naples, Everglades City and Marco Island with the tools they need to determine the potential dangers of rising sea levels and how to go about addressing them.

"This is an effort to help natural, cultural and urban resource managers understand where we are vulnerable as we move into the future," said Michael Savarese, PhD, who is spearheading the study.

Savarese is a professor of marine science and environmental studies in the Department of Marine & Ecological Sciences and the Coastal Watershed Institute at Florida Gulf Coast University, who is spearheading the study.

The research is funded through a million-dollar grant from the National Oceanic and Atmospheric Administration.

Savarese, who is also the county's community liaison for climate change preparedness, said the funds came from the settlement of the Deepwater Horizon oil spill that caused widespread devastation to the Gulf of Mexico in 2010.

"The money is being used to deal with specific environmental problems and to help scientists develop tools from existing scientific information to help decision-makers," Savarese said.

As part of the three-year study, which should be complete next summer, the county is conducting a vulnerability analysis to determine how susceptible it is to rising sea levels.

Workshops are being held to discuss concerns about both rising sea levels and storms. The meetings provide a chance to learn what the business community identifies as strengths, threats and weaknesses.

In addition, the talks are aimed at helping scientists build models to show what the effects of rising sea levels could look like.

The University of Florida and the University of Miami are among the other organizations involved in the study.

Researchers will look into how structures in the county may be affected or what archeological sites may be most susceptible to coastal erosion and destruction.

"We are using the same modeling to give emergency personnel a better understand of tropical storms," Savarese said. "The modeling won't allow storm tracking to be predicted but will allow officials to ... deal with the possible consequences of a changing storm track. We are very excited about this."

For the county, the study will help inform its planning for future infrastructure. Information gathered will allow county planners to make better, more cost-effective decisions on those projects.

The business community and other stakeholders will also be closely involved in the study.

"We have reached very deeply into

Collier County to get input from various economic sectors about their concerns and to help identify their assets," Savarese said.

The county is projecting a 1.5-foot rise in sea levels by 2060, based on researchers' estimates.

"We are very exposed and vulnerable to tropical storms, and believe we have the highest probability of storm damage in the state," Savarese said. "In addition, the county has a very low-lying elevation with very few areas above sea level. The storms in the future are going to be larger and more intense, so the information we gather

is going to be important."

He said the information that is gathered will be new.

"The models that are being used are state-of-the-art—a lot more sophisticated than anything that has been done before."

Savarese said that he believes most people in the community are behind the effort.

"We believe this project has brought an increased public awareness in Collier County about the vulnerability to rising sea levels and the importance of being proactive," he said.

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Controversial Manatee development gets go-ahead from judge

By BLANCHE HARDY, PG

In December, Circuit Court Judge Gilbert J. Smith Jr. delivered a 21-page ruling upholding the Manatee County Commissioners' Oct. 3, 2017, approval of the 529-acre Aqua by the Bay development in Bradenton between El Conquistador Parkway and Sarasota Bay.

The development, formerly called Long Bar Pointe, was initially rejected by the county in 2013. The initial Long Bar Pointe plan included a marina and a channel opposed by environmental advocates and fisherman.

The developers sued for approval but lost in circuit court on appeal. They then changed the name to Aqua by the Bay and submitted a new application without the marina.

Public hearings for the new project proposing 2,894 residential units from 36 to 95 feet high and 78,000 square feet of commercial space began in May, 2017. The hearings became so contentious that several continuances were required.

Over the course of the hearings, a number of disputed elements in the development plan were dropped. But commissioners allowed additional changes to the plan after the public comment period was closed, and subsequently approved the development plan.

Some of the plan's most contentious issues—including the proposed canal that developers referred to as an "estuary enhancement area" and the height of the buildings—were stipulated on the day of approval.

Environmental activists and other opponents of the controversial development sought legal recourse to overturn the commission's approval because public input was closed and was noticed to remain closed before final changes were made to the development during a three-hour meeting break requested by the applicant.

Revised plans were reintroduced after that short break.

The plaintiffs claimed they were given insufficient time to review the changes and should have been accorded some time with staff to discuss the changes made.

The commission did reopen public comment before their final vote, but did not publish the intent to do so in advance after having previously said they were not

accepting additional input.

The plaintiffs, represented by Cape Coral-based attorney Ralf Brookes, include former County Commissioner Joe McClash, the Suncoast Waterkeeper, ecotourism operators Kathe Fannon and Katie Scarlett Turin, Longboat Key resident Larry Grossman and three residents of Legends Bay, Beverly Hill, Arlene Dukauskas and Lenka Sukova.

Brookes argued the public was denied adequate time to review the last-minute changes to the development plans. Judge Smith disagreed.

"The notice for the final hearing on Oct. 3, 2017, indicated 'no public comment,' as it was a continuation of a hearing held on Aug. 23, 2017, and the board presumed all relevant public comment had been taken at the prior hearing," Smith said.

RULING

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Recent reports characterize dramatic drop in EPA enforcement actions

By ROY LAUGHLIN

Three reports released in January show a record-setting pace of reductions in criminal prosecutions, and civil actions, as well as continuing rule rollbacks at the U.S. Environmental Protection Agency.

Taken together, enforcement of eight major environmental and human health protection statutes is at record lows compared to prior years during at least the last decade.

A January, 2018, report from Public Employees for Environmental Respon-

sibility described a “criminal enforcement collapse” at the agency during the fiscal year ending October, 2018.

The agency referred only 166 violations for criminal prosecution by the U.S. Department of Justice, a 60 percent reduction from 2011 and a 72 percent reduction from enforcement activity that occurred in 1998.

What’s more, less than half of the 2018 referrals, only 62, resulted in convictions. And PEER predicted it will only get worse this year.

According to *E&E News*, EPA’s Criminal Investigation Division was furloughed

during the partial government shutdown with perhaps a couple of regional agents working intermittently without pay during EPA emergency occurrences.

Considering the initial two-month criminal referral rate plus the government shutdown, the Trump Administration’s third year may set the all-time record for lax enforcement of U.S. environmental laws.

The PEER report cited lack of enforcement personnel as a significant factor contributing to EPA’s reduced enforcement activities.

The U.S. Pollution Prosecution Act of 1990 required a minimum of 200 agents. In April, 2018, the EPA had only 140 special agents in its Criminal Investigation Division. This is a historic low in CID agents, just two thirds of the number during 2003.

In the second recent report that analyzed declining EPA enforcement, *The Conversation* reported that over the past year, civil cases dropped in all EPA regions, from seven percent in Region 6 to a whopping 77 percent in Region 4. Florida is one of eight states in Region 4.

At EPA headquarters, civil enforcement dropped 70 percent.

The drop in civil cases brought by the EPA in fiscal year 2018 compared to 2017 encompassed all eight major federal statutes that the agency enforces, a decline to the lowest level in at least a decade, according to *The Conversation*.

The Federal Insecticide, Fungicide and Rodenticide Act, the Clean Water Act, the Clean Air Act and the Resource Conservation and Recovery Act lead the statute list for decreased civil enforcement cases, dropping by 60 percent, 55 percent, 51 percent and 46 percent, respectively.

The raw tally of cases makes the scale even more explicit, with the decline numbering in the hundreds of cases: FIFRA, 910 cases down to 363; CWA, 565 cases down to 320; CAA, 405 cases down to 199; and RCRA, 275 cases down to 149.

Four other programs with a smaller number of cases experienced civil case declines between 25 percent and 50 percent, lesser decreases than the four listed above but still a significant proportion and scores of cases.

Those four programs included the Comprehensive Environmental Response, Compensation and Liability Act; the Safe Drinking Water Act; the Toxic Substances Control Act; and the Emergency Planning and Community Right-to-Know Act.

Upon becoming EPA’s first administrator under President Trump and then resigning, Scott Pruitt initiated a compliance initiative that let offenders avoid criminal prosecution by merely agreeing to suspend their violations.

He also centralized prosecution referrals to EPA headquarters, allowing him and his deputies to sharply reduce the number of criminal referrals initiated.

In a recent article, the *New York Times* highlighted the role of modified and repealed EPA rules as a factor in declining EPA enforcement effectiveness.

During the last two years, the EPA has completed the rollback of 47 rules, led by rules addressing air pollution and emissions, drilling and extraction, and infrastructure.

EPA rules in these three categories total 20 of the 47 rolled-back rules. Thirty-one additional rollbacks are in progress, 12 of which address air pollution and emissions, and six concern drilling and extraction.

Clearly, the changes in enforcement are being driven by major industries that want to be free of government regulation. In President Trump’s EPA, they have enjoyed a willing partner.

As of this writing, the Senate Environment and Public Works Committee is holding hearings on Andrew Wheeler’s nomination to replace Scott Pruitt as EPA administrator. So far, discussion of reduced enforcement levels has received little direct attention.

Agreement reached on Peace River water supply dispute

Staff report

A major agreement was recently reached to resolve a simmering water dispute in Southwest Florida that has cost nearly \$1 million.

The settlement allows the Peace River Manasota Regional Water Supply Authority, which includes Manatee, Charlotte, DeSoto and Sarasota counties, to move

forward with a 50-year permit to withdraw the 258 million gallons a day it requested last year.

According to the settlement, the authority would be required to reduce the amount by up to 49 million gallons a day if the Polk Regional Water Cooperative issues a notice of intent to seek a permit to withdraw water from river.

The Polk cooperative voted 11-0 to approve the settlement. The PRWC represents Polk County and 15 cities, including Lakeland.

“Without this agreement, we would have spent a lot more money litigating and there would have been a lot of issues that would have made cooperation very difficult in the future,” said Gene Heath, project manager with the Polk cooperative.

The settlement includes a stipulation that both sides agree to form a committee to share information on projects that address future water supply shortages.

In the spring, the cooperative hired a lawyer when it learned of the authority’s plan to withdraw the water from the river.

One of the concerns was its ability to move forward with projects along the Peace River. Heath said that with the agreement in place, those projects can go ahead.

“We determined how to share the quantity of water between the two entities,” he added. “This allows us to move forward with the projects we had planned on the Peace River.”

“We also agreed to work together to determine how to optimize the supply from the Peace River, protect the river and set up a committee to work towards that goal.”

Heath said it was vital that the parties reach this regional agreement.

“It was very important for the parties to come together and implement an approach that was fair to both parties—and fair to the river,” he said.

USGS: Salinity level in Lake O, canals affects cyanobacteria toxin release

By BLANCHE HARDY, PG

A new U.S. Geological Survey laboratory study of potentially toxic cyanobacteria in Lake Okeechobee found that contact with salty water may cause the algae to release toxins by damaging its cell walls.

The results indicate that by developing a better understanding of the mixing of fresh and saline waters in coastal zones, researchers could better understand the toxic effects of harmful algal blooms.

"The findings tell us how the most common bloom organisms will respond to marine water as they move down the ca-

nal system," said USGS Biologist Barry Rosen, PhD, based in their Southeast Region office. "The saltier (the water), the sooner they can be expected to die."

USGS records indicate that freshwater cyanobacteria in Lake Okeechobee have been linked to harmful algal blooms as far back as 1986.

The naturally-occurring algae can develop into large blooms, fueled by phosphorus and other nutrients from farms and developed lands, and can release toxins that harm wildlife and humans.

Lake Okeechobee is connected by canals to downstream brackish and saltwater estuaries on the east coast including the Indian River Lagoon, and to the Gulf of Mexico on the west coast by the Caloosahatchee River.

Lake Okeechobee and the Indian River suffered an enduring harmful freshwater algal bloom in 2016. This year, algal blooms devastated both coasts resulting in significant marine losses and human illness.

Although the USGS study concentrated on the southeast coast of Florida, southwest Florida has been equally impacted.

The red tide off Sanibel Island in Southwest Florida has been relentless.

Over 265 tons of marine life, including both small and large fish, have been found dead on area beaches.

The red tide along the Southwest Florida coast is dominated by a salt-tolerant harmful algal species and, as such, was not part of the study.

After samples analyzed for water quality in 2016 detected cyanobacteria from Lake Okeechobee, or the canals connected to it, were most likely being transported downstream to the St. Lucie Estuary and the Indian River Lagoon, USGS investigated how contact with salt water affects two cyanobacteria species commonly found in related blooms.

The idea that saltwater kills freshwater cyanobacteria has been suspected for some time.

Rosen's team set out to discover how quickly two species of toxic cyanobacteria died, what concentration level of salinity killed them, and what happened to algae and their toxins in the process.

"When these freshwater algae get exposed to certain levels of salinity, their cell walls weaken, and the toxin they contain leaks out," Rosen said. "The point where the mixing of fresh and saltwater reaches that critical level where damage begins to

occur will vary, depending on factors like the tides and the freshwater flow in the canals."

USGS scientists collected water samples from Eagle Bay on Lake Okeechobee's north shore in mid-summer. Analyses of the samples indicated that the Lake Okeechobee water had significant amounts of a common toxin-producing cyanobacteria called *Microcystis aeruginosa* and lesser amounts of the potentially harmful species, *Dolichospermum circinale*.

The researchers split the water samples into batches and exposed them to varying levels of salinity for at least four days.

The team found that *Microcystis aeruginosa* cell walls began to weaken and release the microcystin toxin into water at salinity levels about one-half as salty as seawater.

The cell walls of *Dolichospermum circinale* began to leak at levels about a quarter of the salinity of seawater.

Most *Microcystis aeruginosa* died after four days of exposure to high levels of salinity.

Rosen said it is possible to use these values to regulate water flow under certain bloom conditions to manipulate the location of bloom die-offs.

Mote launches Red Tide Institute

By BLANCHE HARDY, PG

Michael Crosby, CEO and president of Mote Marine Laboratory, recently announced the formation of the Red Tide Institute.

Mote's team of PhDs and algal bloom scientists hosted Gov. Ron DeSantis and leaders of the Florida Fish and Wildlife Conservation Commission, the Florida Department of Environmental Protection and a diverse group of environmental, non-profit, government and marine industry representatives in January to discuss the governor's priorities for Florida's water quality and share updates on Mote's own technology and discoveries.

"The fact that Southwest Florida is currently experiencing devastating impacts from harmful algal blooms is well understood by all of us who call this region home," Crosby said. "As the governor has made clear, together we are going to fight red tide and other harmful algal blooms."

Gov. DeSantis presented a new executive order at the meeting.

"We will be seeking 2.5 billion dollars over the next four years for water resources and Everglades-related projects, a billion dollars more than the previous four years," DeSantis said. "But funding alone will not protect our environment. That is why the executive order I signed directs DEP to take decisive actions to do more now for our environment, including to appoint a chief science officer."

The executive order directs DEP and the South Florida Water Management District to move forward with the Everglades Agricultural Area Storage Reservoir and to expedite projects to improve management of Lake Okeechobee.

The order includes the creation of a Blue-Green Algae Task Force in addition to re-establishment of FWCC's red tide task force.

DeSantis directed DEP to restructure to improve water quality, protect coastal ecosystems—and unlike the previous administration—improve the resilience of coastal communities in the face of challenges including sea level rise and climate change.

Mote's new Red Tide Institute was made possible through a million-dollar grant from the Andrew and Judith Economos Foundation Inc. The grant will establish and support the institute for its first year.

The new institute is "dedicated to translating red tide research into practical mitigation tools to improve coastal communities' quality of life."

The new institute will be headed up by Dr. Cynthia Heil, who joined Mote in January as the senior scientist for the HAB Mitigation Research Program and the director of the Red Tide Institute.

Heil was formerly with Bigelow Laboratory for Ocean Sciences in Maine where she developed an independent research program focused on water quality, harmful algal blooms and ecosystem management.

Prior to that position, she served as se-

INSTITUTE
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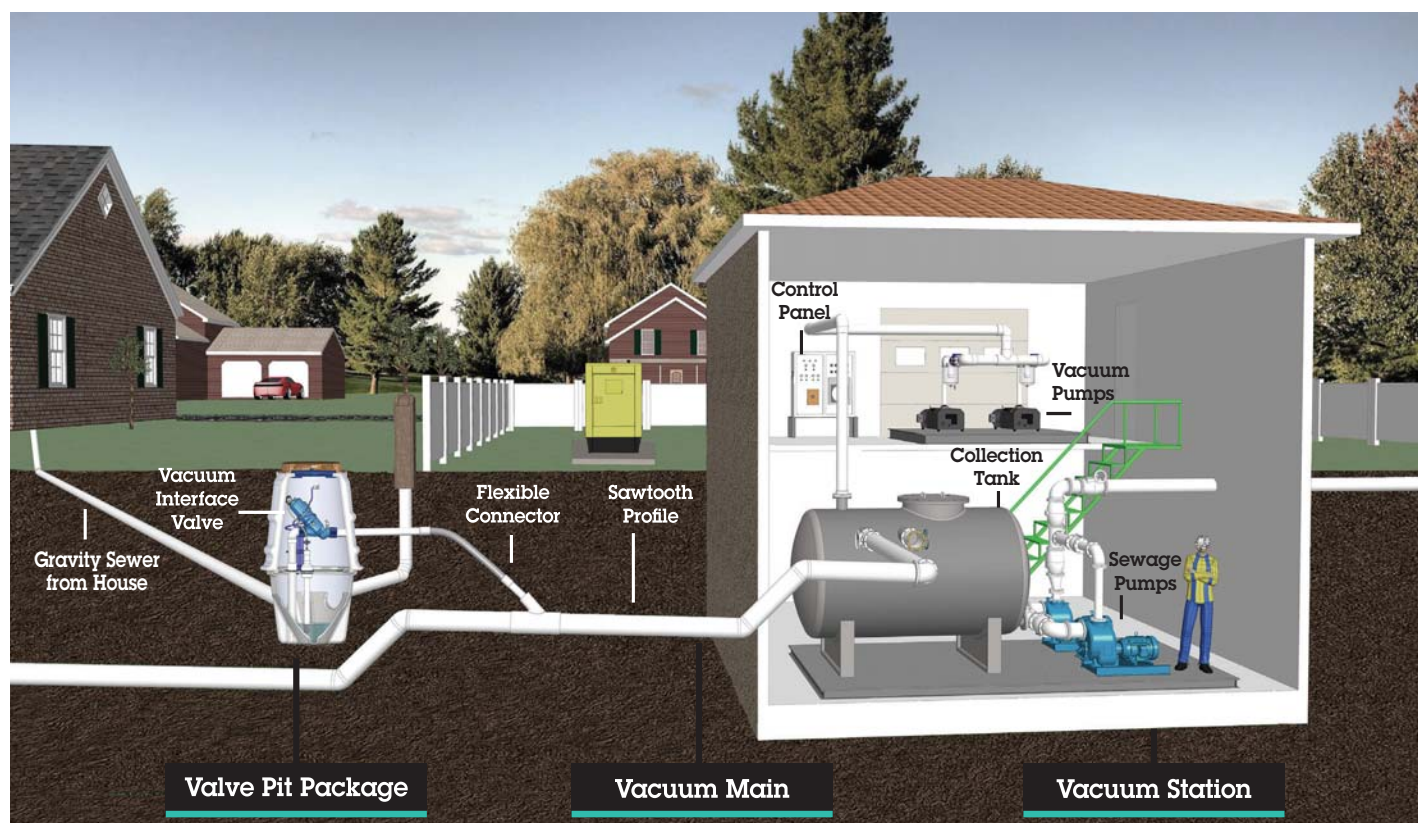


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ITIF: Environmental regulation, technological innovation can be compatible

By ROY LAUGHLIN

In a recent report, David Hart, a senior fellow with the Information Technology & Innovation Foundation in Washington, DC, wrote a thoughtful analysis defining the relationship between environmental regulation and the technological innovation used to meet it.

The report's synopsis: "Some experts argue there is an inherent tension between environmental regulation and technological innovation. Others argue that they are complementary. Neither of these positions is right all of the time."

The report's arguments are built around a literature review from which Hart identifies 12 conditions that influence whether environmental regulation fosters technology innovation.

Those 12 conditions are broad, and although he does not put them into subcategories, they can be organized into three primary groups.

First, economic factors that affect the regulation-innovation dichotomy include whether compliance with regulation is expected to be expensive, whether the regulated firms have adequate financial resources to comply, and whether the regu-

lated industry is competitive.

Second, industry characteristics that affect outcomes include that regulated industry has limited prospects for shifting production to "pollution havens," industry insiders expect regulation to become increasingly stringent over time, the threat of regulatory enforcement is seen as legitimate and credible, and the technology landscape for regulatory compliance is target rich.

"Target rich" refers to an industry having multiple strategies to meet compliance. The example in the report is how industry abandoned chlorofluorocarbon refrigerants by substituting hydrochlorofluorocarbon compounds for them.

The third category takes in the majority of Hart's 12 characteristics. It encompasses regulation and regulators, whether or not authorities and elected officials are likely to force regulators to relax regulatory efforts or goals, whether regulators rely on performance standards, that regulatory processes induce an open exchange of information, that regulators have a sophisticated understanding of the regulated industry, and whether technology policies complement regulation.

Even though the report is a lean 18 pages, the discussion is understandable through a careful choice of examples to illustrate the role of each condition.

For example, the question regarding a company's financial ability to underwrite technological innovation is intuitively obvious.

Hart suggests that farming, a low margin, highly-competitive small-number practitioner industry, frequently has insufficient resources to meet environmental regulation demands.

Hart noted that regulation compels managers to think about how limited resources can best be focused to meet the costs of environmental regulation and potentially reduce the much larger financial costs of pollution when regulation prevents externalization of those costs.

In the introduction, the author characterizes the dichotomy apparent in research that addresses whether regulation stifles or fosters innovation. Rather than reviewing

all research, he focused on the most pertinent research and researchers to define his 12 controlling conditions.

The 1995 *Harvard Business Review* paper by Michael E. Porter and Claas van der Linde entitled "Green and Competitive," is frequently referenced in developing the thesis that certain conditions favor innovation through regulation.

Readers looking for a broader perspective on research about regulation versus innovation will find an excellent source of background in this report's cited studies.

"There are no sure things in innovation; it is intrinsically uncertain," Hart wrote in summing up his findings. "Environmental policy makers can, at best, shape the conditions under which regulation is implemented, so as to make an innovative response by the regulated industry more likely."

Hart ends the report with five pieces of advice for regulators. First, determine whether the conditions that regulators cannot control in a given case are likely to favor industry's innovative response.

When those conditions are favorable, set long-term regulatory goals that assume compliance costs will decline due to innovation.

Next, be patient but vigilant in the intermediate term as regulated companies explore promising pathways that appear to have the potential to meet long-term goals.

Regulators must encourage competition among the regulated to innovate compliance solutions while also driving technology policy to create general knowledge all can draw upon.

And, perhaps most challenging, regulators must develop a sophisticated understanding of the technical and economic challenges facing the regulated industry in order to constructively assess its progress and to make adjustments, including loosening standards and schedules when appropriate.

The report entitled "When Does Environmental Regulation Stimulate Technological Innovation" can be downloaded at www2.itif.org/2018-environmental-regulation-innovation.pdf.

Groups file lawsuit over offshore drilling

By PRAKASH GANDHI

A major battle flared up between a coalition of environmental groups and the Trump administration late last year over offshore drilling tests.

The groups sued the administration over concerns that any offshore drilling could have devastating impacts on the coastal environment and marine life.

The lawsuit, filed in federal court in Charleston, SC, claimed the National Marine Fisheries Service violated the Marine Mammal Protection Act, the Endangered Species Act and the National Environmental Policy Act when it issued five permits for the use of seismic air guns for oil exploration.

The coalition includes OCEANA, the Southern Environmental Law Center, the Natural Resources Defense Council, EarthJustice, the Center for Biological Diversity, Surfrider Foundation and the Sierra Club.

"We believe that the government has acted unlawfully to harm marine mammals," said Diane Hoskins, campaign director with the global nonprofit organization OCEANA in an interview with the *Florida Specifier*.

"This is an unprecedented, massive assault on our oceans in pursuit of dangerous and dirty offshore drilling," she said.

The Trump administration has proposed expanding drilling from the Atlantic to the Arctic and Pacific oceans. The five-year plan would open 90 percent of the nation's offshore reserves to private development.

Supporters of the seismic air gun testing said survey vessels will be required to carry observers to listen and watch for marine life and alert operators if a protected species comes within a certain distance.

The proponents said that testing would be shut down when certain sensitive species or groups are observed in the area. In addition, penalties could be imposed for vessels that strike marine animals.

Industry groups said the surveys have been conducted around the world for de-

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EarthJustice: Coal combustion residual storage contaminating groundwater in Southeast

By ROY LAUGHLIN

Coal ash impoundments from 67 presently used and retired coal plants are leaking coal combustion residual contaminants into groundwater.

The fugitive releases have raised the levels of several contaminants and perhaps two radon isotopes in excess of state or federal standards.

This is occurring in 22 states including Florida and nearby states—Alabama, Georgia, South Carolina and North Carolina.

These are the conclusions reached by the environmental advocacy organization EarthJustice following an extensive review of reporting and assessment documents.

Their report and its accompanying table point to five coal-burning plants in Florida. At least two on the list are presently nonoperational or are on a trajectory for closure.

Apparently, the report is based on groundwater monitoring reports for calendar year 2017, with additional reports submitted during 2018's first trimester.

In Florida, radium 226 and radium 228 are reported above groundwater standards at all five sites. Arsenic, lithium, molybdenum, cobalt and mercury are also elements reported in excess of groundwater standards for at least one Florida plant.

EarthJustice noted that two of Florida's coal residuals storage facilities are noncompliant for aquifer separation, potentially contaminating drinking water sources that could be tapped far from the generating facility.

JEA's St. John's River Power Park, one of the facilities listed, began decommissioning in the first quarter of 2018.

"We are currently in the process of closing in place the last remaining landfill at the facility as part of the decommissioning activities," said Lindsay Starner, JEA's manager of environmental permitting and compliance.

"The landfill will be capped with clean fill and closed in place," she said. "This activity is being performed in compliance with the federal Coal Combustion Residuals program."

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ces and have not caused any harmful effects to marine life.

But environmental groups are not convinced by these assurances and believe the blasts can disturb wildlife.

"Other than the offshore drilling industry, nobody else wants this plan to proceed including the governor of every East Coast state," Hoskins said.

"Recreation and tourism rely on a clean and healthy coastal environment," she said. "People depend on a healthy coastal environment for their living and this type of drilling puts those livelihoods at risk."

Hoskins said that if the plan is not stopped, coastal recreation, fishing and tourism could be changed forever.

She said the massive BP Deepwater Horizon oil spill a few years ago is an example of what can happen to the environment when things go terribly wrong.

"We have a very dangerous precedent with BP," she said. "We know that when they drill, they spill. The BP spill reached Florida's beaches and is a good example of how these spills follow no geographical boundaries. Allowing that risk defies common sense."

Pete Stauffer, environmental director of the Surfrider Foundation, said his organization applauds federal and state lawmakers across the country for their leadership in opposing the Trump administration's plans for expanded offshore drilling.

But much more needs to be done. "The fight is far from over," Hoskins said. "We are going to use every available tool to protect the Atlantic. Putting oceans, marine life and coastal resources at risk, and allowing drilling to get close to Florida is wrong and we are going to fight this every step of the way."

Groundwater monitoring will continue after decommissioning is complete.

EarthJustice found that monitoring submissions listed only excess radium, which is naturally occurring, but no other trace metals that are commonly associated with coal ash combustion. It may be that as other Florida coal plants are decommissioned, coal ash contamination will attenuate.

Florida's neighboring states fared little better with respect to the number of CCR impoundments that are leaching contaminants to groundwater and producing contamination above standards.

Alabama, like Florida, has five plants. Contamination from Alabama plants produce a similar spectrum of contamination due to metals including arsenic, cobalt, lithium and molybdenum.

But unlike Florida, radium is not a contaminant exceeding groundwater standards attributable to leaking impoundment sites in the state.

EarthJustice also listed some Georgia CCR storage facilities that have contaminated groundwater. The contamination spectrum resembles those in Alabama with arsenic, cobalt lithium, molybdenum and beryllium present on the list.

EarthJustice's report is not a new story on CCR environmental contamination, just another chapter of the continuing narrative.

In mid-July, 2018, the U.S. Environmental Protection Agency finalized the first of several planned amendments to the coal ash disposal regulations.

"These amendments provide states and utilities much-needed flexibility in the management of coal ash, while ensuring human health and the environment are protected," said former coal industry lobbyist and EPA Acting Administrator Andrew Wheeler.

"Our actions mark a significant departure from the one-size-fits-all policies of the past and save tens of millions of dollars in regulatory costs," he said.

EPA's July rule allows alternative performance standards. The first was to allow permitting authorities to suspend groundwater monitoring requirements "if there is evidence that there is no potential for migration of hazardous constituents to the uppermost aquifer." It also allows technical certifications in lieu of one provided by a professional engineer.

For coal ash contaminants without a maximum contaminant level as a drinking water standard, the EPA revised groundwater protection standards. Most significantly, the agency extended the deadline

by which facilities must cease placing wastes and where a "facility has detected a statistically significant increase above a groundwater protection standard from an online service impoundment, or where the unit is unable to comply with the local restriction regarding placement above the uppermost aquifer."

The rule amendments will save generating plant owners between \$28 and \$31 million a year in regulatory compliance costs.

In its recent report, EarthJustice focused on containment facilities that continue in service because of these rule amendments.

EarthJustice challenged the rule revisions in a court filing in August, 2018 (Utility Solid Waste Activities Group et al. v. EPA, No. 15-1219, D.C. Cir. Aug. 21, 2018).

The court agreed with EarthJustice, ruling that the EPA must strengthen—not

CCR
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Florida Specifier

Florida Springs Conservation Plan summarizes historical, recent data for state springs

By ROBERT KNIGHT, PhD

The H.T. Odum Florida Springs Institute recently published the first Florida Springs Conservation Plan that summarizes historical and recent data for 32 “sentinel” springs from among Florida’s 1,000+ artesian springs.

This springs’ short list includes most of Florida’s publicly owned, large and economically important springs that serve as the “canaries in the coal mine” in terms of overall springs condition.

The conservation plan describes a springs’ ecological health assessment protocol based on the Florida Springs Institute’s ongoing synthesis of springs research data.

Springs health was assessed based on measured changes that closely relate to springs ecology—flow, salinity and nitrate concentrations. Each indicator was rated as very good (A), good (B), fair (C), poor (D) or failed (F).

Half of Florida’s most important springs received grades of D+ or lower, indicating degraded conditions with significant loss of ecological health and a high priority for restoration.

Seventy five percent of these sentinel springs were below a B-, indicating an unacceptable level of harm to at least one of the three health indicators.

Some of Florida’s springs regions are in worse shape than others, such as springs in eastern Central Florida, Southwest Florida, and along the Suwannee and Santa Fe rivers, and are most imperiled due to human activities.

Major springs receiving failing grades include Silver and Rainbow in Marion County, Fanning in Levy County, and Crystal in Pasco County.

Springs receiving D grades include Madison Blue, Lafayette Blue and Troy in Lafayette County, Manatee in Levy County, Ginnie in Gilchrist County, Gum Slough in Sumter County, Kings Bay/Crystal River, Homosassa and Chassahowitzka in Citrus County, Sulfur in Hillsborough County, and Jackson Blue.

Nineteen of these 32 sentinel springs received F grades for average flow reductions greater than 20 percent, while eleven of the springs received F grades for nitrate pollution above 1 mg/L, a 2,000 percent increase over natural background levels.

None of Florida’s most visited and economically valuable springs received an A grade for all indicators. But 15

of the 32 received at least one A among the three health indicators.

Based on this evaluation, the healthiest springs in Florida are Alexander in Lake County, the Wacissa Group in Jefferson County and the Gainer Group in Bay County, all located amidst large tracts of protected forested lands.

As Florida’s government accelerates funding and projects for springs recovery, this inventory of springs’ ecological health provides a solid basis for prioritizing springs protection efforts.

Failing grades indicate that the primary spring functions are very low or absent, restoration is increasingly difficult, and the spring requires immediate and holistic intervention.

As documented in more than 20 years of published reports, the state’s springs restoration and protection efforts to date have been insufficient to reverse the downward trend in springs health.

Every day that efforts for springs recovery are delayed adds to the high costs for the state’s taxpayers to protect the Floridan Aquifer and to save these invaluable springs.

The new Florida Springs Conservation Plan outlines the steps that need to be taken to implement meaningful and lasting restoration of Florida’s iconic springs.

Groundwater use for critical needs such as human consumption can be more efficient, while groundwater pumping for avoidable uses such as watering lawns should decrease.

These goals can be accomplished at minimal cost to the public by setting a cap on groundwater extraction that leaves adequate groundwater for healthy springs and by discouraging excessive groundwater pumping by putting a user fee on groundwater uses.

Reducing groundwater use will have the additional benefit of reversing saltwater intrusion in coastal areas of the state.

The increasing levels of nitrate pollution in groundwater can also be reversed by capping nitrogen fertilizer use and putting a fee on human-caused nitrogen sources, including fertilizers and septic systems.

Additional impacts to springs health include physical modifications such as dams and seawalls, and intensive recreational activity. These problems are secondary to flow declines and nutrient pollution, but recovery is attainable

and potentially rapid under wiser management of springs in public ownership.

The Florida Springs Institute intends to update the springs’ ecological health assessment annually. These grades will provide an easily understandable baseline for assessing the efficacy of state and local efforts to save Florida’s springs.

Healthy aquifers and springs are essential for ensuring a sustainable and healthy economic future for Florida. Robert Knight, PhD, is director of the Howard T. Odum Florida Springs Institute in High Springs.

Editor’s note: Printed copies of the 2018 Florida Springs Conservation Plan Executive Summary can be picked up at the North Florida Springs Environmental Center in High Springs. The full 108-page plan with appendices is available at www.floridaspringsinstitute.org/reports/.

A private sector solution to our harmful algal bloom dilemma

To the Editor:

The spread of blue-green algae into the Caloosahatchee River, the St. Lucie River and the Indian River Lagoon has caused significant damage both environmentally and financially to the communities along these waterways.



The damage will not be corrected by the state of Florida or its Department of Environmental Protection. As demonstrated by past performance, the best

that can be expected from DEP is an unending string of meetings and studies that result in nothing but more meetings and studies.

But this is an issue that can be effectively dealt with by the private sector. The answer is not found in injection wells, percolation ponds or any other Rube Goldberg contraption that only serve to relocate the offensive materials.

The problem is not the sole responsibility of “Big Sugar,” rather, look to the north shore of Lake Okeechobee at the dairy industry for the quantity of bovine waste residing on the bottom of Lake O.

One solution would be to establish a privately administered organization to raise the funds necessary for the cleanup effort and recruit the professional talent necessary to execute the project.

The scope would be to acquire the needed land and build wastewater treatment plants at the headwaters of the Caloosahatchee and St. Lucie rivers. The function of these plants would be to remove algae from the water prior to releasing it downstream to the Gulf of Mexico and Atlantic Ocean.

Once the treatment plants are operational, the second phase can be started—the remediation of the lake itself. This would involve the removal of nutrients from the lake as an ongoing project for a number of years.

The state of Florida will never fund such a project due to the cost and the very nature of politics in Tallahassee. However, the private sector could accomplish this with relative ease.

I would estimate that such an undertaking would have a cost of roughly \$1.5 billion. As a private endeavor, every beach-front community, water-related business and residential development from Fort Myers to Port St. Lucie would be more than happy to participate in the restoration of our most valuable resource, the South Florida environment.

The cost of not correcting this problem, environmentally and financially, is far greater than the cost of implementing real solutions.

The result of this activity would be an increase in job availability, improved financial opportunity for communities affected in the form of construction and ongoing operations of the project, and restored visitor attraction. The project would also provide the prospect of profitability via repurposing of the byproduct algae and muck as fertilizer for agricultural and domestic applications.

The economic health of our communities is predicated on our waterfront-focused lifestyle and location. A healthy ecosystem translates directly to the success and financial health of all of our residents and businesses.

Donald A. Nyman
Southwest Florida
Nyman_Don@yahoo.com

Governor signs executive order to address harmful algal blooms in state waterways

By DEBBIE MAYFIELD

The Senate Appropriations Subcommittee on Agriculture, Environment, and General Government, which I chair, recently received a thorough presentation from Brian Lapointe, PhD, a research professor at Florida Atlantic University’s Harbor Branch Oceanographic Institute, on the nutrient loads caused by septic systems.

The presentation revealed that septic tanks play a major role in blue-green algae blooms and that approximately 39 percent of Floridians rely on septic systems for their wastewater treatment. In the counties along the Indian River Lagoon system, nearly 50 percent of the residences utilize septic systems.

According to Dr. Lapointe, nitrogen is a main contributor of algae blooms and septic tank systems are a leading source of nitrogen production. Extreme rainfall events such as hurricanes and tropical storms also contribute to the algae blooms through stormwater runoff and rising water tables.

Dr. Lapointe urged the committee to consider a state-wide approach to move away from septic tank systems in order to address the harmful blue-green algae at the source.

I encourage you to review his testimony and presentation materials.

The following day, Gov. Ron DeSantis signed an executive order to implement major reforms that will address these harmful algal blooms in our waterways and ensure the protection of Florida’s environment.

The order calls for a number of actions, as follows. The Florida Department of Environmental Protection will establish a septic conversion and remediation grant program with a local government match requirement.

Over the next four years, Everglades restoration and protection will receive \$2.5 billion—a \$1 billion increase in spending over the previous four years and the highest level of funding for restoration in Florida’s history.

In addition, a Blue-Green Algae Task Force will be established, charged with focusing on expediting progress toward reducing the adverse impacts of blue-green algae blooms now and over the next five years. This task force will build upon basin management action plans to provide the largest and most meaningful nutrient reductions in key waterbodies.

The South Florida Water Management District will be asked to immediately start the next phase of the Everglades Agricultural Area Storage Reservoir project design and ensure the U.S. Army Corps of Engineers approves the project according to schedule.

The governor will create an Office of Environmental Accountability and Transparency that will be charged with organizing and directing integrated scientific research and analysis to ensure that all agency actions are aligned with key environmental priorities.

Finally, a chief science officer will be appointed to coordinate and prioritize scientific data, research, monitoring and analysis.

Water quality is a leading concern of all Floridians. We are all on the same team and we all have the same goal of addressing sources of pollution to restore our treasured waterways.

Both the Florida Legislature and governor recognize that septic systems are one of the leading sources of pollution in many water systems in Florida and need to be addressed. Actions are now underway to do just that.

Debbie Mayfield is a Republican State Senator representing District 17, which includes Indian River and southern Brevard counties.

Florida Specifier

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The Florida Specifier welcomes columns, articles and letters to the editor on any subject or issue pertinent to the environmental, regulatory and technical areas the newspaper covers. We reserve the right to edit all submissions for newspaper style and publish submissions on a space-available basis only. The opinions expressed on this page are those of the authors.

Calendar

February

FEB. 15 – Seminar: Biosolids Seminar, Tampa, FL. Presented by the Florida Water Environment Association. Call (407) 574-3318, email info@fwea.org or visit fwea.org.

FEB. 16-17 – Course: Backflow Prevention Recertification, Tampa, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

FEB. 18-19 – Conference: 2019 NWRA Industry Technology Conference, Atlantic Beach, FL. Presented by the National Waste & Recycling Association. Call 1-800-424-2869 or visit waste recycling.org/events.

FEB. 18-19 – Course: Backflow Prevention Recertification, Destin, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

FEB. 19 – Course: Asbestos Refresher: Inspector, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

FEB. 19 – Course: Asbestos Refresher: Management Planner, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

FEB. 19 – Course: Refresher Training Course for Experienced Solid Waste Operators- 8 Hours, Plant City, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

FEB. 19 – Course: Initial Training Course for Spotters at Landfills, C&D Sites and Transfer Stations- 8 Hours, Plant City, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

FEB. 19 – Course: Asbestos Refresher: Inspector, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

FEB. 19 – Course: Asbestos Refresher: Management Planner, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

FEB. 19-20 – Course: Refresher Training Course for Experienced Solid Waste Operators- 16 Hours, Plant City, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

FEB. 19-20 – Course: Initial Training for Transfer Station Operators and Materials Recovery Facilities- 16 Hour, Plant City, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

FEB. 20 – Course: Refresher Training Course for Experienced Solid Waste Operators- 8 Hours, Plant City, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

FEB. 20 – Course: Asbestos Refresher: Contractor/Supervisor, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

FEB. 19-21 – Course: Initial Training for Operators of Landfills and Waste Processing Facilities, Plant City, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

FEB. 20 – Course: Asbestos Refresher: Contractor/Supervisor, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

FEB. 22-23 – Course: Backflow Prevention Recertification, Venice, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

FEB. 24-26 – Conference: 32nd Annual Southeast Recycling Conference & Trade Show, Orlando, FL. Contact Gene Jones at (850) 386-6280 or gene@swixusa.org, or visit southeastrecycling.com.

FEB. 25-26 – Conference: Deep Well Injection Conference, Technical, Economic, Environmental and Policy Issues, Miami, FL. Presented America Ground Water Trust. Call (603) 228-5444 or visit www.agwt.org/events.

FEB. 25-26 – Seminar: 2019 Winter Water Seminar, Tallahassee, FL. Presented by the Florida Engineering Society. Call (850) 224-7121 or visit www.fleng.org.

FEB. 25-28 – Conference: SWANApalooza 2019 – Building the Future, Boston, MA. Presented by the Solid Waste Association of North America. Call 1-800-467-9262 or visit www.swana.org.

FEB. 26 – Course: Introduction to Lift Station Maintenance, Daytona, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

FEB. 26-27 – Summit: RFT Winter Summit, Orlando, FL. Presented by Recycle Florida Today. Contact Gene Jones at (850) 386-6280 or gene@swixusa.org, or visit southeastrecycling.com.

FEB. 26-28 – Course: Respiratory Protection, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

FEB. 26 – Course: Understanding Hazardous Waste in Solid Waste Operations, Orlando, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

FEB. 27-28 – Course: Pumping Systems Operation and Maintenance, Daytona, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

FEB. 27-28 – Course: Cross Connection Control Conference, Daytona, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570.

March

MAR. 1-2 – Course: Backflow Prevention Assembly Repair and Maintenance Training and Certification, Venice, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570.

MAR. 2-3 – Course: Backflow Prevention Recertification, Bradenton, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 2-10 – Course: Backflow Prevention Assem-

by Tester Training and Certification, Tampa, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 4-5 – Course: Backflow Prevention Recertification, Altamonte Springs, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 4-8 – Course: Backflow Prevention Assembly Tester Training and Certification, Pensacola, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

(Full) MAR. 4-8 – Course: Backflow Prevention Assembly Tester Training and Certification, Orlando, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

(Full) MAR. 5-8 – Course: Wastewater Class C Certification Review, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 5-8 – Course: Water Distribution Systems Operator Level 2 & 3 Training, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 8-16 – Course: Backflow Prevention Assembly Tester Training and Certification, Venice, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 14 – Course: 8-Hour OSHA HAZWOPER Refresher, Tallahassee, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 16-23 – Course: Backflow Prevention Recertification, Miami Lakes, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 18-21 – Course: Backflow Prevention Assembly Tester Training and Certification, Tallahassee, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 18-22 – Course: Asbestos: Contractor/Supervisor, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 18-21 – Conference: 29th Annual International Conference on Soil, Water, Energy and Air, San Diego, CA. Presented by the Association for Environmental Health and Sciences Foundation Inc. Call (413) 549-5170 or visit http://www.aehsfoundation.org.

MAR. 18-21 – Course: Backflow Prevention Assembly Tester Training and Certification, Altamonte Springs, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 18-22 – Course: Backflow Prevention Assembly Tester Training and Certification, West Palm Beach, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 19-21 – Conference: Air Quality Models Conference, Durham, NC. Presented by the Air & Waste Management Association. Contact Gerald Armstrong at garmstrong@awma.org, call (412) 232-3444 or visit www.awma.org/aqmodels.



ASBESTOS COURSES

Asbestos: Management Planner
Jan. 31-Feb. 1, 2019 | Gainesville, FL | CEUs: 1.4

Asbestos Refresher: Inspector
Feb. 19, 2019 | Gainesville, FL | CEUs: 0.4
Apr. 23, 2019 | Gainesville, FL | CEUs: 0.4

Asbestos Refresher: Management Planner
Feb. 19, 2019 | Gainesville, FL | CEUs: 0.4
Apr. 23, 2019 | Gainesville, FL | CEUs: 0.4

Respiratory Protection
Feb. 26-28, 2019 | Gainesville, FL | CEUs: 2.4

Asbestos: Contractor/Supervisor
Mar. 18-22, 2019 | Gainesville, FL | CEUs: 3.5

Asbestos: Project Design
Apr. 9-11, 2019 | Gainesville, FL | CEUs: 2.4

Asbestos Refresher: Project Design
Apr. 22, 2019 | Gainesville, FL | CEUs: 0.8

Asbestos Refresher: Contractor/Supervisor
Feb. 20, 2019 | Gainesville, FL | CEUs: 0.8
Apr. 24, 2019 | Gainesville, FL | CEUs: 0.8

WATER & WASTEWATER COURSES

Effective Utility Leadership Practices
Feb. 5-6, 2019 | Destin, FL | CEUs: 1.35

Introduction to Lift Station Maintenance
Feb. 26, 2019 | Daytona, FL | CEUs: 0.8

Pumping Systems Operation and Maintenance
Feb. 27-28, 2019 | Daytona, FL | CEUs: 1.6

Sequencing Batch Reactor Operation
Mar. 20-21, 2019 | Gainesville, FL | CEUs: 1.4

Introduction to Lift Station Electrical Troubleshooting
Apr. 9-10, 2019 | Gainesville, FL | CEUs: 1.6

DEP SOPs for Water Sampling & Meter Testing
Apr. 16, 2019 | Gainesville, FL | CEUs: 8

Introduction to DEP SOPs for Groundwater
Apr. 17, 2019 | Gainesville, FL | CEUs: 0.4

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BACKFLOW PREVENTION COURSES

Backflow Prevention Assembly Tester Training & Certification

Feb. 11-15, 2019 | Destin, FL
Mar. 2-10, 2019 | Tampa, FL*
Mar. 4-8, 2019 | Orlando, FL
Mar. 4-8, 2019 | Pensacola, FL
Mar. 8-16, 2019 | Venice, FL**
Mar. 18-21, 2019 | Tallahassee, FL
Mar. 18-22, 2019 | West Palm Beach, FL
Mar. 18-22, 2019 | Altamonte Springs, FL
Mar. 25-29, 2019 | Gainesville, FL
Apr. 1-5, 2019 | Orlando, FL
Apr. 6-14, 2019 | Tampa, FL*
Apr. 8-11, 2019 | Jacksonville, FL
Apr. 24-27, 2019 | Venice, FL
*Two consecutive Sat. & Sun.
**Two consecutive Fri. & Sat.

Backflow Prevention Assembly Repair and Maintenance Training & Certification

Mar. 1-2, 2019 | Venice, FL
Apr. 1-3, 2019 | Gainesville, FL

Backflow Prevention Recertification

Feb. 16-17, 2019 | Tampa, FL
Feb. 18-19, 2019 | Destin, FL
Feb. 22-23, 2019 | Venice, FL
Mar. 2-3, 2019 | Bradenton, FL
Mar. 4-5, 2019 | Altamonte Springs, FL
Mar. 22-23, 2019 | Tallahassee, FL
Mar. 28-29, 2019 | Pensacola, FL
Mar. 30-31, 2019 | Tampa, FL
Apr. 25-26, 2019 | Pensacola, FL
Apr. 27-28, 2019 | Tampa, FL
May 2-3, 2019 | Gainesville, FL

RCRA Courses

Understanding Hazardous Waste in Solid Waste Operations

Feb. 26, 2019 | Orlando, FL | 0.4 CEUs

8-Hour OSHA HazWoper Annual Refresher
Mar. 14, 2019 | Tallahassee, FL | 0.8 CEUs

40-Hour OSHA HazWoper Annual Refresher
Mar. 25-29, 2019 | Tallahassee, FL | 4.0 CEUs

24-Hour OSHA HazWoper Training Course
Mar. 27-29, 2019 | Tallahassee, FL | 2.4 CEUs

www.uftreeo.org | (352) 392-9570

Trump administration proposes rollback of "Waters of the U.S." rule

By **BLANCHE HARDY, PG**

In December, the Trump administration proposed new plans for the federal Clean Water Rule that would effectively gut key safeguards in the Clean Water Act that help protect the drinking water supply of more than one third of all Americans.

The U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers presented the replacement as a joint proposal. The changes will remove protections for ephemeral streams and tributaries that flow only after a period of rain in the immediate vicinity.

The National Resources Defense Council reports that more than 117 million Americans receive their drinking water from public systems drawing supply from headwater, seasonal or rain-dependent streams.

The changes would also impact wetlands that are not directly connected to larger bodies of water.

Wetlands cover approximately 110 million acres of the continental U.S. The proposed changes could put at risk six

million acres, roughly half, of Florida's wetlands that help filter pollution from contaminated stormwater runoff and replenish groundwater supplies.

NRDC noted that wetlands play a pivotal role in the ecosystem, storing upwards of a million gallons of floodwater per acre and providing essential fish and wildlife habitat.

Florida possesses the greatest diversity of wetland types in the country and the greatest diversity of their associated wetland ecological systems.

"The Clean Water Act is still as critical to public health and safety as it was when it became law nearly five decades ago," said John Devine, director of federal water policy at NRDC. "This administration is trying to limit the protections set forth in the CWA, but we will fight actions that violate the law every step of the way."

"Rather than backtrack, we need to redouble our efforts to make every waterbody in the country safe so we can use it for swimming and fishing and, in many places, as a drinking water source."

The Clean Water Rule, also known as the "Waters of the United States" rule, was

adopted by EPA and the corps in 2015. The rule ended decades of confusion over which bodies of water are covered by the 1972 Clean Water Act.

The rule extended protections to streams, wetlands and other smaller bodies of water considered essential to the health of the larger waterbodies they feed. When overlooked, the failure of smaller supporting waters can disrupt the water cycle, harming essential components of the fresh water system and potentially resulting in dangerous declines in larger systems.

"The Trump administration's proposed rule would radically restrict which water bodies the Clean Water Act protect," Devine said. "It would target streams and wetlands that feed the nation's largest waterbodies, filter pollution and curb flooding. As we've seen with the tragic algae outbreaks in Florida, pollution that pours into headwaters can have a dramatic effect downstream."

The Clean Water Rule is based on years of research by federal officials. NRDC reported that agencies reviewed 1,200 scientific publications confirming that

streams and wetlands are connected to downstream waters in significant ways.

More than 100 parties filed suit to stop the law in 2016 claiming the rule protects too many waters. Current supporters of the rule changes include home builders, golf course developers and farmers.

Trump, a golf course developer himself, targeted the rule in his 2016 campaign as one of the "worst" examples of federal overreach. Early in 2018, his administration blocked implementation of the rule until 2020.

Since then, a federal judge has reinstated the rule in 26 states. The Trump administration has been working to roll back the rule administratively.

"We aren't going to let the administration issue an illegal rule that increases pollution without a fight," said Devine. "Along with our partners, we will file comments telling the agencies the numerous ways this proposal violates the law, hold public events to demonstrate the breadth of opposition to their scheme, and work with allies to reveal the harm the proposal would unleash."

SLUDGE

From Page 1

it is being processed or stockpiled, Clark noted.

The selection of the landfill was also based on objective criteria. Two landfills were potentially available, but one could take only two truckloads a day of the processed sludge. Cedar Trails Landfill in the city of Bartow could take all the sludge Clark could process.

Including both the processing and landfill disposal, the project is expected to take about four months to complete.

The plan became public knowledge in Polk and Citrus counties about the time Clark accepted the first 1.7 tons of lime sludge, processed it and transported it to the landfill.

According to reports in local media, about 30 people protested to the Polk County Board of County Commissioners encouraging the commission to block any further sludge shipments into the county.

At issue is the lime sludge's arsenic concentrations.

The arsenic concentration in the leachate is 11 parts per billion. The DEP's drinking water standard for arsenic in drinking water is 10 parts per billion. (EPA's standard is 20 parts per billion.) So the risk to drinking water supplies by this arsenic source seems to be vanishingly minute.

But tell that to the several dozen Polk residents who are suspicious that if one county wants to transport sludge 60 miles into another county for processing and then disposal in a third county, there must be some sort of undisclosed risk that the first is avoiding by paying about \$3.4 million to ship, process and dispose of the 30,000 tons of lime sludge.

These "not-in-my-backyard" suspicions of a small group have been irresponsibly amplified by the local press at the exclusion of the larger body of actual facts.

As the scenario developed, county commissioners and city council members were called out by adversaries for letting the situation occur in the first place while, in fact, the Florida Department of Environmental Protection is the responsible environmental agency.

Both Clark Environmental and Cedar Trails Landfill are fully permitted and are following DEP procedures for the project, just one of a routine number of similar projects occurring every day in the state.

The public controversy has been a significant distraction for both Fort Myers' officials and Clark Environmental's owners. But the excavation and cleanup process has continued lawfully and more or less on schedule over the past month.

Clark is continuing to receive and process the sludge—over 11,000 tons as of late January—as the company deals with a case of mistaken identity, cast as a nefarious source of contamination rather than as the best solution for the problem.

Florida Specifier

2019 Drillers Directory

If your organization provides environmental or geotechnical drilling or direct push services, you're invited to complete and return the form below. Our annual Drillers Directory will appear in the April/May issue. **There is a fee of \$125 to list your firm** (waived for current *Florida Specifier* advertisers and FRC 2018 exhibitors). Please type or LEGIBLY print the information requested and return as soon as possible to Mike Eastman via fax at (321) 972-8937, e-mail mreast@enviromet.com or mail to P.O. Box 2175, Goldenrod, FL 32733. **If you were included in last year's directory, there is no need to complete this form—we will be in touch.** The deadline for submitting listings is **Wednesday, March 6, 2019.**

Company name: _____
 Primary Florida address: _____
 City, State, Zip: _____
 Phone: _____ Fax: _____
 E-Mail: _____ Web: _____
 Additional FL locations: _____
 Contact person: _____ Title: _____
 EMR rate: _____ Speciality business designations: _____
 Services/capabilities: _____

Areas served: South FL Central FL Northeast FL Northwest FL

Equipment/tools: Hollow stem auger Air/mud rotary Dual rotary
 Sonic Direct push Diamond coring
 Cone penetration testing Other: _____

Other services: _____

Number of years in business: _____ years Total staff number: _____ In Florida: _____
 Operators: _____ Technicians: _____

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Contact us about: Advertising in the April/May 2019 issue of the *Specifier*
 Submitting a drilling column to the *Specifier*

EPA updates GIS tool for renewable energy lands conversion

By ROY LAUGHLIN

In late December, the U.S. Environmental Protection Agency announced access to an updated “tool for communities to use in turning current and formerly contaminated lands into renewable energy assets.”

The tool is an online GIS map overlay program that displays a large database of sites across the country that have been characterized as chemically contaminated and could be available for a renewable energy facility siting.

The database for this tool is extensive: 36,400 sites listed in EPA programs and about 97,500 sites listed in state programs of 17 partnering states, including Florida.

The tool opens with an outline map of the U.S., allowing the user to pick a location with the click of a cursor. From there, scrolling brings the map to a higher resolution until specific sites are shown.

At a higher resolution, the map changes to an aerial photograph of the site and adjacent land. A cursor click will bring up the database entry that describes the location of the site and the contamination there.

The tool offers a menu that includes sites deemed suitable for solar, wind, geothermal or biomass renewable energy and a short list of state policies applicable for the selected site.

Using screening criteria developed in collaboration with the National Renewable Energy Laboratory, EPA prescreened more than 130,000 sites for their renewable energy potential, according to a recent agency press release.

For this article, we looked at a dozen sites in Central Florida, most in rural areas. For all sites presented, information related to alternative energy generation suitability is absent from the data windows or links generated by the program.

For example, the site status for the Holopaw Dithane Spill draws up the Florida Department of Environmental Protection’s online summary of actions and progress at the site. Whether or not it would actually be available and useful for alternative energy facilities is an interpretation left entirely to the user.

The tool’s primary deficiency is that it is an undigested catalog of every listed contaminated site available from EPA databases, state databases and perhaps others. Those databases include Superfund, Brownfield grantees, RCRA Corrective Action and the Landfill Methane Outreach Program.

For Florida, all sites we examined were listed under DEP programs. Most of the sites would be too small for anything other than private property owner solar power generation.

This apparent absence of vetting brings up a more general program limitation. Because of Florida’s archaic electrical utility franchise monopoly laws, opportunities for

third-party solar power generation facilities (or any other renewable energy generation) are currently nil.

In addition to that protective legal moat around the profits of Florida’s franchise electrical utilities, local zoning and land-use rules are at least equally obstructive factors as monopoly privilege to siting commercial wind and biomass facilities.

However, the tool gives the user vast access to a large list of contaminated sites in 17 states, from medical facilities to filling stations to fertilizer spills along the sides of rural roads. Aerial photos indicated that many of the sites are not vacant land and are likely in current use, for example, filling stations, truck stops and rural homes with barns and service buildings in adjacent acreage.

In its press release, EPA quoted Acting Administrator Andrew Wheeler heaping praise on the updated tool.

EPA’s “RE-Powering Mapper is a valuable tool for the public use in transforming hazardous waste sites into assets that can serve the community for years to come,” he said.

The updated mapper includes two other user resources recently added. The first is a new training module that will “educate stakeholders about the various land-use considerations for pursuing renewable energy projects on contaminated lands, landfills and mine sites.”

Those include site control and ownership, liability concerns, site cleanup status and time line, and environmental permitting requirements.

Some of those characteristics are available for Florida sites through DEP online listings of contaminated sites in its programs. The final one, environmental permitting requirements, might be available from DEP staff as a starting point.

The EPA has successfully developed similar GIS database mapping tools released over the past decade to provide the public with contaminated site information.

Drawing on that expertise, the mapping tool itself works well and does for users what GIS visualization is expected to do. Although it is extensive, it is nevertheless under-vetted for its stated purpose.

The specificity of the database component for this tool’s stated purpose falls far short of the description given by the EPA’s announcement. There seems to be limited or no screening of suitable sites, and few if any sites have a characterization of the suitability based on size, location and proximity to, for example, transmission lines.

If absence of site data were Florida’s problem for growing renewable energy, this tool could be powerfully useful in spite of its limitations.

But Florida is a state with a crippled renewable energy portfolio that will not heal unless voters change the state’s franchise monopoly privilege granted to large corporate electricity producers.

did not exceed water standards.

In the preceding two cases, CCR impoundments contaminated the environment in ways that are indicated only partially by water analysis results.

There are still multiple rule revisions underway that clearly benefit a few wealthy corporations, will widely increase environmental contamination and will provide the public injured by the contamination only the hope that medical care costs will be covered by private insurance or public programs such as Medicare.

The Trump administration’s EPA has completed rollbacks or is in progress with rollbacks on 78 rules, according to a recent *New York Times* story, reflecting rule revisions that benefit primarily the fossil fuel industry.

EarthJustice’s successful judicial challenge of the coal ash storage rule revision gives some cause for optimism that the worst of some of the new rules and rule revisions may yet be challenged and modified to protect the public and the environment.

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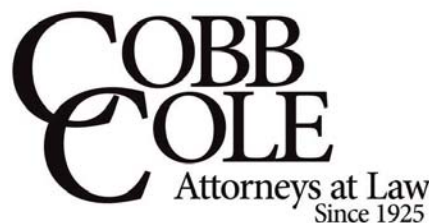
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FRC
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everyone,” said Langenbach.

Rula Deeb, PhD, senior principal civil and environmental consultant with Geosyntec in Oakland, CA, presented an opening session address that highlighted the identity, nomenclature and chemical characteristics that make perfluorinated compounds so durable in the environment.

Those properties limit the number of options for chemical destruction, leaving filtration and absorption with activated charcoal as the primary risk reduction strategies.

The U.S. Department of Defense is currently conducting a thorough investigation that will guide a nationwide military base cleanup, especially for the perfluorinated compounds in aqueous film-forming foams used for decades to suppress fires.

About a decade ago, conceptual and proof-of-principle papers describing biore-

mediation with amendments and specialized reagents such as zero valent iron dominated the technical presentations at FRC. The foregoing example is just one of several that ushered in entirely new methods for effective in-situ remediation.

That innovation wave is still moving through the environmental remediation industry. The evidence is in the many case studies at the conference this year that portrayed a remediation methodology capable of effectively reducing contamination us-



Photo by Roy Laughlin
Jim Langenbach, center, FRC conference chair, congratulates Mike Burcham, left, and Kyle Carlton for presenting the top two talks in the Young Professionals Session at FRC 2018 in Orlando.

ing high definition site characterization, a sophisticated series of in-situ treatments backed up by real-time measurements of progress, and post closure institutional controls.

The recent introduction of enhanced site models for remediation project planning and management is one exception to the generalization made above about the innovation wave.

Langenbach noted that use of conceptual site modeling is advancing rapidly and hybrid project strategies are already in use.

“Leveraging the enhanced conceptual site models and better understanding of contaminant distribution that comes out of that enhanced characterization help to develop more focused and targeted cleanup strategies,” yielding exceptional results, he said.

The conference included talks that demonstrated how well the optimization of remedial strategies—as the conceptual site model changes over the course of project—can be used to achieve objectives.

FRC opening speaker Michael Goldstein, Esq., principal with The Goldstein Environmental Law Firm in Coral Gables, described how brownfield redevelopment programs are working well for developers in the extremely active urban real estate market.

Developers are now undertaking and completing projects that a few years ago were not even considered. Such projects are critically dependent on long-term financing, which has been readily available for the past seven years.

As long as adequate liquidity in the real estate lending market occurs, brownfield remediation projects will likely continue.

The economy may be showing some early signs of slowing down, and the real estate market may soon be influenced by higher interest rates.

In Florida, however, urban areas are growing by infill, so even if the number of projects declines due to lending constraints, those undertaken are likely to demand the sophisticated approaches we’ve seen described over the last few years at the conference.

Vendor exhibits are the second pillar of the FRC conference, distinguishing it from the other soil and groundwater

cleanup conferences in the country with a primarily academic or engineering focus.

“There was a great showing by vendors this year and with the high attendance, plenty of opportunity for them to make contacts for future opportunities,” Langenbach noted.

FRC 2018 enjoyed a record number of exhibitors and sponsors, just under 100, as well as 520 participants, the highest attendance in its 24-year history.

Almost every conference attendee spends plenty of time going through the exhibition hall to get a broad view of services, reagents, technologies, software, rental equipment and more to back up their increasingly sophisticated projects in the field.

The Annual Regulatory Session is FRC’s third pillar, especially with the number and significance of programmatic changes that occur regularly.

This year, Jennifer Farrell, environmental administrator in the Florida Department of Environmental Protection Division

of Waste Management’s Waste Cleanup Section, kicked off the session with an overview of the state’s waste cleanup programs.

Austin Hoffmeister, program administrator for the DEP’s Petroleum Restoration Program, focused his talk on the recent activities of the petroleum cleanup program.

Brian Dougherty, PHD, environmental administrator in DEP’s Division of Waste Management, primarily focused his comments on the recent activities of the state’s Contaminated Media Forum.

This year’s regulatory session had an unexpected twist. The DEP speakers attended via the Internet due to travel restrictions imposed by then-Gov. Rick Scott on state personnel.

Fortunately, the state travel ban did not affect the attendance of long-time FRC participant Wilbur Mayorga, PE, chief of the Environmental Monitoring and Restoration

Division at the Miami-Dade Department of Environmental Resource Management. Mayorga focused his talk on the emerging issue of ammonia in groundwater in Miami-Dade County.

For the past two years, FRC presented a Young Professionals Session to encourage the involvement of more young professionals in the conference. Awards and cash prizes are provided to the top speakers, based on audience votes.

This year, Mike Burcham, PE, and environmental engineer with Geosyntec Consultants in Houston, TX, was awarded first place by his peers and Kyle Carlton, PG, senior geologist with Directional Technologies in Miramar Beach, took the runner-up prize.

For the past nine years, with the active involvement and financial backing of environmental cleanup professionals, the conference has supported a charitable giving effort through a charity golf tournament, silent auction and other fund-raising activities.

This year, FRC participants again raised over \$30,000 for the 2018 charity, the Pink Butterfly Foundation, bringing the total raised for charities to over \$200,000.

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FRC 2018 Notes QED acquires Snap Sampler technology

QED Environmental Systems Inc. acquired Snap Sampler technology from ProHydro Inc. in late 2018 allowing the sampling technology to move from small scale production to a worldwide endeavor.

The Snap Sampler, an ASTM Standard (D7929) sampling technology, is a passive grab sampler that is left in place for the period required for analytes of concern to enter the device and equilibrate with the surrounding sample environment.

Snap Samplers have been deployed at federal and state-lead Superfund sites, sites under state and local jurisdiction, and at international applications around the world, according to Snap Sampler founder, Sandy Britt, PG, CHG, now a senior hydrogeologist with QED.

Britt first introduced the technology at a field study at McClellan AFB in Sacramento in 2004.

“The method technically performed the best in the study. At the time, there were only stainless steel version of the VOC device, so it didn’t do as well in the cost comparisons, but that’s water under the bridge,” Britt said. “The all-analyte and dedicated plastic version of the device makes it a big cost-reducer for users.”

Subsequent to the McClellan work, Britt worked with researchers from the

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University of Waterloo to do additional test studies. Those also showed the Snap Sampler worked well for a variety of compounds and dissolved gases.

Vertebrae introduces new soil sampling techniques

Vertebrae Well Systems is demonstrating several new sampling techniques that will hopefully allow soil sample collection prior to Vertebrae installation, said Lance Robinson, PE, president and chief technology officer of the firm.

Vertebrae is currently using a unique repeatable horizontal well system for site assessment and remediation. The system can be installed quickly and allows up to 18 wells to be advanced in a single horizontal directionally drilled borehole.

The wells may include multiple screens

FEDFILE

From Page 2

million for another year of funding for approximately 50 community-based organizations.

The grants are intended to address environmental justice issues including local environmental and public health issues, and promote ways to address these issues at the local level.

Stakeholder involvement is a significant aspect of the funded efforts. Stakeholders include business, industry, local government and academia as well as grassroot organizations. Individual grants may be up to \$30,000 for one year.

The EPA's Urban Waters Program also contributes to the Environmental Justice Grants Program.

Last year, Urban Waters Program funding supported two of the ten projects awarded that focused on "reconnecting urban communities with their waterways while encouraging community stewardship."

The application period for the environmental justice grant program remains open until Feb. 15, 2019.

More information is available at <https://www.epa.gov/environmentaljustice/environmental-justice-small-grants-program>.

Reducing diesel emissions. In support of its decade-old effort to reduce diesel emissions, the EPA announced continued grant funding aimed at reducing emissions from the existing fleet of older diesel engines.

Up to \$40 million will be awarded under the Diesel Emissions Reduction Act grant program, subject to the availability of funds.

In announcing the award, the agency noted that funding will be prioritized for facilities in areas with poor air quality. Priority will also be given to projects that engage and benefit local communities, and applicants that demonstrate the ability to continue efforts to reduce diesel emissions after the project has ended.

Under the proposed grant formula, the EPA expects to award up to 80 assistance agreements. Applicants must request funding from their regional EPA office.

The maximum funding that may be requested varies by region. Region 4, which includes Florida and seven other southern states, will accept proposals requesting up to \$2 million in grant funds.

Information is available online at <https://www.epa.gov/cleandiesel>.

Lead enforcement, compliance. The EPA prepares an annual summary of lead enforcement and compliance assurance, the "Enforcement and Compliance Assurance Lead Bulletin."

The 2018 version is now available online. In an unusual move, the EPA press office made no claim of any progress in lead abatement or improvement in public health as a result of EPA and state partnerships.

In 2018, the agency provided just less than \$1.75 million in grants to reduce risks from exposure to lead-based paints. The program also provided assistance to Associated General Contractors of America aimed at reducing exposure to lead in paints.

ranging from three to 50 feet in length for precise, individual control. The Vertebrae system can easily be installed under obstacles and buildings, said Robinson.

Vertebrae data indicates that analysis of samples collected from their well system achieves excellent correlation with standard vertical well data.

The resulting high-definition coverage improves site characterization and helps eliminate data gaps that can result in prolonged remediation and higher costs.

Prosper introduces GI technology

Prosper Technologies has deployed a water treatment system using a patented gas infusion process for treating source water, wastewater, groundwater, surface water and coastal waterways.

Prosper is the exclusive owner of the gas infusion intellectual property developed by their ISOC technology device.

Don Ray, Prosper's sales director, noted that they have reduced the sale price of the ISOC by 47 percent, reduced the lease price by 64 percent and offered free ISOC for 1, 4 dioxane sites for pilot studies using propane gas.

All of their remediation systems can be trailer mounted with telemetry.

"This nanotechnology is the only one in the world that can instantaneously in-

fuse supersaturated levels of oxygen into liquids, while simultaneously removing a gas," said Ray. "The GI process provides more room for dissolved oxygen for projects in the following business sectors: agriculture, energy, water treatment, aquaculture, wellness & healthcare and many other consumer goods."

Prosper's technology is a unique bioremediation process with over a decade's application in the chemical-free treatment of environmentally impaired waters.

The technology has been used on five continents and thousands of aerobic, anaerobic and cometabolic sites.

New bottle for tumblers

Greenwood Products is offering a new two-liter HDPE bottle for tumblers.

Greenwood, a nationwide distributor of laboratory supplies and sampling containers, began by serving the environmental lab sector and has grown to include the food & flavors, personal care, nutraceuticals, biological and chemical industries.

The company maintains five regional warehouses distributing products by fleet delivery.

New digs for Carbonworks

Carbonworks USA, launched in April, 2018, announced they will move operations to a new facility in Atlantic Beach—

a 3,000-square-foot warehouse and office facility with additional concrete yard space for operations and equipment.

Carbonworks rents and sells liquid-phase and vapor-phase vessels, granular activated carbon and other specialty media, air strippers, filters and separators, offering design, delivery and on-site setup.

AEL expands Jax operations

Advanced Environmental Laboratories Inc. announced plans to expand its Jacksonville headquarters laboratory.

The 8,600-square-foot expansion is expected to break ground in April with move-in by the end of November.

The expansion will house dedicated lab spaces for LC/MS/MS for PFOS/PFAS analysis, TCLP/SPLP prep stations and an IMS prep area. Additionally, it will triple their volatiles lab space and add explosives by EPA 8330.

The firm currently operates seven NELAP certified laboratories in Florida with operations in Jacksonville, Fort Myers, Gainesville, Miami, Orlando, Tallahassee, and Tampa.

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Environmental advocacy groups file legal challenge to five BMAPs

By **BLANCHE HARDY, PG**

After years of advocacy, seven Florida Springs Council member organizations filed administrative challenges to five state basin management action plans in early January.

The FSC is composed of 47 member organizations representing over 360,000 Floridians. The groups advocate for preservation and restoration of Florida's springs and the protection of the Floridan Aquifer.

The January challenges addressed 15 impaired Outstanding Florida Springs and hundreds of smaller springs in North and Central Florida.

"While the basin management action plans appear to represent substantial and impressive efforts, when analyzed more closely they are revealed to be just more smoke and mirrors, with little hope to accomplish the statutory ends—restoration

of water quality in Florida's outstanding springs as soon as possible, but at least within 20 years," said John Thomas, veteran environmental attorney for the council.

The challenged BMAPs include the Santa Fe River and associated springs BMAP challenged by Our Santa Fe River Inc., Ichetucknee Alliance Inc., Ginnie Springs Outdoor LLC and Jim Tatum; the Silver Springs and Rainbow Springs BMAP including 30 associated named springs challenged by Silver Springs Alliance Inc. and Rainbow River Conservation Inc.; the Suwannee River BMAP including seven Outstanding Florida Springs challenged by the Sierra Club and separately by Thomas Greenhalgh; the Volusia Blue Spring BMAP challenged by Save the Manatee Club; and the Wekiva and Rock Spring BMAP challenged by Friends of the Wekiva River Inc.

The FSC member groups selected the

listed BMAPs "because they fail to meet even the most basic requirements of law, including identifying a plan and projects to meet state water quality goals."

The Florida Department of Environmental Protection's basin management action plans provide the regulatory framework for restoring water quality in polluted waters.

FSC members met with state agencies repeatedly to express concerns and request revisions to the draft BMAPs prior to their adoption. Despite their efforts, the plans were not adequately modified to meet members' concerns before adoption.

FSC's recently filed administrative challenges are the first BMAP challenges in state history.

"If allowed to go into law, these plans will sanction the demise of 15 of Florida's most ecologically and economically im-

portant springs," said Ryan Smart, the new executive director of the Florida Springs Council. "By filing these challenges, springs groups are banding together and standing up to save their local treasures."

According to the council, there are several common defects in the plans. Complaints include questionable modeling used, inadequate cleanup plans for septic tanks, failure to account for future growth and failure to include legislatively mandated details about corrective projects.

"We are challenging the Wekiva and Rock Springs BMAP because the plan will not restore and protect our springs," said Friends of the Wekiva River Secretary Mike Cliburn. "It will give a false sense of security to local decision-makers and the Florida Legislature that the springs are on the road to recovery."

The clay formula is the result of a partnership with the Woods Hole Oceanographic Institution, the University of South Florida and the FWCC.

The method involves a modified clay mineral that, when dispersed into the ocean surface, binds with red tide cells and the toxins they produce, and carries them to the sea floor.

RULING From Page 5

"During this final hearing, the board held a break in the proceeding to allow Intervenors to update the GDP by removing an estuary enhancement area and retaining wall. Petitioners sought removal of these elements from the GDP prior to the final hearing, and, after board members also indicated their concerns, Intervenors ultimately removed them voluntarily.

"During an extended break in proceedings, Intervenors removed all indications of the estuary enhancement area and retaining wall from the GDP."

Noting features opposed by the plaintiffs were removed from the development plans on the final hearing day, Smith disagreed that they were denied adequate time to review changes to the development plan.

Brookes said the plaintiffs are disappointed with the ruling and are considering their options for appeal.

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nior research scientist and administrator and harmful algal bloom group leader for FWCC's Fish and Wildlife Research Institute, and led earlier algal bloom research at the University of South Florida's College of Marine Science.

Florida's red tide has devastated the state's fisheries and resulted in the deaths of numerous marine animals. The impact to bottlenose dolphins is so severe that red tide-related dolphin deaths are considered a federally designated unusual mortality event.

Mote has conducted more than four decades of red tide research. They have developed both monitoring tools such as the Beach Conditions Reporting System and patented innovative technologies such as an ozone system that is currently being field-tested for red tide mitigation in high-impact areas and a new clay formula that helps mitigate impacts from red tide.

NOTES

From Page 3

agenda noted that "with the current state of the recycling market, there is little if any market for the processed collected recyclable materials."

This has created a situation where these materials, especially paper products, sit in storage for a long period of time and can become a fire hazard.

With the downturn in the market, the recycling program has proven to be extremely costly for municipalities, many of which have chosen to suspend recycling.

City staff recommended and received approval for a temporary suspension of the current recycling program until recycling markets improve. The suspension was effective Feb. 1.



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