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April/May 2020

Volume 42, Number 2

Annual Drillers Directory 5

Environmental and geotechnical drillers serving our state (that returned our 2020 questionnaire) are listed.

Waters of the U.S. rule 6

The U.S. Environmental Protection Agency finalized its Waters of the United States rule, eliminating protections for some waterways.

Florida solar 8

Florida's commercial and industrial companies, as well as other electricity consumers could obtain price advantages by conscientiously choosing renewable energy, reports trade association Advanced Energy Economy.

Jacksonville dredge 10

The Jacksonville Port Authority is seeking additional funding for deepening the Jacksonville Harbor and channel of the St. Johns River.

Miami-Dade ash reuse 10

Miami-Dade County is studying options for the beneficial reuse of bottom ash from its solid waste incinerators.

Water reuse action plan 12

Our opinion: A highly embellished EPA "action plan" for water reuse appears more like an illuminated manuscript than the usual technical review for policy implementation produced in the past.

Departments

Federal File	2
Florida Notes	3
Water Watch	4

Got a story lead?

Got an idea for a story? Like to submit a column for consideration? Let us know. 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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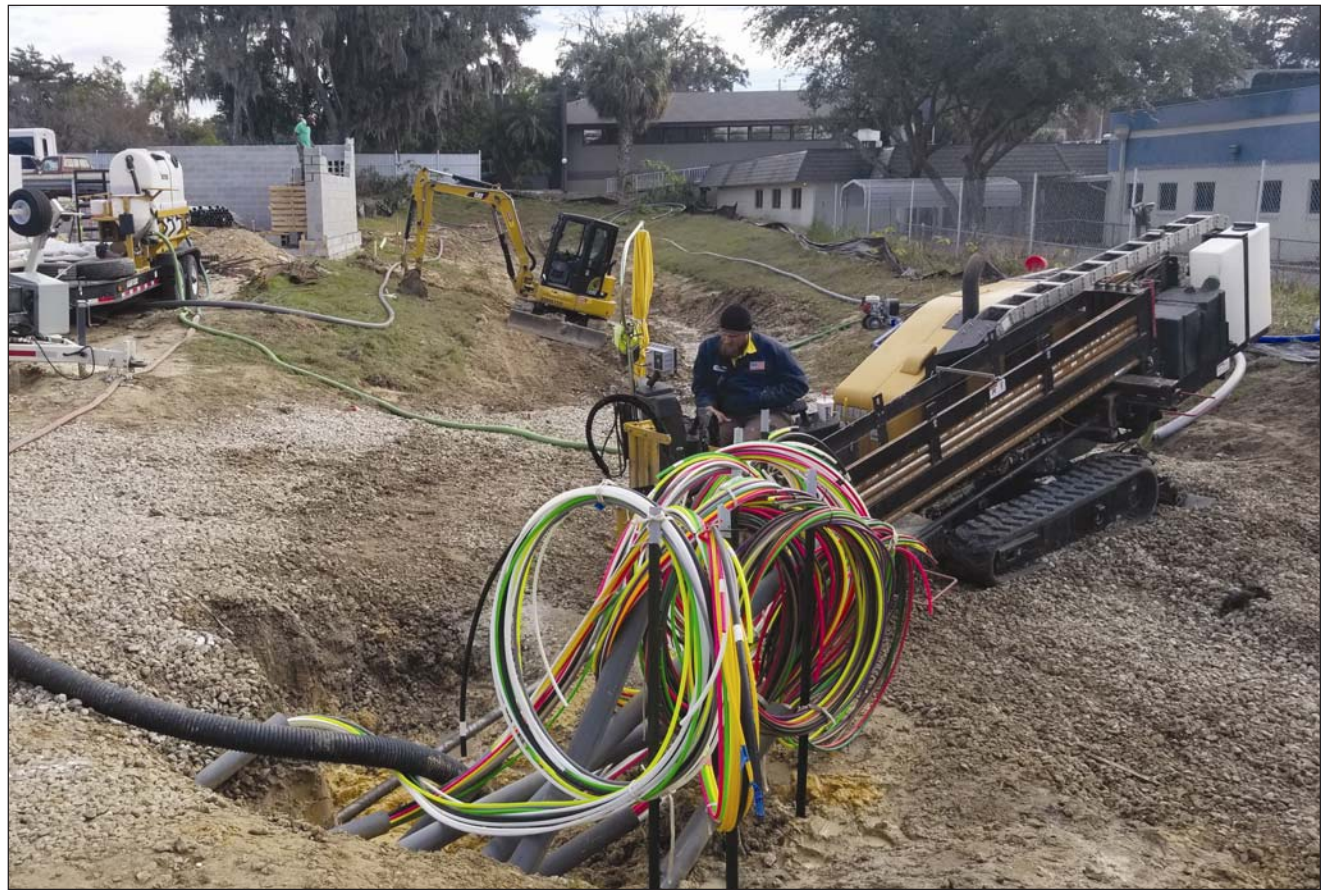


Photo courtesy of ENRx Inc./Vertebrae Well Systems

Drilling technician installs well systems under USTs and dispenser islands during on-site construction activities at gas station. Sophisticated well drilling capability aided in the installation of 11 horizontal well systems consisting of 52 independent well segments, utilized for ozone sparging. See 2020 Drillers Directory on Page 5.

Florida legislative session allocates funding for critical environmental programs

By ROY LAUGHLIN

Although this year's legislative session did not feature environmental programs, Florida lawmakers did pass several bills with important water quality protections, remediation funding, septic tank program changes and others.

The governor's asks

Gov. Ron DeSantis requested \$150 million for grants to local government agencies to make wastewater and stormwater management upgrades, including septic-to-sewer conversions. Up to a 50 percent local government match would be required to receive grant funding.

The governor's funding proposal also would have appropriated up to \$10 million for coral reef restoration projects, a recommendation of the state's Blue-Green Algae Task Force.

Basin management action plans and total maximum daily load determinations would be accelerated with a \$50 million infusion. The money would help underwrite green infrastructure, and land acquisition and restoration plans to help meet TMDL goals.

DeSantis also requested \$10 million for innovative technology development to mitigate harmful algae blooms.

He proposed \$10.8 million for water quality monitoring and a continuation of water quality public information dissemination, also task force recommendations.

The governor also sought \$50 million from the Land Acquisition Trust Fund to protect springs in the state.

Clean Waterways Act

The Legislature approved the second year's \$625 million installment on DeSantis' Everglades recovery plan.

The Clean Waterways Act, HB 405/SB 712, passed. The Clean Waterways

Act included many of DeSantis' water quality objectives outlined above.

And, it implemented many of the suggestions made by the Blue-Green Algae Task Force and provided funding for some regional water quality initiatives in areas including the Indian River Lagoon.

The bill also authorized transferring oversight of the state onsite sewage program from the Department of Health to the Florida Department of Environmental Protection, a move that has been long advocated by environmental activists.

Along with oversight transfer, DEP is required to prepare and file reports on septic-to-sewer conversions with the state Office of Economic & Demographic Research.

With this new authority, DEP is also

charged to "implement an approval process for the use of specified nutrient reducing onsite sewage treatment and disposal systems by a specified date."

The legislature tasked DEP specifically with implementing the regulatory details in the bill.

Public wastewater utilities are now on notice to keep their systems in good condition, with lawmakers giving DEP instructions "to adopt rules relating to domestic wastewater collection and transmission system pipe leakages and inflow and infiltration."

This portion of the rule set requirements for annual reporting as part of the permitting process.

SESSION
Continued on Page 9

New research provides input on harmful algal blooms in IRL

By ROY LAUGHLIN

Recently published research provides useful insight into the accumulation of two algal toxins by bottlenose dolphins in the Indian River Lagoon.

The IRL is a waterbody with a recent history of ecologically destructive harmful algal blooms.

The research paper presented a survey of two algal toxins, saxitoxin and brevetoxin, in liver tissue of dead bottlenose dolphin collected from both the lagoon and from Atlantic beaches near the lagoon.

The liver tissue, which was the subject of the study, was obtained by autopsy.

The research team included Spen-

cer Fire, PhD, assistant professor of biological sciences, Florida Institute of Technology; FIT graduate student Jeremy Browning; and Wendy Noke Durden, MS, and Megan Stolen, PhD, both research scientists with the Hubbs SeaWorld Research Institute.

The research team identified and measured algal toxins from two different marine dinoflagellates.

The "red tide" dinoflagellate *Karenia brevis* produces brevetoxin, a complex 10- or 11-ring polyketide compound.

Saxitoxin, a three-ring alkaloid, was the second microalgal toxin studied. It is produced by both cyanobacteria and

TOXINS
Continued on Page 11

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EPA announces proposed drinking water standards for PFOS, PFOA

Staff report

The U.S. Environmental Protection Agency announced proposed drinking water standards for perfluorooctanesulfonic acid, or PFOS, and perfluorooctanoic acid, or PFOA, in drinking water.

The agency is conducting the determination using the Safe Drinking Water Act's Contaminant Candidate List evaluation process.

On Feb. 20, the agency opened the public comment period on proposed regulatory determinations for eight contaminants listed on the fourth CCL, two of which are

the perfluorinated compounds named above.

The EPA is seeking comments on potential monitoring requirements and regulatory approaches. Although the agency announced the two perfluorinated compounds added to the CCL, regulatory documents had not been posted as of the first week in March.

The EPA will accept public comment for 60 days following publication.

Unless and until the EPA establishes a drinking water standard for PFOA and PFOS, concentrations of these two compounds in drinking water are not regulated,

but are under the pale shadow of a 70 parts per trillion "lifetime health advisory."

These two substances were the most commonly used perfluoro compounds in aqueous film forming foams used for fire fighting.

The U.S. Department of Defense has largely discontinued their use, and reportedly they are no longer manufactured in the U.S.

The DoD has completed a nationwide survey and measurement exercise of military bases and former military bases to evaluate where groundwater is contaminated with the compounds.

The DoD also made a commitment, which is in its early stages, to remediate PFAS in soil and groundwater at the sites.

At a number of bases, DoD has already provided advance drinking water treatment to remove PFAS from drinking water sources.

Along with adding PFOA and PFOS to its fourth CCL list, the first step that may yield an enforceable drinking water standard, EPA also issued a supplemental proposal to restrict the manufacturing or importation of specific persistent long-chain polyfluorinated alkyl substances.

This effort was announced on Feb. 19, 2020, but the EPA provided no additional information about the scope of the effort in its press release on its perfluorinated alkyl compound action plan webpage.

EPA 2019 enforcement. In 2019, the EPA logged voluntary self-disclosed violations at more than 1,900 facilities across the country. The agency had reported "an estimated 1,560" self-reported facility violations in 2018.

The EPA said that regulated entities invested \$400 million more in fiscal 2019 compared to 2018, spending a total of more than \$4.4 billion for actions and equipment to help achieve environmental compliance and control pollution.

The agency also announced \$471.8 million in combined federal administrative and judicial civil penalties and criminal fines. This ranked 2019 as the fifth highest year for such fines and penalties over the past decade.

The agency said that these enforcement settlements reduced, treated or eliminated an estimated 347.2 million pounds of contaminant emissions.

Emission reduction from mobile sources also decreased by 7.56 million pounds, a 0.66 million-pound difference

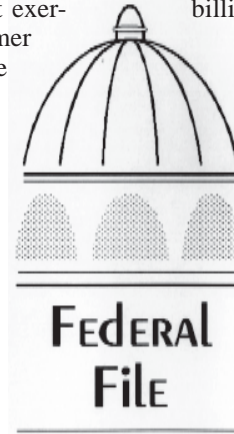
from the 2018 decline of 6.9 million pounds.

The EPA opened 170 criminal cases, up from 128 cases in fiscal year 2018. 137 criminal defendants were charged, an increase from 107 in fiscal year 2018.

The enforcement efforts have resulted in commitments for \$570 million in new site cleanup work. The EPA received \$238 million for reimbursement of EPA's costs and more than \$108 million in oversight billings. The total was \$961 million, \$349 million more than in fiscal year 2018.

In fiscal year 2019, EPA added six sites to its list where cleanups and redevelopment efforts are underway. The new total is now 160 sites subject to Superfund enforcement and cleanup efforts.

The agency currently has six national compliance initiatives underway. Priority enforcement efforts include reducing children's exposure to lead, particularly that in lead-based paints.



2018 TRI report shows more recycling. In 2018, the total release of toxic wastes in the U.S. dropped by nine percent. The 2018 numbers just announced are the latest available.

As has been the usual pattern of waste disposal, on-site land disposal—dominated by mining wastes—were the largest disposal category. In 2018, they totaled 2,556 million pounds, a decrease from the prior year's 2,734 million pounds.

Off-site solid waste disposal amounted to 427 million pounds, an increase from 2017's 388 million pounds. On-site wastes in water disposal amounted to 195 million pounds, just slightly more than the prior year's 191 million pounds. On-site air emissions were 581 million pounds, the same total reported in 2017.

In its analysis, the agency noted that, in the single year between 2017 and 2018, the total disposal decline was three percent, largely dominated by a decrease of six percent in on-site land disposal. Off-site disposal increased by 11 percent.

The agency noted that, nationally, "the percent of industrial TRI chemical waste that is recycled instead of released continues to increase."

They also noted that releases and emissions of TRI-inventoried chemicals from manufacturing sector chemicals "were lower than expected based on economic activity."

The number of reporting facilities continues to show a downward trend. In the years 2014 - 2018 inclusive, the number of reporting facilities totaled 22,338; 22,277; 21,959; 21,703 and 21,539.

The agency characterized the decrease in reporting facilities between 2007 and 2018 as follows: "The number of facilities reporting to the TRI Program declined by eight percent overall, although the count has remained relatively steady since 2010."

The analysis of the TRI data, which is extensive, is available online at <https://www.epa.gov/trinationalanalysis/releases-chemicals>.

Funding for State Revolving Fund. Congress increased funding for EPA contributions to State Revolving Funds nationwide by \$2.7 billion.

Florida will receive \$97,527,000 from that appropriation.

Florida's Clean Water SRF will receive an additional \$54,183,000. This funding could be used to upgrade wastewater infrastructure, wastewater recycling and reuse, and stormwater management facility construction.

Congress also appropriated \$1.07 billion in new grant funding for the Drinking Water SRF also distributed through the EPA.

Florida will receive \$43,344,000 as its

FEDFILE
Continued on Page 13

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Florida land purchase halts permitted oil well drilling

Staff report

The state of Florida recently purchased 20,000 acres of wetlands within the Everglades Protection Area in Broward County. Gov. Ron DeSantis and Kanter Real Estate LLP announced the agreement to purchase land in Water Conservation Area 3.

"One of my administration's top environmental priorities has been expediting Everglades restoration," said DeSantis. "Today, we take another step in the right direction by reaching this agreement between DEP and Kanter Real Estate that will allow for the purchase of 20,000 acres of critical wetlands."

This purchase is particularly notable as Kanter had a Nov. 16, 2016, Department of Environmental Protection notice of denial for an oil and gas drilling application overturned in court roughly a year ago.

Kanter proposed exploratory drilling in the Sunniland Trend.

The land purchase will prohibit the drilling and add to 600,000 acres currently preserved for Everglades restoration and management.

Critical habitat protection in Sarasota County. The Florida Fish and Wildlife Conservation Commission and DEP will manage recently approved Florida Forever land acquisitions in Manatee, Sarasota and Columbia counties.

The acquisitions were announced by the governor and Florida Cabinet in February. Among them is the Orange Hammock Ranch in North Port, Sarasota County.

Florida reached a deal to purchase the property for \$21 million from Orange Hammock Ranch LLC.

The cost of the purchase will be split between the state at \$19.5 million and the Conservation Foundation of the Gulf Coast at \$1.5 million.

"As a major link to conservation efforts, Florida's land is of the utmost importance to our environmental initiatives," said DEP Secretary Noah Valenstein. "Today's approvals will protect Florida for generations."

The Orange Hammock acquisition will protect almost 6,000 acres of Florida habitat, the largest undeveloped property left in Sarasota County.

"By continuing to invest in these projects, we are prioritizing Florida's future as our population continues to rapidly grow," Valenstein said.

The purchase will preserve critical dry prairie habitat.

Cape Coral fined for mangrove "massacre." DEP recently issued a consent order, including \$7,000 in fines, to the city manager of Cape Coral for unpermitted mangrove alteration.

Characterizing the impact to mangroves at Four Mile Cove, one expert called it "a massacre" in local news reports.

The consent order stated that "an inspection by department personnel on Aug. 2, 2019, revealed that approximately 6,400 square feet of mangroves were altered, and 2,178 square feet of wetlands were dredged and filled, without a valid permit from the department."

The fine includes \$5,500 in civil penalties and \$1,500 for costs and expenses incurred by the department.

Several possible violations of Florida law were observed during the inspection.

Department personnel noted unauthorized dredge and fill impacts to wetlands, unauthorized mangrove alteration, failure to install and utilize appropriate best management practices during inwater construction, and failure to obtain coverage under a National Pollutant Discharge Elimination System construction general permit for construction activities that disturbed one or more acres of land.

The city had 30 days to pay the fine.

FPL solar plan approved. The Florida Public Service Commission approved a Florida Power & Light Co. plan to add 20 solar-powered plants by mid-2021.

The \$1.8 billion endeavor was dubbed as their "SolarTogether" program.

FPL said that SolarTogether is "the nation's largest community solar program, helping make Florida a leader in solar energy."

Each new plant is proposed to provide 74.5 megawatts of capacity.

Both commission staff and the state utility watchdog Office of Public Counsel recommended that the commission deny FPL's proposal.

Under SolarTogether, customers can elect to pay more on their utility bill to support solar and then, over a number of years, receive credits resulting in an eventual "pay-back."

FPL estimated the break-even point at seven years.

The Office of Public Counsel was concerned about customers who choose not to participate, but whose bills still may fund parts of FPL's associated costs of operation. These customers might not realize any benefit from the program for decades.

Commission staff also noted benefit to

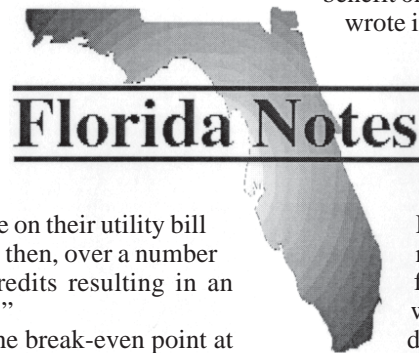
a select few based on the utility's marketing promotions rather than the needs of all the utility's customers.

"Citizens are in favor of solar and bona fide plans to improve Florida's environmental condition; however, citizens do not favor forcing the vast majority of customers to fund vanity projects and take on all risks of those projects which primarily benefit only a few participants," OPC wrote in a brief filed with the commission.

Cleanup contract. Hull's Environmental Services Inc. executed a five-year agreement with DEP to provide emergency response cleanup services for the department's Northwest, Northeast and Central districts.

DEP's Office of Emergency Response lists Hull's as operating in 13 counties.

Hull's is a woman-owned small business with offices in Florida, Georgia, Oklahoma and Texas.



NOTES
Continued on Page 16

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Toho Water Authority to receive \$40 million in WIFIA wastewater funding

Staff report

Kissimmee's Toho Water Authority will receive a \$40 million grant to improve the efficiency of its existing sewer and wastewater management systems.

That improvement will support the city's growth without the need to expand its wastewater treatment plant.

Specifically, the grant will allow the authority to repair, rehabilitate and replace sewer lines and mains. More than 900,000 feet of gravity mains will be renovated.

Benefits include reduced rates of inflow and infiltration, plus a reduction in the number of sanitary sewer overflows.

The project, their Accelerated Gravity Sewer Assessment and Rehabilitation project, will cost \$81.9 million. Funding from the federal Water Infrastructure Finance and Innovation Act will cover up to \$41.1 million, near the statutory proportion limit for WIFIA participation.

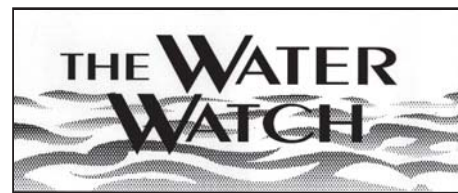
The WIFIA portion is a low-interest loan that will save the authority about \$7.9 million in interest rates compared to the

usual cost of commercial bond financing.

Congress established WIFIA in 2014 to provide low interest loans for infrastructure projects that improve the efficiency of existing sewer and wastewater management systems.

The implicit goal is to support community growth without the need to expand existing treatment facilities.

WIFIA funding will support up to 49 percent of a project. The remainder must come from other sources, including state revolving funds.



diversion project that will improve Indian River Lagoon water quality.

At its Feb. 13 meeting, the board approved cost-share funding for the Crane Creek/M-1 Canal flow restoration project.

The project will treat stormwater runoff and then return most of it to the St. Johns River instead of allowing it to flow to the Indian River untreated, as is now the practice.

Project sponsors said that the diversion will reduce the loading of nitrogen, phosphorus and sediments to the Indian River.

The plan calls

for construction of an operable weir near the coastal ridge, a stormwater pump station and a stormwater treatment area to cleanse runoff before it is pumped to the St. Johns River.

Cost-share partners include Brevard County's Save Our Indian River Lagoon program, which is contributing up to a million dollars. DEP is contributing nearly \$2 million. SJRWMD will contribute the remainder of the expected \$10.5 million total.

The district will also manage design and construction of the project, and handle its operations and maintenance needs.

Construction is anticipated to begin August, 2020.

DEP announces Plant Operations Excellence Awards. DEP recently announced the recipients of its 2019 Plant Operations Excellence Awards.

The awards are split into two categories: one for domestic wastewater treatment plants and the other for drinking water plants.

Three utilities received awards in the domestic wastewater treatment plant category: Sandestin Water Treatment Plant, Key Largo Wastewater Treatment Plant and the city of Dunedin Wastewater Treatment Plant.

Ten utilities received excellence awards in the drinking water treatment plant category. They are: Seminole County Southeast Regional Water Treatment Plant, city of Clermont East Water System, South Walton Utility Company Inc., Naval Air Station Whiting Field, Collier County South Regional Water Treatment Plant, the Island Water Association, MSKP Town & Country Utilities, town of Jupiter Utilities; city of Stuart Water Treatment Facility and Tampa Bay Regional Surface Water Treatment Plant.

These annual awards recognize excellence in operation, maintenance, innovative treatment, waste reduction, pollution prevention, recycling and other notable achievements of Florida's drinking water and domestic wastewater facilities.

"These awards recognize facilities that demonstrate a special commitment to excellence in management through dedicated professionalism," DEP officials noted.

Awards are given in each of the following types of drinking water facilities: small community water systems, medium community water systems, large community water systems and noncommunity water systems.

Wastewater treatment system awards are also granted on a similar basis, but only three size categories are considered for wastewater treatment plants.

DEP is now accepting applications for its 2020 Plant Operations Excellence Awards.

Additional information is available on applications that may be obtained by contacting the water and domestic wastewater programs at DEP districts, delegated domestic wastewater local programs and county health departments offices.

Lake Okechobee Coalition welcomes new member. In February, Charlotte County officially joined the Lake

Fort Lauderdale fined \$1.8 million for sewage spills. Since December, 2019, the city of Fort Lauderdale's wastewater collection system experienced breaks six times, followed by additional spills during a week and a half in late January and early February.

The spills released 212 million gallons of sewage into Fort Lauderdale's neighborhoods and waterways.

Local newspapers reported that Gov. Ron DeSantis directed Florida Department of Environmental Protection Secretary Noah Valenstein to assess every available penalty.

Consequently, DEP issued fines of \$1.8 million, due on March 31. The total included \$341,500 for the response to the spills, a civil penalty of nearly \$1.5 million and \$5,000 for administrative costs.

Fort Lauderdale Mayor Dean Trantalis said that the city has no money available to pay the fine.

In other cities including Tampa, DEP waived fines under consent agreements that ensure that municipalities spend the fine amounts for infrastructure renovation. Under Gov. DeSantis, apparently, this policy used since the Bush administration in the early 2000s will change.

Statements attributed to both Valenstein and DeSantis indicate that local governments now must pay more attention to budgeting for infrastructure maintenance and do the work in a timely and effective way or face significant financial consequences.

Everglades City wastewater plant renovation. Since at least 2016, Everglades City's wastewater treatment plant has been out of compliance for a number of reasons. But relief is now in the works.

The city will receive \$295,000 from the Florida Department of Economic Opportunity for priority repairs to its treatment plant.

The primary symptom of the plant's noncompliance is that its percolation pond has total nitrogen levels exceeding its permit limits. The grant funding will be used to address this through repairs and renovations.

Everglades City has spent its own money to fix some of the problems at the plant. Hurricane Irma damaged it a couple of years ago, setting back efforts to meet all of the compliance issues.

What the city needs is a new wastewater treatment plant, but that could cost up to \$4 million.

Wastewater treatment plant replacement would not only bring the current plant into compliance, but it would also expand capacity so that the Plantation Island subdivision could convert from septic tanks to centralized treatment connections.

The conversion is a part of a master plan being prepared by the Florida Rural Water Association.

It's still going to take some time and money, but Everglades City is committed to bringing its wastewater treatment system into compliance.

Cost-share funding for canal restoration. The St. Johns River Water Management District Governing Board approved funding for a water treatment and

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Ambient Technologies 4610 Central Ave. St. Petersburg, FL 33711 (727) 328-0268 Fax: (727) 328-2477 Carlos Lemos, President info@ambienttech.com www.ambienttech.com	0.81	27	32/29	Environmental and geotechnical drilling; monitoring wells; soil & groundwater sampling; in-situ testing; inclined probing; rock coring, concrete coring; dewatering well points; methane recovery wells; injection wells for environmental remediation; split-spoon, Shelby tube soil sampling; mud rotary, auger borings (solid and hollow) & DPT; installation of piezometers and inclinometers; SPT with automatic hammer	■	■			■	■		1) Geophysical surveys for environmental, geotechnical and sinkhole investigations 2) Environmental, Geotechnical and Geophysical Field Services for Project Site Assessment and Investigations 3) MBE, DBE, SBE, SBD 4) GPR, EUL, Magnetometer, Vacuum Excavator, ERI Electric Resistivity Imaging, GPS, Pipe & Cable Locators, Swift 56 and 112 Channel Resistivity Systems 5) Serves entire state, Central America and Caribbean
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Custom Drilling Services Inc. 100 Kid Ellis Rd. Mulberry, FL 33860 (863) 425-9600 Fax: (863) 425-9620 Michael Johnson, Vice President mdjohnson@customdrilling.net www.customdrilling.net	.78	30	38/38	Environmental drilling: DPT services	■	■			■	■		1) Well abandonment, RC sand sampling, Rotary and DPT 3) Small business 4) NA 5) Serves entire state
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Environmental Drilling Service Inc. 4712 Old Winter Garden Rd. Orlando, FL 32811 (407) 295-3532 Fax: (407) 296-3957 Doug Leonhardt, President doug@edsenvironmental.com Carl Leonhardt, Vice President carl@edsenvironmental.com www.edsenvironmental.com	NA	31	14/14	Full-size sonic (20' stroke), mini sonic, DPT, HS auger, mud/air rotary drilling, sampling and well installation	■	■			■	■	■	1) Full service contract drilling firm offering environmental, geotechnical, exploratory and infrastructure drilling 2) NA 3) NA 4) NA 5) Serves entire state
Groundwater Protection 2300 Silver Star Rd. Orlando, FL 32804 (407) 426-7885 Fax: (407) 206-0856 Brian Shutts, Owner brian@drillprollc.com www.groundwaterprotection.com	0.73	34	32/32	Monitoring and remediation well installation; injection and well abandonment services; horizontal well installation. Auger, DPT, Sonic, angle drilling	■	■			■	■		1) Remediation systems, injection 2) Sonic, difficult access/low clearance angled wells 3) Certified small business, FL Water Well Contractor, NC/SC Water Well Contractor, Bonded in GA 4) Well abandonment 5) Serves entire state and Southeast U.S.
Huss Drilling Inc. 35920 State Road 52 Dade City, FL 33525 (352) 567-9500 Fax: (352) 567-6646 RJ Huss rj@hussdrilling.com www.hussdrilling.com	0.78	30	31/31	Environmental, geotechnical, exploration deep wire line coring and water resource drilling services	■	■			■	■	■	1) Well rehabilitation 2) Environmental, geotechnical and exploration drilling 3) NA 4) ATV rigs, truck mtd. and track mtd. 5) Serves entire state, GA, AL and SC
JAEE Environmental Services Inc. 3010 Peachtree Cir. Davie, FL 33328 (954) 476-8333 Fax: (954) 476-8347 Willie Smitherman, President jae@bellsouth.net www.jaeenv.com	0.96	29	14/14	Soil and groundwater sampling, installation of monitoring wells, well abandonment, bioremediation injection	■				■			1) Bio-injecting, well abandonment 2) Sampling using Geoprobe equipment 3) Water well contractor 4) NA 5) Serves entire state
National Env. Technology Inc. 12435 Jess Walden Rd. Dover, FL 33527 (813) 655-3612 Fax: (813) 655-3652 Ross Chinander, President netross@tampabay.rr.com www.netdrilling.com	0.88	27	6/6	Environmental and geotechnical drilling, and direct push services	■	■			■			1) NA 2) Geotechnical and environmental drilling and dewateringservices 3) NA 4) Limited access equipment 5) Serves entire state
Preferred Drilling Solutions Inc. 8820 66th St. N. Pinellas park, FL 33782 (727) 561-7477 Fax: (727) 561-9028 Chad Campbell, President chad@pdsflorida.com www.pdsflorida.com	0.82	19	74/74	Environmental drilling, direct push and remediation services. Statewide service with locations in Pinellas Park, Lakeland, Live Oak, Milton, Bonifay and Pompano Beach	■	■			■	■		1) Remediation services 2) Environmental services provider with focus on safety, quality and service 3) NA 4) NA 5) Serves entire state
Terracon Consultants Inc. 1675 Lee Rd. Winter Park, FL 32789 (407) 740-6110 Fax: (407) 740-6112 Erik Bluemke, Drilling Department Manager erik.bluemke@terracon.com www.terracon.com	.066	55	5,000/336	Terracon is a 100 percent employee-owned consulting engineering firm providing multidiscipline services in environmental, geotechnical, construction materials testing and facilities architecture	■	■			■	■	■	1) Solid-stem augers, hollow-stem augers, odex, rock coring (NQ, HQ and PQ), rotary (air, mud, wash), casing advance (N&H) and down-hole hammer 2) Conventional field drilling and sampling methods as well as in-situ testing methods combined with geophysical investigations 3) NA 4) NA 5) Serves entire state from 11 offices
Walker-Hill Environmental Inc. 5983 Commerce Road Milton, FL 32583 (850) 564-1876 Chris Hayslip, Direct Image Manager chris@whenv.com www.whenv.com	NA	31	60/12	Environmental drilling and remediation services	■	■			■	■	■	1) NA 2) Environmental drilling and remediation services 3) NA 4) MIHPT, OIP, LIF 5) Serves Northeast and Northwest Florida

Waters of the United States rule less liquid after EPA revision

By ROY LAUGHLIN

In late February, the U.S. Environmental Protection Agency finalized its revised Waters of the United States rule. The Trump administration suspended the 2015 Obama administration rule that had expanded WOTUS' definition of waters of the U.S. to include seasonal and ephemeral water bodies, as well as those with subsurface connections.

The Obama administration's WOTUS definitions protected a large number of disputed water features predominantly in states between the Rocky Mountains and the Mississippi River, and in California.

The Trump administration suspended the 2015 rule before it went into practical effect in two stages. Waters that qualify as waters of the U.S. are now grouped into four categories: traditional navigable waters and territorial seas; perennial and intermittent tributaries to those waters; specified lakes, ponds and impoundments; and wetlands adjacent to jurisdictional waters.

The new rule also designated 12 excluded categories. According to an EPA press release, waters in these excluded categories are features "that only contain water in direct response to rainfall, groundwater, many ditches, prior converted crop-

land and waste treatment systems."

The major change is that the set of two new rules voided categories applying to jurisdictional ditches and impoundments.

The revised rule now defines water levels based on "typical years."

The EPA said that it will prevent standards from being set for years of extreme drought or floods.

The definition of "adjacent wetlands" requires that those wetlands are meaningfully connected to other jurisdictional waters, for example, by directly abutting or having regular surface water connections with jurisdictional waters. Subsurface flow no longer applies.

The rule's blanket rejection of subsurface connection with waters of the U.S. is particularly significant in Florida. No natural surface water body in Florida lacks significant subsurface flow or connection to waters of the U.S.

A continuous link exists from Florida's surface waters through a porous karst aquifer to still-accepted waters of the U.S. Some of these water flows are significant.

In the Suwannee River Water Management District, for example, several rivers flowing out of the Okefenokee Swamp flow underground and re-emerge several miles downstream as from springs whose surface flows enter the Suwannee River.

By excluding jurisdictional ditches and impoundments from waters of the U.S., the Everglades restoration plan is now based on an entirely new foundation.

Substantial portions of the water flow that goes through canals and stormwater treatment areas towards Everglades National Park may no longer be protected by the revised rule. It could be changed by the decision in a single lawsuit.

In the second half of its effort to rescind the 2015 Clean Water Rule definitions of waters of the U.S., the EPA issued the following rule, "Definition of Waters of the United States – Re-codification of pre-existing rules." That rule recently became effective.

The rule may have a significant effect on Florida.

First, development in Florida is routinely affected by "jurisdictional wetlands" permitting. Both Florida and the EPA, administered through the U.S. Army Corps of Engineers, are currently responsible for issuing wetlands permits.

In 2018, then-Governor Rick Scott announced the intent to have Florida take over wetland permitting review from the corps. The Florida Legislature approved the rule quickly.

This spring, the effort is again in the news.

On Feb. 1, the Florida Department of Environmental Protection posted two legal notices indicating that they are moving forward with their effort to take over wetland permitting from the corps.

The posted notices formally opened three weeks of public comment. Posting their intent does not signal the transfer is imminent, however.

One of the requirements of the transfer in progress requires Florida to show how it will appropriately review jurisdictional wetland permit applications to conform with corps' rules.

The federal rules outlined in two documents, together informally called the "Corps Handbook," will have to be revised to implement the new rule, and then Florida will be able to complete its part of the required credentialing process for state review of federal applications for wetland permitting.

Lawsuits that contest the new rule, which are already being filed, will further influence the implementation schedule of the revised WOTUS rule.

As of Jan. 23, three significant lawsuits had been filed against the Trump administration's rule revision.

In the most recent, the Center for Biological Diversity, the Water Keeper Alliance and the Turtle Island Restoration Network filed notice of intent to sue in mid-February.

The groups' fundamental complaint is that by modifying the definitions, western states such as Arizona, New Mexico and Nevada will lose protections for the "vast majority of their waters."

The group also said in a press release that it would "eliminate long-standing protections for the nation's waters including approximately half of all wetlands and potentially millions of miles of streams."

The environmental advocacy groups said the rule change violated the Endangered Species Act and the National Environmental Policy Act.

It is no secret in Florida that many local governments, heavily influenced by and dependent on developers and the economic activity generated by construction, have regularly permitted construction in flood-prone areas.

The Obama-era rules intended to more assiduously protect flood plains and seasonally flooded areas from development. In so doing, it would have prevented property loss by purchasers of homes and businesses in areas subject to flooding.

The revised rule removes the authority of the Clean Water Act to legally require either the federal government or state governments to prevent development in these flood-prone areas.

In yet another example of confusing mixed-messaging, the Trump administration just weeks after finalization of the revised rule, began pressing local governments to evict homeowners from flood zones.

Local government officials from the Florida Keys, Okaloosa County and Miami were among those who received letters from the corps, according to a report in the *New York Times*.

Okaloosa County officials received a letter asking them to confirm in writing that they had the authority and expertise to evict homeowners from flood-prone zones.

In June, 2019, county officials responded affirmatively but requested that the corps provide justification of the necessity for using eminent domain to take property ostensibly to protect the larger community from flooding.

Coastal communities are not the only ones subject to these efforts. Riverfront communities in Tennessee are also included.

Ironically, EPA officials from the agency administrator to its press officers have repeatedly stressed that this rule revision is desirable because it provide "clarity and consistency."

In this rule change, as in so many others, that rhetoric is nothing more than wishful thinking. The revised rule is far less effective than the rule it replaced.

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Walton County to close abandoned construction and demolition debris landfill

By ROY LAUGHLIN

Walton County's Coyote Construction & Debris West Landfill near Freeport will be properly closed by next fall.

A contract between the Florida Department of Environmental Protection and the Walton County Board of County Commissioners tasked the county's public works department to begin construction of an access road, clean up the site, install monitoring wells, excavate an on-site pond, install fencing around the closed dump, and sod and seed the former landfill.

DEP will pay the county \$800,950 to complete the work.

The landfill is being closed with taxpayer dollars because its former owner, Todd Schweitzer and his Coyote Land Co. Inc., abandoned it in 2011.

Local newspaper accounts reported that he walked away from this landfill and several others in the Florida Panhandle after paying \$3 million in fines assessed by DEP for improper landfill management.

Two other landfills Schweitzer abandoned were the Coyote East Landfill and the Coyote West Landfill.

Walton County completed site closure of the Coyote East Landfill in 2017. In 2018, the county began work to close the Coyote West Landfill and completed closure in 2019.

The Coyote West Landfill is adjacent to the Coyote Construction & Debris West Landfill.

Other waste handling facilities abandoned by Coyote Land Co. include the Coyote Panama City Waste Processing Facility, which was declared an environmental hazard in 2019 and ordered closed.

Santa Rosa County's public works crews, working with DEP, closed that facility at a cost of \$680,000.

The county subsequently charged Schweitzer with commercial littering.

In a trial that ended in May, 2019, Circuit Judge Brantley Clark granted a defense motion for a judgment of acquittal, clearing Schweitzer and his bankrupt Coyote Land Co. of any financial responsibility for the cleanup.

Given the unusual willingness of the judge to render a judgment of acquittal so quickly, public agencies have not filed additional charges related to any other of the abandoned landfill sites, despite nearly \$2 million spent to date for cleanup.

When the Coyote Construction & Debris West Landfill is formally prepared for closure, it will mark the end of the list of abandoned Coyote Land Co. landfill and waste handling facilities needing to be closed, according to DEP closure require-

ments.

Meanwhile, Schweitzer continues to conduct business affairs as a real estate investor and owner of a restaurant in Panama City Beach.

The charges that led to Coyote Land Co.'s landfill closures were filed in 2011, under then-Governor Rick Scott's administration.

The failure of that administration to enforce environmental laws earned yet another egregious example with these abandoned landfills.

When Ron DeSantis became governor, he created DEP's Division of Law Enforcement and Emergency Response. With much fanfare, the division's first two enforcement actions occurred in June and July of last year when suspects were charged with illegal dumping.

However, we found no further report of additional enforcement activity by the new division whose primary activity is now focused on waste disposal and emergency response to discharges.

Todd Schweitzer seems to have gotten off scot-free—even Rick-Scott-free—when he abandoned his Coyote Land Co. landfills, leaving two Panhandle counties and DEP, thus, "the public," to foot the bill for site closure.

SFWMD releases latest South Florida report

By BLANCHE HARDY, PG

The South Florida Water Management District recently released its three-volume 2020 South Florida Environmental Report.

The report features the science and data used by the district in its decision-making process and details accomplishments of the district in reporting water year 2019.

The district's Consolidated Project Report Database supports the SFER. The combined report merges dozens of individual reports.

Volume I conveys the finding of regional research and monitoring projects; Volume II updates planning and provides the project status for the district's required nine annual reports; and Volume III expands on Volume I and fulfills federal and state permitting reporting requirements.

"This has been a banner year of restoration progress under the leadership of Gov. Ron DeSantis," said SFWMD Governing Board Chairman Chauncey Goss. "Our efforts are backed up by scientific data and show that the work we are doing is helping to restore and protect South Florida's water resources."

The four highlighted program updates include progress on Executive Order 19-12, Achieving More Now for Florida's Environment, progress in implementing the Everglades water quality restoration strategies plan, progress in implementing action plans for areas such as Lake Okeechobee and progress by the district in combating harmful invasive species.

Gov. DeSantis signed the executive order in January 2019. The order, and subsequent budget proposal of \$625 million, allowed the district to expedite or complete 22 additional Everglades restoration projects over five years.

The state anticipates the program will provide an additional 672,000-acre feet of surface water storage and will remove approximately 200,000 pounds of total phosphorus annually.

Projects include the Everglades Agricultural Area Reservoir Project and the final phases to raise the Tamiami Trail to restore sheet flow to Florida Bay.

The budget also allocated \$40 million for alternative water supply development to support conservation, reuse and other alternative water supply projects.

The EAA Reservoir Project is part of the state-federal Comprehensive Everglades Restoration Plan.

The project is intended to improve water quality, send clean water south to the Everglades and reduce damaging discharge from Lake Okeechobee to the east and west coasts of the state.

The district started design work on the stormwater treatment area segment of the project and is awaiting federal permits to begin construction.

SFWMD has one of the country's largest invasive species management programs. The district is targeting 80 species of nonindigenous plants and 10 invasive animals district-wide.

The district and its partners use an integrated pest management approach to invasive species that employs multiple control tools including mechanical removal, prescribed fire, herbicides and biological

control.

The joint SFWMD-Florida Fish and Wildlife Conservation Commission python hunter incentive programs are among the most well known.

The program includes corporate sponsored annual "python challenges" awarding a variety of prizes including off-road ATVs and cash.

This program has removed approximately 3,700 Burmese pythons to date.

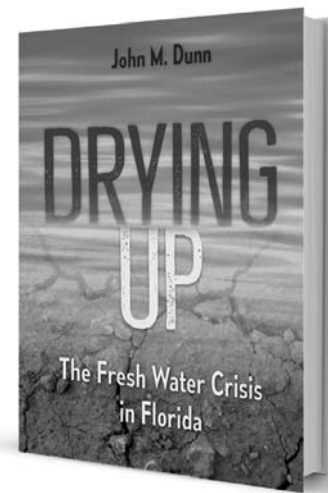
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New report makes strong economic case for solar power in Sunshine State

By ROY LAUGHLIN

Florida's commercial and industrial companies, or C&I, and other electricity consumers could obtain price advantages by conscientiously choosing renewable energy electricity.

The benefits occur because solar power, in particular, is dropping in price.

Making a commitment to renewable solar power protects C&I companies from price fluctuations prevalent with fossil fuel electricity and can help many of them meet their public commitments to renewable energy and sustainability targets.

In a recently released report, trade association Advanced Energy Economy provided a carefully considered analysis of the economic advantages that Florida's C&I companies could obtain, and the market changes that must be made to produce those advantages.

AEE explained that Florida's C&I electricity consumers are in a special situation because of this state's franchise monopoly model for utility regulation.

Only franchised utilities have the legal right to distribute electricity in Florida. Anyone wanting to buy power has to work through them.

Elsewhere in the country, C&I custom-

ers have purchased more than 22 gigawatts of renewable energy through a variety of sources with seven gigawatts purchased in 2019 alone.

Nationwide, C&I electricity demand could rise to 85 gigawatts by 2030. AEE said that Florida "has not seen significant C&I renewable energy procurement to date" because of the lack of cost-effective renewable energy options.

Florida is one of only seven states that lack renewable energy options. In fact, the report stated that Florida was recently ranked 45th in the nation in corporate renewable energy procurement options.

AEE proposed that Florida utilities use a renewable energy, or RE, tariff to greatly expand C&I renewable energy adoption.

The tariffs used by utilities and vertically integrated markets across the U.S. allow customers to purchase bundled renewable energy and renewable energy credits, or RECs, through their utility. They assure long-term competitive prices.

AEE predicted that RE tariffs will become increasing popular as tax credits and other subsidy programs are phased out.

Florida Power & Light Co. has designed an RE tariff program, SolarTogether, which will offer 1,490 megawatts of energy tariff power once the Florida

Public Service Commission grants program approval.

This is a substantial amount of electricity but not enough to fill the potential demand going forward.

The real key to Florida's energy future is to dramatically increase the amount of electricity available through solar tariff programs in Florida.

In Florida, as of 2019, three gigawatts of cumulative solar power generation capacity were installed. According to the report, an additional 13.3 gigawatts of solar power are awaiting construction and financing.

This is a 600 percent increase in potential solar electricity generation over the next 10 years including rooftop solar electricity generation.

Electricity from biogas generation at wastewater treatment plants has become another C&I option for renewable energy production to be sold under an RE tariff system.

AEE's report included a sophisticated analysis of potential RE tariff demand in Florida based on low and high growth scenarios for Florida's C&I sector.

Between 2018 and 2028, demand could grow by 119 percent. If solar power were to continue to be cost-competitive and abundant, it could be the primary source to supply the additional power needed to meet the demand produced by Florida's growth.

That would reduce natural gas' 80 percent current contribution to Florida's electrical power generation rather than increase it.

The economic benefits of renewable energy adoption are apparent whether a high or low growth scenario is modeled.

But renewable energy adoption is particularly advantageous under a high growth scenario because it takes into account marked increased demand by institutional and municipal customers in addition to growth by C&I customers.

AEE based its model on demand numbers from 500 of the Fortune 1000 companies. If Florida offered renewable energy options that allowed them to meet their publicly stated renewable energy commitments, it would make the state far more attractive to business.

The economic growth could bring more jobs to the state and increase population, both primary components of Florida's economic engine.

Considering only its low-growth scenario, Florida could average over 2,470 jobs and over \$492 million per year in capital investment if large-scale purchases of renewable power occurred.

Cumulatively, a total of 27,170 jobs could be created by 2030.

The high-growth scenario is even rosier. A total of 5,231 jobs annually could be created, yielding a cumulative 57,550 jobs created over the next decade.

There would be \$1 billion per year in capital investment to support the RE tariff program. The total wages over a decade could be \$2.35 billion to \$4.97 billion.

Initially, construction jobs would dominate the employment numbers. By 2030, full-time jobs would be about 2,500 under the low growth scenario but would be as high as 5,500 jobs under the high growth scenario.

The report may seem to present the best-case picture for RE tariffs. Experience in other states is that less than 15 percent, about three gigawatts of RE tariff power, has been procured by C&I customers.

For Florida, the advantages of becoming the national investment leader in RE tariffs and for Florida's electric utilities to expand their electricity-generating inventory to meet the growth-related demand increase are significant.

Florida is a state frequently cited by renewable energy advocates in a multitude of disciplines as one that continues to ignore solar power, one of its most abundant and increasingly economical electricity sources.

This report is yet another well-considered characterization of how Florida's solar energy future could be better for business, better for consumers and better for the working middle-class citizens of our state with a long-overdue change in the way power is distributed and sold in the state.

AEE's report, Opportunities for Meeting Commercial and Industrial Demand for Renewable Energy in Florida Potential Investment, Jobs and Wage Benefits Through 2030, is available at www.aee.net.



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EPA sued for violation of chemical laws

Staff report

In March, Earthjustice and the Environmental Defense Fund released a joint investigation showing how the U.S. Environmental Protection Agency regularly violates the Toxic Substances Control Act

that governs the manufacture, use and distribution of chemicals.

Earthjustice and EDF reviewed over 200 new chemical applications from August, 2016, through April, 2019, in detail, as well as all EPA notices published to inform the public of the applications it received from 2016 through early 2020, about 1,700 applications.

For approximately one in every six applications, the agency did not provide public notices until after the chemical was approved, preventing anyone from weighing in and potentially preventing a toxic chemical from reaching the homes or workplaces of millions of people.

Additionally, EPA allowed companies to conceal crucial information about chemicals under review.

EPA is obligated to release all health and safety information submitted with an application, yet the agency regularly allows companies to claim that health studies are confidential business information, or CBI, so critical information is blacked out in large part or in full.

Further, EPA doesn't audit companies' CBI claims to determine whether they are warranted.

The report comes as health and environmental organizations represented by Earthjustice sued EPA for violating TSCA rules.

Earthjustice filed suit in the U.S. District Court for the District of Columbia on behalf of several advocacy groups including the Environmental Health Strategy Center, Center for Environmental Health, Natural Resources Defense Council, Environmental Defense Fund and the Sierra Club.

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SESSION

From Page 1

It also doubled down on the message sent to Ft. Lauderdale that the state is not going to let cities ignore their wastewater infrastructure maintenance needs.

DEP was also charged, subject to appropriations, with establishing a program to disseminate water quality monitoring data in real-time. This public outreach effort will keep citizens informed of efforts to restore Florida surface waters.

Stormwater management will now be under a "trust-but-verify" mode. The bill required DEP to conduct stormwater control structure inspections.

The water management districts will adopt rules for stormwater design and operation regulations following stipulations in the bill. This section of the bill includes some provisions originally filed as HB 405/SB 686.

Lawmakers also rolled some provisions from HB 715/SB 1656 regarding reclaimed water into the Clean Waterways Act.

This section of the bill charged DEP with initiating rule revisions "based on certain potable reuse recommendations by a specified date; providing requirements for such rules; (and) providing that reclaimed water is deemed a water source for public water supply systems."

The bill set new requirements for wastewater treatment plants and on-site wastewater treatment systems to be included in BMAPs.

The state Department of Agriculture and Consumer Affairs will collect fertilizer application records from some "producers" and pass them along to DEP.

The bill directed DEP to conduct on-site facility inspections. These inspections are expected to assure compliance with regional water quality BMAP targets.

This section of the bill included provisions from related bills that the Legislature did not pass separately, including HB 145/SB 690 and HB 1363.

For the first time, the Clean Waterways Act directed close scrutiny of golf course operations' impact on water quality.

In addition, DEP is now charged with developing rules for biosolids management that will be effective upon the Legislature's ratification.

One paragraph from this bill prohibited sewage disposal facilities "from disposing wastewater into the Indian River Lagoon beginning on a specified date without certain advanced waste treatment."

It also included other compliance and operating requirements for sewage disposal including domestic wastewater treatment facilities.

Water pollution operation permit requirements are also being revised to meet stricter standards and goals.

The Clean Waterways Act is a mash-up of perhaps as many as a dozen bills filed separately at the beginning of this session.

With its stipulations for implementing new reporting requirements, new rule development and new strategies for BMAP operations, its influence should become apparent within the next couple of years.

The new law on the surface looks to be the most significant and broad-reaching effort to improve Florida's surface water quality since the Legislature passed numerical water quality criteria.

However, a number of environmental groups went on the record in opposition to the bill, claiming it did not go far enough with waterway and springs protections.

PRP

Senate Bill 702 authorized the state Petroleum Restoration Program to use Inland Protection Trust Funds to pay for, up to a specified limit, "... petroleum storage system repair or replacement due to damage caused by ethanol or biodiesel and for preventive measures to reduce the potential for such damage."

The bill also required that applicants for PRP's Advanced Cleanup Program must list property owner or responsible party agreement.

The PRP received funding of \$125 million; the drycleaning program received \$8.5 million and hazardous waste site cleanup received \$5.5 million.

Florida Forever

The Legislature allocated \$100 million for Florida Forever land purchases.

The House initially offered \$20 million, down from the \$33 million appropriated last year; the Senate offered \$125 million. The two compromised to appropriate \$100 million.

Under a 2015 amendment, Florida Forever is entitled to \$300 million annually. Although it has never received this much, the appropriation this year is headed in that direction.

Focused agenda bills

The Legislature passed several bills with specific focus.

"Environmental Regulation," HB 73, loosened some requirements on waste haulers and recyclers.

"The Nature Coast Aquatic Preserve," HB 1061, established a new aquatic preserve in the Big Bend region and defined it as an "Outstanding Florida Water."

"Environmental Enforcement," HB 1091, created a legal definition of a sanitary sewer lateral attachment and endorsed a DEP program for actions pertaining to them.

Separately, the bill increased civil penalties by 50 percent for many environmental rule and law infractions.

"Fish and Wildlife Activity," SB1414, is a multipart bill. The first section prohibited harassment of hunters and fishers engaged in certain activities. The second banned import of and other activities involving green iguanas and lizards of the genera *Salvator* and *Tupinambis*.

"Impact Fees," SB 1066, prohibited new or increased impact fees for pending permit applications and other requirements.

The "Kristin Jacobs Ocean Conservation Act," SB 680, prohibited the import, export or sale of shark fin in Florida.

Go fish

Many bills were not incorporated into larger bills and failed to get enough votes to pass on their own. They spanned a wide range of environmental issues.

Two laws related to perfluoroalkyl substances did not pass.

"Brownfield Site Rehabilitation," SB 1152, would have allowed state and local governments with PFOA-contaminated property to participate in Brownfield Site Rehabilitation Agreements. It also proposed to increase Brownfield Site Rehabilitation tax credits from \$10 million to \$12 million.

The Legislature also silenced the proposed "Public Notice of Pollution," SB 492, another bill that addressed PFAS contamination. The bill would have added these compounds to the list of a "reportable pollution release."

Because PFAS is not included as a reportable release, DEP will not be required

to include notices of contamination by PFAS on its website or through mailings.

Interested readers might want to review the records of committee proceedings themselves to understand why state lawmakers felt PFAS contamination notifications were not necessary when public sentiment is so much to the contrary right now.

Resilience planning snubbed

"Office of Resiliency," SB 7016, called for the establishment of a statewide Office of Resiliency within the Executive Office of the Governor.

A related bill, "Florida Climate and Resiliency Research Program," HB 918/

SB 1232, would have authorized a new DEP program to address climate change across multiple levels and involved research partners in other state agencies.


These bills did not make it out of committee.

In mid-March, the Legislature envisioned no need to plan for adversity.


Perhaps the lessons of how poor a substitute mass hysteria is for rational planning before the COVID-19 pandemic "went viral" did not reach lawmakers. The Legislature punted this proposal to next

SESSION


Continued on Page 11



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JAXPORT seeks additional funding sources to continue harbor dredging

By **BLANCHE HARDY, PG**

The Jacksonville Port Authority is seeking additional funding for the controversial deepening of the Jacksonville Harbor and channel of the St. Johns River.

The harbor is being deepened to 47 feet and widened to accommodate larger cargo ships navigating the Suez and Panama canals to deliver cargo to the JAXPORT terminals.

JAXPORT hopes to be among the first harbors on the eastern U.S. seaboard able to handle the new larger vessel class.

St. Johns Riverkeeper filed an injunction in federal court in 2017 to stop the channel deepening, claiming that the U.S. Army Corps of Engineers failed to adequately assess the ecological and flooding impact of deepening the river.

Riverkeeper also questioned the financial feasibility of the project, characterizing the economic benefits as “dramatically overstated.”

“By removing 18 million cubic yards of rock and sediment to deepen the river from 40 to 47 feet, we know salt water will move farther upstream based on the results of previous dredging projects and projections by the U.S. Army Corps of Engineers,” said the Riverkeeper.

“This increase in salinity will likely damage or destroy hundreds of acres of wetlands, submerged grasses and trees in

parts of the river and its tributaries, such as Julington Creek and Ortega River. Critical habitat for fisheries and pollution filters for our river will be lost in the process.”

Jacksonville Harbor includes 20 miles of the St. Johns River beginning at the Atlantic Ocean and progressing to approximately River Mile 13 inland.

The corps-authorized project, part of the Water Resources Reform and Development Act of 2014, also included widening the channel at the Training Wall Reach and St. Johns Bluff Reach, and new turning basins at Blount Island and Brills Cut.

The new turning basins will allow full two-way traffic at the port.

The corps estimated the project will cost roughly \$775 million, \$278 million of which is federally funded.

Two deepening contracts have already been awarded with a combined value of approximately \$230 million. These contracts, A and B, address the modification of the first eight miles of the St. Johns River.

Contract A is scheduled to be completed this year and Contract B is scheduled for completion in 2021.

Contract C included the dredging of three additional miles of river up to Blount Island and is scheduled to be advertised in June and awarded in September this year. The contract is estimated at \$250 million and is nearing final design.

Contract D to complete the project is forthcoming. The total effort is scheduled for completion in 2023.

JAXPORT recently asked the city of Jacksonville to provide \$70 million over two years for the project, which requires phased funding from all partners—federal, state and local—to continue.

The Trump administration also proposed \$93 million for the project in FY 2021, the first time that funding for the project was allocated in a president’s proposed budget.

The project is supported by both the port and city as a significant regional economic engine.

economic engine.

JAXPORT noted that the port “has grown Asian container volumes nearly 100 percent since 2012,” adding that “local jobs associated with JAXPORT’s Asian business grew more than 57 percent in a five-year period.”

In addition to the port deepening, a state-of-the-art international container terminal is now under redevelopment at JAXPORT’s Blount Island Marine Terminal.

The new terminal will feature roughly \$240 million in upgrades. The project is expected to be completed in conjunction with the harbor deepening.

Miami-Dade County seeks to reuse solid waste incinerator bottom ash

By **ROY LAUGHLIN**

Once Michael Fernandez was named as the new director of the Miami-Dade County Department of Solid Waste Management last year, he wasted little time in seeking new solutions for the county’s long-standing solid waste disposal problems.

Fernandez enlisted the help of University of Florida scientists to advise the county on how its incinerator ash can be recycled for beneficial usage.

Miami-Dade has been using incineration for many years to reduce its solid

waste volume by up to 90 percent. State rules for bottom ash disposal require that it be placed into a lined landfill.

When a landfill reaches its capacity and is closed, the responsible party must maintain and monitor it for at least three decades post-closure.

For Miami-Dade County, that could cost more than \$330,000 per year.

County commissioners want to consider other options, so they’ve contracted with the University of Florida Hinkley Center, charged with scientific and technical support activities for solid waste disposal and management.

If most of Miami-Dade’s solid waste incinerator bottom ash were diverted from landfills to reuse, the life span of the county’s landfills could increase by an estimated 90 years.

Under the contract with Miami-Dade, Timothy Townsend, PhD, PE, Jones Edmunds Professor of Environmental Engineering in UF’s Department of Environmental Engineering Sciences, is investigating the prospects of using the bottom ash as feedstock for Portland cement production.

The presence and concentration levels of some heavy metals in the bottom ash is its most significant obstacle for use in cement.

One market for ash as cement kiln feedstock already exists for coal ash from power plants, a very similar substance to incinerator bottom ash.

Figures from the American Coal Ash Association show that U.S. coal ash production peaked at 135.5 million tons in 2007 and was 116.8 million tons in 2015, the most recent year for which data are available.

In 2017, 52 percent of coal ash was beneficially reused.

The amount of ash produced from a solid waste incinerator is less than that of a coal-burning electricity generating plant.

Miami-Dade’s solid waste plant produces about 142,000 tons of incinerator bottom ash annually.

Even though the number of operating coal-powered plants is declining, utility companies are under a regulatory mandate to upgrade if necessary and safely close their coal ash storage facilities.

Most of those companies would like to recycle as much of that ash as possible, lowering the amount to be monitored going forward.

The market for coal ash remains active. A market for solid waste incineration bottom ash could emerge, assuming its toxic elements can be immobilized or avoided.

The acceptance of solid waste incinerator ash also depends on results of tests to show that cement produced with it is sufficiently strong and meets the engineering standards of cement used in construction.

The market for such cement is potentially immense. Its use as road base is probably the largest single category with its use in building construction as the second.

Two things seem certain in Florida: Our society will not stop producing trash or paving roads. If incinerator ash turns out to be a good feedstock for cement manufacture, the two activities could be mutually supportive.



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TOXINS

From Page 1

dinoflagellates.

In the estuarine Indian River Lagoon, the dinoflagellate *Pyrodinium bahamense* is the presumed saxitoxin source. Both brevetoxin and saxitoxin are neurotoxins that affect ionic channel function.

The researchers determined algal toxin concentrations in liver samples obtained by autopsy from 119 dolphin corpses found in the lagoon from 2002 to 2011.

Seventy-eight of the samples came from inshore waters, while 41 came from Atlantic Beach locations.

Samples were collected across the event spectrum from when there were no algal blooms to during obvious and significant blooms.

There were only two red tide events during the collection time frame. Dinoflagellate blooms occur much more frequently.

The two toxins were found more prevalently in tissue collected during blooms than when no blooms were present. But some samples had the toxins regardless.

Investigators found brevetoxin in the liver tissue of six bottlenose dolphins out of 109 collected when there was no bloom. Non-bloom concentration ranged from 0.27 nanograms per gram to 1.2 nanograms per gram with a mean of 0.62 nanograms per gram.

During *K. brevis* blooms, the number of dolphins with saxitoxin with detectable concentrations increased notably. The mean concentration and highest concentrations are about 10 times higher than background saxitoxin levels found when no bloom is evident.

A similar but not so extreme pattern is evident in saxitoxin concentrations in bottlenose dolphin liver tissues.

Seven out of 103 dolphins collected when there was no *P. bahamense* blooms occurring exhibited saxitoxin concentrations. Those ranged from 0.41 - 1.9 nanograms per gram, with a mean of 0.92 nanograms per gram.

Nine out of 16 bottlenose dolphins caught during the annual late-summer *P. bahamense* bloom in the Indian River had measurable saxitoxin in their liver tissues. Concentrations ranged from 1.0 - 9.9 nano-

SESSION

From Page 9

year's session.

The budget

The Florida Legislature unexpectedly completed budget negotiations within the originally scheduled time frame and passed its final version on March 19. Over the March 14th weekend, lawmakers approved a \$91.1 billion budget for fiscal year 2020, to begin July 1.

A few days later, in response to the increasing gravity of the COVID-19 pandemic, they increased the state budget to \$93.2

In that budget is a healthy \$14.1 billion for natural resources, environment, growth and transportation.

This year, the Legislature began with 3,516 bills under consideration. In the end, it passed only 176. As noted, critical provisions of many of the original 3,516 bills were amended to some of the bills that did pass.

For Florida's environment, it wasn't a perfect year. But it was the second reasonably good year in a row for water quality and conservation land purchases.

grams per gram with a mean of 3.2 nanograms per gram.

The difference of average saxitoxin concentration between background and bloom collections was a bit more than three, far less than the ratio of about 10 for the much more toxic brevetoxin.

Measurements of saxitoxin in dolphin tissue in this study are notable for several reasons.

First, the investigators used an enzyme-linked immunoassay to make the measurements.

Second, in the authors' words, the report is "the first systematic study of saxitoxin exposure in bottlenose dolphins."

Finally, the authors also reported saxitoxin concentrations in a pregnant female dolphin as well as in its fetus. This is the first report of trans-placental saxitoxin transfer in dolphins.

The finding warrants additional attention to the reproductive success of dolphins, the authors stressed.

The study showed a notable co-occurrence of HAB toxins. Dolphin liver tissue collected during a HAB events had significantly higher brevetoxin levels.

Eight out of 10 liver samples collected during HABs were positive for brevetoxin. The concentrations ranged from 0.22 - 12.3 nanograms per gram. The mean was 6.3 nanograms per gram.

The researchers also reported that dolphins from the lagoon were much more likely to be positive for saxitoxin, 57 percent, compared to brevetoxin, seven per-

cent. The difference is consistent with the frequency of algal blooms for the two species.

Pyrodinium bahamense blooms, notable for their night time bioluminescence, are an annual occurrence, particularly between August and September.

The researchers reported only two *K. brevis* blooms on Florida's Atlantic coast during the sampling interval.

The study supplied some much-needed regional information about HABs in the Indian River Lagoon estuary.

The toxin information will inform public health measures taken to protect hu-

mans and marine life, but it is not the final word on the topic.

"We are finishing up a three-year project to look at the prey fish of IRL dolphins for saxitoxins, and hope to get a publication out this summer," wrote FIT's Fire, lead author of the report.

"Now that we have established the presence of the toxin in dolphins, we want to see how widespread it is in their food web," he said. "We are looking next to investigate the behavioral impacts of these toxins on the IRL dolphin population."

That additional research work is not yet funded, Fire noted.

Calendar

For reasons that are painfully obvious to all, we will not be publishing our normal Calendar page in this issue of the *Specifler*. However, we want to update you on several events of interest:

- The 2020 [Florida Water Resources Conference](#) set for April has been cancelled.
- As of this writing, the [NAEP 2020 Annual Conference](#) in May has not yet been postponed or cancelled, but could very well be moved to later this year.
- The [PFAS Forum](#) planned for Tampa in April has been postponed until Sept. 9-11, 2020.

Additionally, note that the [University of Florida TREEO Center](#) will be conducting its courses online for the foreseeable future, possibly until August. Info on their online offerings is below.

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- Asbestos Refresher: Inspector
Aug. 4, 2020 | Destin, FL | CEUs: 0.4
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Aug. 4, 2020 | Destin, FL | CEUs: 0.4
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- Water Class B Certification Review
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Aug. 10-14, 2020 | Gainesville, FL
Aug. 17-21, 2020 | Pensacola, FL
*Two consecutive Sat. & Sun. **Two consecutive Fri. & Sat.
- Backflow Prevention Assembly Repair and Maintenance Training & Certification
Aug. 17-19, 2020 | Gainesville, FL
- Backflow Prevention Recertification
Aug. 6-7, 2020 | Destin, FL
Aug. 8-9, 2020 | Tampa, FL
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Michael R. Eastman
Publisher/Editor

The *Florida Specifler* 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.

EPA partners with business, industry on latest water reuse action plan

By ROY LAUGHLIN

The U.S. Environmental Protection Agency under the Trump administration has issued a series of flashy action plans in pursuit of its manifest destiny concept of protecting the nation's public health and environmental resources.

No better example of this new genre of plans exists than the latest National Water Reuse Action Plan (Version 1), issued Feb. 14.

"This action supports EPA's 50th-anniversary celebration at its February theme of protecting America's waters," the agency's press release noted glowingly.

Ostensibly, this 68-page full-color marketing brochure was released to provide a summary of this past year's effort to develop a water reuse plan with input from primarily industry partners plus a few water/wastewater utility officials.

The draft plan, released last fall, engendered 60 days of public comments, which are summarized and categorized in the report.

This highly embellished document appears more like an illuminated manuscript than the usual technical review for policy implementation produced in the past.

Created by one of the nation's top three

data science agencies, a report like this would normally provide a long list of citations that serve as the plan's foundation. The report noted that it is supported by over 150 literature sources and extensive outreach, including two national expert convenings.

To put 150 literature sources on water reuse into context, a Google Scholar search of "potable water reuse policy USA" yielded 32,900 citations; removing "policy USA" produced a list of over 62,900.

Given that not a single citation from the 150 documents is specifically included in the report, an interested professional reader must conclude that networking has replaced research as EPA formulates its "action plans."

Perhaps the loss from EPA advisory committees of academic scientists who had received EPA funding support means that their reports can now meet technical review minimum requirements without including citations.

The EPA described its draft version released last fall as a document "that outlines the business case for water reuse and

proposed key actions that support consideration and implementation of water reuse across the nation."

With this document's roots deep in industry networking, one table included in it ranked the action plans using tallies of the number of supportive commentators, which ranged from 11 to 17. These tallies are as close to data as the report dares to tread.

The action table also lists whether the action was developed. The top three based

on comments were ones that were "not de-

veloped."

Those included: "Develop Frameworks for Public and Environmental Health Risk-Based Targets;" "Incorporate Water Reuse and Capture Concepts and Integrated Planning Efforts at the Local Level;" and "Integrate, Coordinate, and Enhance Technology Demonstration and Validation Programs to Provide Reliable Performance Information to Support Water Reuse."

Some of the "developed" actions included: "Convene Experts to Address Challenges Related to Stormwater Capture and Reuse," something Florida stormwa-

ter professionals are quite familiar with.

Another one familiar to Floridians is: "Promote Eligibility of Existing State Revolving Fund (SRF) and Water Infrastructure Finance and Innovation Act (WIFIA) Funding for Water Reuse."

A third action, which most directly indicates the report's business orientation is: "Pursue a National Branding Campaign for Water Reuse." The glitzy nature of the report certainly shows that this point got some "development action" even before the report hit the streets.

This report's content is essentially an orchestrated effort by special interests to ride EPA's coattails and, reciprocally, the EPA's efforts to curry favor with the business community.

And with good reason. Business interests have their hooks deeply embedded in the Trump administration's government agencies.

Those "Action Leaders and Partners" are listed on page 46 of the 68-page plan, maybe the first time the EPA has ever divulged such a list for planning document membership.

Members run the gamut from special interests such as Environmental Council of the States to the Israel Water Authority, Johnson Controls International, Xylem, the National Rural Water Association and the National Tribal Water Council.

Experienced readers will recognize this as a group that includes responsible organizations working on behalf of public interest and others more likely motivated by profits for financial self-interest. It's an unusual assemblage.

This participant roster in a tacit way indicates that the list of action items is also a crude mosaic. All of the action item subjects should be familiar to environmental professionals.

Some of them, such as potable water reuse, remain extremely controversial so that their appearance on this list with accepted activities such as stormwater capture and directed reuse confers respectability on a bad actor by its proximity to good ones.

Now that we have a Juris Doctor administrator at the EPA, any agency document wouldn't be complete without its legal disclaimer on the top of the report's first page: "All of these actions are at the will and discretion of the action leaders and partners and implemented in the spirit of collaboration and partnership. This is not a budget document and does not imply approval for any specific action under Executive Order 12866 or the Paperwork Reduction Act."

The second page, with a photo of smiling EPA Administrator Andrew Wheeler, makes the case for a water reuse plan as a succinctly as it can. "It frames the business case that water reuse is a viable and growing means of supporting our economy and improving the freshwater portfolio of farmers, industry, communities and ecosystems."

Given that task, it explains why no real science or technical review is a significant part of this document and, presumably, it's not necessary for the action plan. If someone can make money, just do it.

Perhaps a deeper message is that the EPA wants to be seen as involved in this particular effort. Business interests will gladly accept the EPA as a passively negligent partner, especially when it comes to the agency's regulatory involvement.

In the best-case scenario, EPA non-financial involvement could be helpful to utilities that don't have professional staff for planning and technical evaluation to find qualified consultants to help them. In the worst case, it will open the floodgates of private interest ownership and investment of water resources.

Currently, the vast number of water resources, potable water suppliers and wastewater treatment plants are publicly owned. The deep involvement of private interests in this report suggests that they are interested in a deeper business relationship and probably even private ownership upon transfer from public ownership.

Specifier opinion

Florida Specifier

2020 Environmental Lab Directory

Each August, we turn our attention to the environmental laboratory business in Florida. As part of this special annual issue of the *Florida Specifier*, we include a directory of environmental labs providing analytical services in the state.

You're invited to complete the form below, providing details about your lab and its analytical capabilities. **There is a fee of \$200 to list your lab this year.** (Fee waived for *Specifier* advertisers, and 2019 FRC exhibitors.) In addition to your listing in the directory, **your lab will also be included in a special lab listing on our Enviro-Net website.**

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@enviro-net.com or mail to P.O. Box 2175, Goldenrod, FL 32733. You can reach us at (407) 671-7777. The deadline for submissions to the August Lab Directory is **Friday, July 5, 2020.**

Note: If you were listed last year, we will be in touch. Do not complete this form.

Please include only lab operations, capabilities and personnel in Florida.

Laboratory name: _____

Primary Florida address: _____

City, State, Zip: _____

Phone: _____ Fax: _____

E-Mail: _____ Web: _____

Contact: _____ Title: _____

Locations in FL: _____

State of incorporation: _____ Years under same ownership: _____ years

Lab capabilities/specialties: _____

Sample types: _____

Certifications: _____

Additional services: _____

Number of years in business: _____ years

Staff: Total: _____ Engineers/scientists: _____ Technicians: _____

What single issue has most affected labs in Florida over the past year?

Are you a current *Specifier* advertiser or FRC 2019 exhibitor? Yes No

Contact me about: Advertising in the *Specifier's* Lab Focus issue

Submitting a column for the Lab Focus issue

FEDFILE

From Page 2

share.

This funding provides loans to public drinking water utilities, money that could be used to remove lead service lines, increase potable water system resiliency to natural disasters, or to install specific treatment capabilities to remove contaminants.

The EPA announced in mid-February that this funding had been released to the states.

SFGI program grants in Florida.

Three Florida organizations were selected by the EPA to receive South Florida Geographic Initiative program grants.

These grants support projects focused on protection and restoration of seagrass, corals and water quality in South Florida.

The Florida Department of Environmental Protection in Miami, one of the recipients, will receive \$275,000 for enhanced water quality and seagrass monitoring in northern Biscayne Bay.

Florida International University, the second recipient, will study phosphorus enrichment and chlorophyll increases since 2013 in northern Biscayne Bay.

FIU researchers will develop a water quality model optimized for Biscayne Bay. The model will provide high resolution detection of pollutants that have an effect on seagrass and water quality. FIU will receive \$196,890 for this work.

In addition, the Biscayne Bay Water Keeper received funding to develop a strategic outreach campaign to inform the public of best management practices related to fertilizer application and land-based pollution sources through the organization's Junior Ambassador Program.

Plus, the Miami Waterkeeper will conduct beach cleanups and restoration efforts, and conduct a Day at the Bay event.

The two organizations received \$112,000 for their projects.

SFGI grants fund a wide variety of environmental projects throughout South Florida.

The program grants dovetail with projects at the Florida Keys National Marine Sanctuary, the Southeast Florida Coral Reef Initiative and several others as far north as the Caloosahatchee River and Indian River Lagoon.

Relaxed regulations on coal combustion residuals. The EPA announced it will further relax the requirements of the 2015 Coal Combustion Residuals rule.

The changes include an allowance for some facilities to use coal ash disposal without composite liner systems if they can show that alternative storage "will continue to provide the equivalent protection from impacts on groundwater as provided by composite liner systems standards."

A second change allows more time for units that are closing to complete groundwater remediation and meet standards if they have removed all CCR as required under the closure plan.

The new provision requires that "groundwater remediation must continue until groundwater protection standards are achieved during a post-closure period."

The third change affects the notification of intent to close. It now must include the date the facility is to begin closure, and provide annual progress reports.

Finally, a fourth change requires facility owners to state "conditions under which coal ash can be used in the closure of landfills and service impoundments."

The EPA opened a 45-day public comment period that will include a public meeting.

More information is available at www.epa.gov/coalash.

Rural public water supply systems receive renewed commitment. The U.S. Department of Agriculture and the EPA promulgated a memorandum of agreement in February that supports the improvement of public water supply systems in rural areas of the country.

The MOU addressed the repair and replacement of aging rural water system in-

frastructure.

The MOU also addressed workforce shortages, increased costs, limited management capacity and declining base rates.

"Through this MOA, EPA and USDA will conduct joint activities to help rural water systems continue to provide access to safe drinking water and protect their water resources," the EPA summarized in its press release.

EPA rolls back HFC leak prevention rule. At the end of February, the EPA eliminated the leak prevention and repair requirements for hydrofluorocarbons used in commercial and industrial refrigeration facilities.

Man-made HFCs are among the most potent heat-trapping gases in the atmosphere. Their influence far exceeds their proportional concentration in the atmosphere.

The Obama administration passed a common sense rule with significant self-interest benefits requiring facility operators to check for leaks and expeditiously repair them.

Rule compliance cost roughly \$24 million a year.

The rule was rolled back in spite of the fact that the U.S. Chamber of Commerce and the National Association of Manufacturers both supported the rule's continuation.

The original Obama-era rule, which only extended an existing rule to additional industries, was opposed by NEDA/CAP a coalition that includes Boeing Co., BP America, Eli Lilly and Co., ExxonMobil Corp., Georgia-Pacific LLC, Intel Corp., Koch Industries Inc., Merck and Co. Inc., NewPage Corp., Occidental Petroleum Corp., Procter & Gamble and Weyerhaeuser.

HFC emissions may again be controlled if Congress passes new legislation entitled the American Innovation and Manufacturing Act.

The bill has bipartisan support but in an election year its chances of passage seem unlikely.

Habitat protection for 12 coral species. Under a consent agreement reached in late February, the Trump administration must promulgate critical habitat protection regulations for five species of hard corals found in Florida and the Caribbean, and seven coral species indigenous to American territories in the Pacific Ocean.

In 2014, these coral species received Endangered Species Act protection. But the federal government never followed through with the critical habitat protection plans required by law.

Consequently, the Center for Biological Diversity sued the National Marine Fisheries Service in August, 2019, and prevailed in its lawsuit.

Under the agreement, the National Marine Fisheries Service is now required to publish proposed habitat protections by July 31, 2020.

Duke, FPL fall short on utility efficiency expectations. The American Council for an Energy-Efficient Economy provides an annual energy efficiency scorecard of the 52 largest U.S. electric utilities.

This year, Eversource Massachusetts and National Grid Massachusetts tied for first place as the most energy efficient. San Diego Gas and Electric ranked third. Commonwealth Edison of Illinois placed fourth. Baltimore Gas and Pacific tied with Pacific Gas & Electric for the number five position.

Two Florida electric utilities are near the bottom of the list.

Duke Florida and Florida Power & Light Co. placed 48th and 51st, respectively.

ACEEE rankings highlight how innovatively the country's electric utilities are reducing greenhouse gas emissions in their power generation operations.

The rankings also reflect successful efforts to increase efficiency investments in low-income communities as well as to speed the adoption of electric vehicles.

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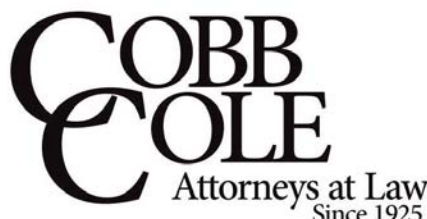
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AMI report offers analysis, trends in mitigation banking worldwide

By **BLANCHE HARDY, PG**

In February, business intelligence provider Absolute Market Insights released Global Mitigation Banking Market 2019-2027, a report analyzing mitigation banking worldwide and providing trends in the market.

Mitigation banking provides credits to offset environmental land and habitat losses caused by development activities. The system provides compensation for preserving and restoring ecologically valuable lands, typically focusing on wetlands and stream banks.

According to the report, the global mitigation banking market accounted for \$5,463.4 million in 2018 and is anticipated to reach \$16,643.6 million by 2027, growing at a compound annual growth rate of 13.5 percent over the period.

The study analyzed the mitigation bank market in terms of revenue across all major regions, further bifurcated into countries.

While program details vary by country and region, according to AMI, the National Mitigation Banking Association uses the following definition: "Mitigation banking is the restoration, creation, enhancement or preservation of a wetland, stream or other habitat area undertaken expressly to compensate for unavoidable resource losses in advance of development actions when such compensation cannot be achieved at the development site or would not be as environmentally beneficial."

There are different types of mitigation banks. Wetland/stream banks offer credits to offset damage caused to wetlands and streams by development. They are approved by the U.S. Environmental Protection Agency and U.S. Army Corps of Engineers.

Conservation banks offset losses to endangered species or habitats. The National Marine Fisheries Service and the U.S. Fish and Wildlife Service approve conservation banks.

The report noted that increasing economic development is a major cause of harmful impacts to our streams and wetlands.

Florida is an example of one state that has developed systems to restore and preserve wetlands, streams and wildlife habi-

tat affected by growth.

AMI noted that in the state of Florida, the Florida Department of Environmental Protection plays a critical role in monitoring and working with mitigation banks.

Across Florida, there are more than 100 permitted mitigation bank projects now underway, representing over 190,000 acres of conservation land.

The projects are restoring freshwater ecosystems and saltwater coastal wetlands, and protecting the basins of waterways. Such initiatives, they said, are expected to contribute to the highest share of wetland or stream bank segments in the global mitigation banking market throughout the forecast years.

To expand mitigation capacity, the Florida Association of Mitigation Bankers supported HB 521 signed into law in 2019. The bill amended the state's mitigation banking decision process.

In the event that a federal or state mitigation bank is not available at the time of project need, local governments may allow mitigation on land purchased by the local government for conservation.

This permits infrastructure improvements to move forward while simultaneously preserving the environment.

AMI also included data reported by FAMB: "Florida's mitigation banks have witnessed significant growth and serviced nearly 4,280 federal permits, thereby protecting over 180,000 acres of habitat as a part of over 100 approved mitigation banks in Florida thus increasing the market size of the U.S. mitigation banking market."

The report indicated that the North America mitigation banking market dominates the global market, capturing 62.9 percent of market share in 2018, followed by Europe, which accounting for 18.4 percent.

AMI noted that North America is also expected to show the highest growth during the forecast years, at 14.9 percent.

Governments are introducing taxes and penalties on industries to tackle environmental damage, according to AMI.

The report noted that the Organization for Economic Cooperation and Development, an international organization for stimulating economic progress, is assisting its member countries to develop environmental taxation systems and contribute to reducing the damage to environment.

WATCH From Page 4

Okeechobee Coalition.

There are now 10 counties on board out of the 16 eligible for the coalition. The coalition's voting members include Glades, Hendry, Highlands, Lee, Martin, Okeechobee, Osceola, Palm Beach, St. Lucie and now Charlotte county. All counties are within the South Florida Water Management District.

The coalition's full name, the County Coalition for the Responsible Management of Lake Okeechobee, the St. Lucie and Caloosahatchee Estuaries and the Lake Worth Lagoon, describes its purpose.

Dredging the Weeki Wachee. A dredging project to widen and deepen the Weeki Wachee River passed another milestone when the Hernando County Board of County Commissioners approved an agreement to allow dredging contractors river access at county-owned sites.

The agreement allows contractors to offload dredge sediments near the county-owned Rogers Park and allows contractors to remove sediments from county-owned residential canals along Weeki Wachee River.

Dredging is planned for 1.6 miles of the river. The dredged channel will be 20 feet wide and five feet below the mean low water level.

The project still needs about \$6 million in funding.

According to local news reports, Sen. Wilton Simpson worked to secure funding from the Florida Legislature.

If successful, the Southwest Florida

Water Management District will administer the funding.

The dredging could be completed by the end of next summer with timely funding.

Bay County awards contract for water plant. The Bay County Board of County Commissioners awarded a contract for \$311,000 to Barge Design Solutions Inc.

The contract covers architectural and engineering designs for rebuilding the operations building at the Bay County Water Treatment Plant.

In September, 2018, Hurricane Michael damaged the facility significantly.

This project is a first step towards remodeling and renovating the damaged building.

Biosolids ban extended. The Fellsmere City Council extended its biosolids land-spreading ban for another half-year.

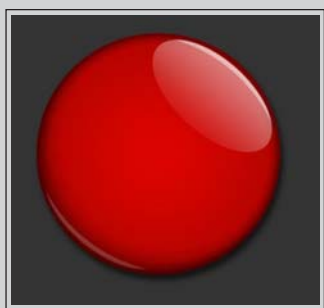
The council passed its first 180-day ban in August, 2018, and has renewed it every six months since then. The ban affects Class B biosolids that in the past have been land-spread in the area for disposal.

The biosolids spreading ban gives scientists a chance to complete investigations on whether phosphorus from biosolids could be a source responsible for algae blooms in Blue Cypress Lake.

Fellsmere's ban is coordinated with the Indian River County ban extension approved in December, 2019.

The Indian River ban expires in July, 2020, unless extended. Fellsmere's ban will continue through August this year.

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Study released on risks of mercury accumulation from seafood consumption

By ROY LAUGHLIN

A recently-published study of mercury accumulation by pregnant women living in East Central Florida further explored Florida Atlantic University's Harbor Branch Oceanographic Institute 2016 study of human mercury accumulation from local seafood.

"In Florida, the average adult consumes almost 10 times as many grams of seafood per day compared to the general U.S. population, potentially increasing the risk of mercury exposure above safe limits, especially for pregnant women," said Adam Schaefer, MPH, epidemiologist and program manager at HBOI.

"Because the sensitivity of the developing brain to the effects of mercury deposition has been shown in studies of pregnant women exposed through the consumption of seafood, even at relatively low levels of prenatal mercury, we wanted to test this vulnerable coastal Florida population," he said.

The results showed that those who frequently ate local seafood had elevated mercury levels compared to women who never ate seafood.

Of the 229 adult women who voluntarily contributed hair samples to researchers for mercury analysis, 19 had mercury levels above the threshold considered harmful, 1.0 part per million.

Sixty-nine of the women, 30.1 percent, had detectable levels below 0.005 parts per million, the limits of detection.

The mercury concentration in pregnant women subjects of this study who reported seafood consumption three times a week or more had the highest mercury concentrations in their hair.

This finding is consistent with the results of an earlier study by Schaefer and colleagues. That research showed a positive correlation between frequent locally caught seafood consumption and elevated tissue mercury in human subjects of both sexes.

Other factors influenced the mercury concentrations measured in subgroups of women in this study. Women of Asian ancestry, as a group, had the highest mercury levels in their hair. As women aged from 18 to 42 years, mercury levels consistently increased.

Paradoxically, the mercury content of hair tends to decrease in women as their number of pregnancies increases.

The women who had four or more pregnancies were likely to be in the oldest age group, over 32 years old. But as a group, they had mercury levels as low as women in the youngest group, 18-22 years old.

Schaefer said that there is no reason to think pregnant women transfer mercury to their fetuses. More likely, it has to do with maternal behavior.

The pregnant women who contributed hair for mercury analysis also answered some questions about their knowledge and perceptions of mercury in seafood.

More than three quarters, 77 percent, said that they understood fish should be avoided during pregnancy. But only about half the women, 54 percent, also knew that swordfish purchased from stores was just as likely to have high mercury concentrations as locally caught swordfish.

Questionnaire replies reflected a clear knowledge of prior HBOI research completed in 2014 showing that fish caught in the Indian River have notably high mercury burdens and the mercury was transferred to local seafood consumers.

The physicians and health providers collaborating in this study to obtain hair samples from their pregnant patients make a special effort to advise Treasure Coast women about the risks of accumulating mercury from seafood.

They also discuss how mercury can adversely affect fetal development. This explains why the women in the study as a group had such a high score for recognizing seafood-borne mercury hazards to their fetus.

The paradoxical inverse correlation between the number of pregnancies and low mercury levels in the women surprised the researchers. Schaefer suggested it may reflect the influence of advice to pregnant women to carefully reduce fish consumption during pregnancy.

The complexity in advising pregnant women about seafood consumption during pregnancy arises because omega fatty acids, which are abundant in fatty fish, are beneficial to human fetal development.

They have beneficial health effects for adults as well. Pregnant women are likely to receive the most benefit from fish consumption during pregnancy by avoiding fish species with the highest mercury content, and by modestly limiting their seafood consumption overall.

During an interview with the *Specifier*, Schaefer said that the research indicated that even with potential exposure to higher mercury levels in East Central Florida seafood, pregnant women are informed about the risks and are appropriately lowering their seafood consumption overall.

"Research needs to continue and we need to be engaged with people in the health community," said Schaefer.

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CFWI Draft 2020 Regional Water Supply Plan now available for review

Staff report

The Central Florida Water Initiative's Draft 2020 Regional Water Supply Plan is now available for review and comment by stakeholders and the public.

The plan identifies existing and projected water needs as well as projects and funding sources to meet those needs in the CFWI Planning Area over the next 20 years.

The CFWI 2020 RWSP was developed collaboratively between the Florida De-

partment of Environmental Protection; the St. Johns River, Southwest Florida and South Florida water management districts; the Florida Department of Agriculture and Consumer Services; public water supply utilities and other stakeholder groups.

The CFWI Planning Area includes of all of Orange, Osceola, Seminole and Polk counties and southern Lake County, and covers approximately 5,300 square miles.

"Groundwater sources are limited in the CFWI Planning Area based on expected population projections over the next

20 years and our extensive groundwater modeling efforts," said Tammy Bader-Gibbs, RWSP Team Lead. "However, we've concluded that our current and future water needs can be met while sustaining the water resources and related natural systems through 2040 through an integrated approach."

The approach outlined in the plan includes increased water conservation, development of alternative water supplies, further hydrogeologic investigation, optimization of groundwater withdrawals, additional project evaluation and modeling, pursuit of funding for water resource and water supply projects, and develop-

ment of consistent rules and regulations.

Public workshops planned for the month of April throughout the CFWI planning region have been postponed and will be rescheduled when appropriate.

The workshop presentation is now online to allow stakeholders and the public an opportunity to learn more and comment on the draft plan. All public comments and feedback are taken into consideration and will be included in the plan's appendix.

The comment period ends on May 15, 2020, at 5 p.m. The final plan will be presented to the governing boards of each water management district for approval in November, 2020.

NOTES

From Page 3

They are a U.S. Coast Guard-certified oil spill removal organization for several Captain of the Port zones and are expected to address a wide variety of spill responses under the contract.

New WMD officials named. The South Florida Water Management District named Jennifer Reynolds as director of ecosystem restoration and capital projects in March.

Reynolds recently retired as the deputy

commander for South Florida at the Jacksonville District of the U.S. Army Corps of Engineers.

The district recognized Reynolds' Everglades restoration experience noting, "she built a strong reputation of working collaboratively with the public and stakeholder groups."

Elsewhere, Darryl Boudreau was named as Northwest Florida Water Management District resource planning manager.

Boudreau served eight years as a watershed coordinator with The Nature Conservancy where he created estuary programs in Northwest Florida and facilitated interagency coordination for the organization.

Prior to that, he served as assistant director of the DEP's Northwest District for seven years where he managed the Ecosystem Restoration Section and fulfilled ombudsman duties.

New Fruitland public works director. Long-term resident and seven-year city employee Robb Dicus was named by the city of Fruitland as public works director. The position opened after the passing of former director Dale Bogal.

Dicus was hired by Bogal and was being groomed for the position in anticipation of Bogal's retirement.

The department is responsible for the maintenance of buildings, parks, streets, public lands within the city and the water utility system.



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