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Volume 40, Number 1

NW Florida SWIM 5

Water managers in Northwest Florida completed development on Surface Water Improvement and Management plans for all the major riverine and estuarine watersheds in the region.

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A University of Florida study concluded that a free-flowing Ocklawaha River would produce greater economic opportunity along the waterway.

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Florida power providers are finally beginning to change the state's energy profile by replacing fossil fuel generation with solar farms. Over the next five years, Florida is expected to install about 5,300 megawatts of new solar capacity.

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Got a story lead?

Got an idea for a story? Like to submit a column for consideration? Fire when ready. And don't forget to fill us in on your organization's new people and programs, projects and technologies—anything of interest to environmental professionals in Florida. Send to P.O. Box 2175, Goldenrod, FL 32733. Call us at (407) 671-7777; fax us at (407) 671-7757, or email mreast@enviro-net.com.

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Photo courtesy of Navocean Inc.

Ethan Artunian uses an iPad to operate Navocean's Nav2 sailboat, an autonomous surface vehicle. In addition to allowing manual or autonomous operation, satellite communication provides real-time sensor and navigation data collection. See story below.

PEER blasts DEP for failures made during petroleum cleanup program revamp

By ROY LAUGHLIN

In a white paper released in January, Florida Public Employees for Environmental Responsibility provided an extensive and well-documented critique of the Florida Department of Environmental Protection's Petroleum Restoration Program, pointing out its substantial failures and shortcomings.

The report alleged a spectrum of program deficiencies over the past seven years including inept management, intimidation of DEP staff and a focus on cleaning up less contaminated sites that has delayed cleanup of more problematic sites.

The white paper questioned over \$500,000 in payments made to a Tallahassee law firm to handle three prominent fraud cases that the department's own legal staff could have handled, the continuing reduction in enforcement actions and penalty payment collections, and the prolonged and annually increasing diversion of petroleum cleanup trust fund dollars by the state Legislature.

These problems have occurred throughout Gov. Rick Scott's two terms, but the white paper laid the blame on both the governor and the Florida Legislature.

For purposes of clarity, this article refers to DEP's petroleum cleanup pro-

gram as its current iteration as the state Petroleum Restoration Program.

False claims justified reforms

DEP's top management, beginning with Sec. Hershel T. Vinyard, Jr., failed to properly oversee the program since Scott's first term, according to the white paper.

A March, 2013, report to Vinyard from DEP Inspector General Candie Fuller discussed a number of irregularities in program administration.

The Office of Inspector General re-

port was used as one justification for the complete revamp of DEP's petroleum cleanup program, resulting in the establishment of the PRP in its present form.

Irregularities cited in the OIG report covered a broad spectrum of PRP activities, from contract administration within the department, to alleged kick-back schemes by contractors, to a lack

PEER

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Robotic sailboat makes useful oceanographic research tool

By ROY LAUGHLIN

This winter, Jordon Beckler, PhD, program manager of ocean technology research at Mote Marine Laboratory and Aquarium in Sarasota, collaborated with engineer and ship builder Navocean Inc. to test a two-meter autonomous surface vehicle, or ASV, sailboat as a monitoring instrument platform for oceanographic research.

Beckler, who has been studying red tide responses to nutrient dynamics, represents the research-user side of the collaboration.

In Florida, late fall and winter is the

most active time for red tide blooms along Florida's Gulf Coast.

In December, Scott Duncan, Navocean's owner and chief designer, along with Ethan Artunian, a software engineer with the firm, demonstrated a beach-launch and prototype test of Navocean's Nav2 ASV in nearshore waters off Punta Gorda.

The 6.5-foot, 85-pound vessel looks more like a model RC sailboat than a serious research instrument. But appearances can deceive.

With its 85-pound weight, 25-pound

ASV

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EPA promises immediate attention to 21 Superfund sites— with no additional funding

Staff report

The U.S. Environmental Protection Agency recently selected 21 Superfund sites from across the country for immediate and intense attention.

“By elevating the sites, we are sending a message that EPA is, in fact, restoring its Superfund program to its rightful place at the center of the agency’s mission,” said EPA Administrator Scott Pruitt. “I have charged the Superfund task force staff to immediately and intently develop plans for each of the sites to ensure they are thoughtfully addressed with urgency.”

The EPA characterized the selected sites as those that could “benefit from administrator Pruitt’s direct engagement and have identifiable actions to protect human health and the environment.”

The press release does not discuss technical challenges, the role of state and local governments, or the number of citizens potentially at risk as factors that affected site selection.

Nor does placement on the list engage additional funding.

The new approach, included in a list

of Superfund recommendations to Pruitt, does not mention risk, improving technical capability or funding in its “five overarching goals.”

The panel’s five stated goals are “expediting cleanup and remediation; reinvigorating cleanup and reuse efforts by potentially responsible parties; encouraging private investment to facilitate cleanup and reuse; promoting redevelopment and community revitalization; and engaging with partners and stakeholders.”

The majority of agency regions, including Region 4, each had two sites on Pruitt’s immediate and intense attention list.

In Region 4, the Mississippi Phosphate Corp. site in Pascagoula, MS, and the BF Goodrich site in Calvert City, KY, are the two selected sites.

The EPA press release noted that the list is intended to be dynamic. Sites may move on and off the list, as appropriate.

At times there may be more or fewer sites based on where the administrator’s attention and focus is most needed.

Polyfluorinated alkyl substances. In December, the EPA launched a cross-agency effort to address per and polyfluorinated alkyl substances.

These short alkyl-chain highly fluorinated organic chemicals are used in fire retardant foams and fabric treatments, anti-stick coatings for cookware and anti-stain fabric treatments.

They are highly persistent in the environment because they are virtually chemically inert.

The agency’s effort follows a U.S. Department of Defense initiative that began several years ago to determine the occurrence of aqueous film-forming foams in military base groundwater and soils.

That ongoing program has found AFFF-derived PFAS contamination present at bases across the country.

EPA said that it intends to build its effort on work it has already done to establish nonregulatory drinking water advisories for perfluorooctanoic acid, and perfluorooctyl sulfonate.

In 2016, the EPA issued a lifetime drinking water health advisory for PFOA of 0.07 micrograms per liter. The same applies separately to PFOS, or the total of both if they are present as a mixture.

In its press release, the EPA said it will

identify a set of near-term actions to help support local communities; enhance coordination with states, tribes and federal partners to provide communities with critical information and tools to assess PFAS; identify new methods for measuring PFAS and filling data gaps; and expand proactive communications efforts with states, partners and the American public about PFAS and their health effects.

The EPA’s Water and Research offices will lead efforts that tap EPA scientific personnel in other EPA branches.

EPA’s regional offices will engage partners at state and local levels to provide “on the ground knowledge about specific issues and address PFAS nationwide.”

WOTUS. In November, the U.S. Army and the EPA proposed a rule amendment to delay implementation of the 2015 “Waters of the United States” rule.

The agencies proposed a two-year delay following finalization and publication of the amended rule. That would likely extend the delay well into 2020—perhaps into the final days of the Trump administration.

In justifying the delay, the EPA said that the agencies need more time to reconsider the definition of “Waters of the United States” for a new rule to replace prior rules.

The stated intent of the new rule is to sharply reduce federal protections for lakes, streams and rivers. Currently, the definition of waters of the U.S. is that used prior to 2015.

The practical effect of delaying the effective date of the 2015 rule is procedural. The Sixth Circuit Court’s ruling imposed a nationwide delay in August, 2015.

That decision is under appeal to the U.S. Supreme Court, whose hearing is currently pending.

If implementation of the 2015 rule is delayed another two years, the Supreme Court is expected to delay its hearing.

Clean Power Plan update. In December, EPA began a 60-day advance notice of proposed rulemaking, or ANPRM, to replace the Clean Power Plan.

As the agency explained, it will “solicit public input as it considers the next regulatory steps to limit greenhouse gas emissions from existing utility generating units.”

The explanation is vague enough to suggest that the agency is asking the public what it should do to accomplish what it said it would do a year ago.

Implied is that the Trump administration’s promise to extend the use of coal-burning electricity generating plants was made without any idea of a path forward to accomplish that goal.

The EPA’s announcement said that “(t)he ANPRM is a separate but related action to the October 16, 2017, proposal to repeal the so-called ‘Clean Power Plan.’”

The factual substance of that statement is open to question. But the EPA explained that the ANPRM offers the public the opportunity to comment on specific topics for the agency to consider in developing any subsequent proposed rule.

The EPA specifically solicits information about systems of emission reduction that could be used at an electricity generating unit, information on compliance measures and information on state-planning requirements under the Clean Air Act section 111(d).

Most endangered ecosystem. The International Union for Conservation of Nature and Natural Resources again categorized the status of Florida’s Everglades as “critical.”

That makes the Everglades the most endangered of the 11 U.S. sites categorized.



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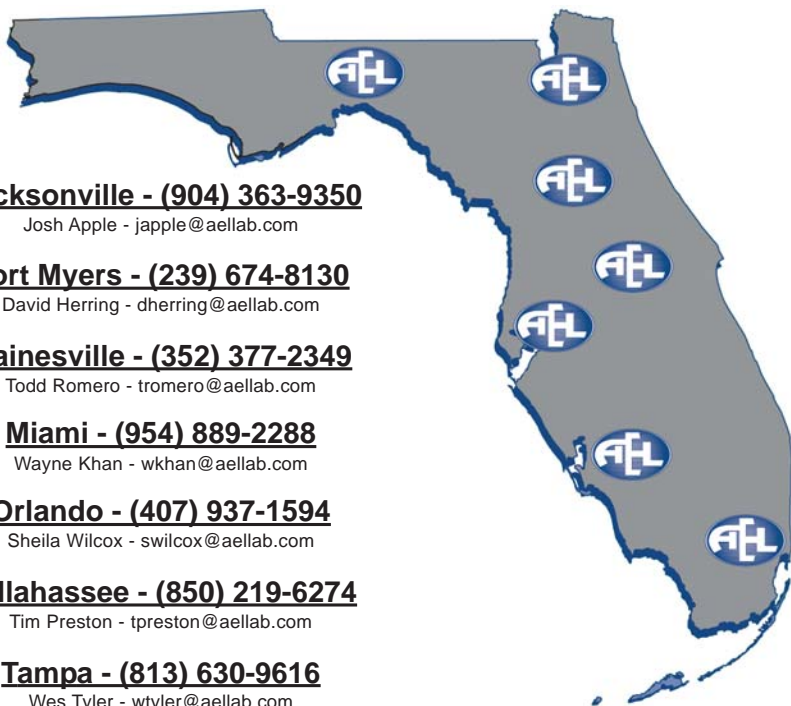
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Escambia County takes ownership of Superfund site

Staff report

Officials with Escambia County are wrapping up details after taking ownership of the Escambia Wood Superfund site in Pensacola.

The U.S. Environmental Protection Agency, which now owns most of the land, is handing the property back to the county as part of finalizing the soil cleanup effort there.

The county plans to redevelop the area into a commercial hub to be called the Midtown Commerce Park.

The property is close to downtown, Interstate 10 and the Pensacola International Airport.

A 2000 master redevelopment plan included space for offices, showrooms, light manufacturing and distribution centers in the area.

From 1942 to 1982, the Escambia Wood Treating Co. manufactured treated utility poles, foundation pilings and lumber with creosote and PCP.

Operations there generated highly contaminated wastewater that was stored in impoundment ponds on site.

In 1991, the company filed for bankruptcy and abandoned the facility. Later that year, EPA began a removal action to stabilize the site, excavate contaminated materials and estimate the level of remaining contamination to be dealt with in future phases of the cleanup.

The removal action was completed in 1992. The excavated material was stockpiled on site and secured under a thick geomembrane cover.

EPA placed the site on its National Priorities List of hazardous waste sites in 1994 due to contaminated soil and groundwater resulting from facility operations.

When the owners went bankrupt and abandoned the facility, taxpayers were left with the bill for the cleanup.

County officials are reviewing their entire inventory of property for land they may be able to swap with business owners to move them from residential neighborhoods.

The soil cleanup is complete, but EPA has yet to start groundwater remediation due to the lack of adequate funding.

The agency said it will continue to handle the cleanup after the county takes ownership of the land.

Fort Myers contamination. High arsenic levels have been detected near a Fort Myers toxic sludge dump.

The latest results of tests at the city of Fort Myers' sludge dump showed dangerous levels of arsenic both on and off site.

The highest arsenic level so far—5.3 times more than the EPA's safe drinking water limit—was found at the South Street site.

The news off-site was no better. Samples from off-site wells recently installed by the city contained 3.5 times more arsenic than EPA standards.

During a decade of arsenic testing, the city and the Florida Department of Environmental Protection never looked beyond the four-acre site for contamination.

Chromium was also present in the off-site wells, though not above EPA standards.

Molybdenum, a metal used as an additive in steel, tested above the EPA's health advisory level of 80 parts per billion in two wells.

Results from a second sampling of on-site wells and soil borings have not been made public.

In addition, results from groundwater samplings have not been released.

Panama City power buyout. Gulf Power Co. will buy all the electricity generated by the Bay County Resource Recovery Facility, a municipal solid waste plant, over the next six years, according to a contract recently approved by the Florida Public Service Commission.

The contract allows Gulf Power to acquire the Panama City facility's 13.65

megawatts of renewable generation for its customers.

The contract is expected to save the company about \$250,000 and provide security for customers.

If the facility does not supply energy, Gulf Power does not have to provide payment.

The agreement is the third renewable energy contract between Gulf Power and Bay County, and combines earlier agreements approved in 2008 and 2014.

Rock Mine case settled. Martin County finally settled its long-running breach of contract dispute with the Lake Point rock quarry.

The county spent more than \$5 million for attorney fees during the four and a half years of litigation.

Under the agreement, the mining and water restoration project near Indiantown will receive \$12 million to stop its breach of contract case against the county.

Lake Point will sell around 400 of its 2,000 acres near Lake Okeechobee to Martin County for \$12 million.

Company news. Tampa-based HSW Engineering Inc. added all of the full-time technical staff formerly with SDI Environ-

mental Services Inc. to their water resource services group.

The move expands their capabilities in groundwater modeling and hydrogeology, water resources, and geographic information systems visualization.

People news. Neil Eppig joined Cardno Inc. as senior project manager, subsurface utility engineering operations, in the company's Tampa office.

Eppig was previously a director of SUE services for a consulting firm, where he supported federal, state and municipal clients with planning and technical skills, including GPS technology and hydrographic surveys.

Eric Sutton, assistant executive director of the Florida Fish and Wildlife Conservation Commission, was appointed executive director of the agency.

Georgia Ackerman was named as the new Apalachicola Riverkeeper. She succeeds Don Tonsmeire as the river's leading spokesperson and advocate.

Olive Bailey, PE, joined Engenuity Group Inc. in West Palm Beach as a project manager.

She will be responsible for design and plans preparation for water, sewer, paving, grading and drainage projects.

Florida Notes



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SJRWMD approves Sleepy Creek withdrawal permit after judge's ruling

Staff report

Division of Administrative Hearings Law Judge E. Gary Early ruled late last year against conservationists who challenged a proposed water withdrawal permit increase requested by Sleepy Creek Lands LLC near Silver Springs in Marion County.

In January, the St. Johns River Water Management District Governing Board entered a final order adopting the judge's recommended order and issued the withdrawal permit increase to the company.

The new permit allows the withdrawal of an additional 1.22 million gallons a day from the Floridan Aquifer.

The company will use the water on two large tracts of land in central Marion County that support cattle ranching, and pasture and crop irrigation, and for a large cattle processing facility in eastern Marion County near Ft. McCoy.

The St. Johns Riverkeeper, Florida Defenders of the Environment, the Silver Springs Alliance and Marion County resident Alice Gardner characterized the district's "no adverse impact" finding as based on a flawed computer model of the springshed's groundwater.

The permit application process took a circuitous route before reaching final ap-

proval.

In 2014, water management district staff recommended rejecting Sleepy Creek Lands' permit for withdrawing up to 1.12 mgd.

Then, in December, 2016, district staff not only reversed its 2014 opinion, but it increased the allotment to 1.22 million gallons per day.

Sleepy Creek was already permitted to pump 1.56 mgd of groundwater under an existing permit.

Under the newly approved permit modification, total groundwater withdrawal could total as much as 2.78 mgd.

Plans, budgets for EAA reservoir options. At its December meeting, the South Florida Water Management District Governing Board released blueprints and budgets for a proposed stormwater reservoir to be built in Palm Beach County south of Lake Okeechobee.

The district's staff prepared plans and budgets for several options for the proposed reservoir. The plans include both a reservoir and a stormwater treatment area.

Blueprints for two smaller reservoir

configurations that cover 10,100 acres to a depth of 23 feet could be built, according to the proposed budgets, at a cost of a little more than \$1.4 billion.

This is within the \$1.6 billion budget the Florida Legislature stipulated last year.

The board also received an option for a 19,700-acre reservoir with an 18-foot depth that could cost close to \$2 billion.

The low-cost reservoir option, holding 240,000 acre-feet of water, would reduce

Lake Okeechobee discharges to St. Lucie River and Caloosahatchee River estuaries by 52 percent, while providing 89 percent of ecologically-needed

freshwater flow to Everglades National Park and Florida Bay.

The larger reservoir, holding 360,000 acre-feet of water, could reduce discharges to the estuaries by 61 percent.

It would also increase freshwater flow to Everglades National Park and Florida Bay by an additional one percent, to meet 90 percent of the ecosystem's freshwater needs.

The plans were submitted to the Florida Legislature for review on Jan. 9



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as required by last year's legislation.

Some of the additional land needed for the larger footprint could come from PRIDE Enterprises, a nonprofit organization that leases several hundred acres of agricultural land.

Additional land could also be purchased from adjacent landowners, most of whom are on the record as not interested in selling.

Last year's legislation allows the purchase of land from willing sellers but specifically forbid the water management district from using eminent domain to obtain additional land for the reservoir.

The reservoir ball is now in the Legislature's court.

McCarty Ranch extension project. In mid-December, work started on the McCarty Ranch Extension Water Quality Restoration Project.

The project will implement best management practices and construct infiltration basins to reduce nutrient input carried by stormwater runoff into the C-23 Canal, reducing nutrients from both urban and agricultural land.

The C-23 releases its water to the north fork of the St. Lucie River and eventually into the Indian River Lagoon.

When the seven infiltration basins covering approximately 1,900 acres are complete, the system will reduce discharges from the canal into the north fork of the St. Lucie by 21 percent.

In addition, it will remove 89,721 pounds of nitrogen and 18,471 pounds of phosphorus from the river annually.

The project is expected to cost about \$8 million. The Florida Department of Environmental Protection provided \$1.5 million through legislative appropriations and grants awarded from the U.S. Environmental Protection Agency.

The South Florida Water Management District and the city of Fort Pierce are sharing the remaining project costs.

Oakland stormwater treatment. In late November, the Orange County city of Oakland celebrated completion of a stormwater management project that included drainage swales and retention ponds with nutrient absorbing liners.

The project will help control flooding and reduce the nutrient content of stormwater runoff flowing into Lake Apopka.

The nine-month project cost a total of \$560,000 with \$185,000 provided by the St. Johns River Water Management District.

Lake Apopka muck removal. In late December, the St. Johns River Water Management District initiated a sump dredge project at the juncture of Lake Apopka and the Beauclair Canal.

The project involves digging a depression at the mouth of the canal to trap and entrain muck sediment. A dredge positioned on a barge will pump the sediment into Lake Apopka marshes.

Sediment spread over the marshes will raise the surface of subsided marshes and cover and isolate the existing pesticide-tainted sediments, a relic of agriculturally applied pesticides when the marshes were used for winter vegetable crop production.

Removing sediments from the lake will also improve water clarity by helping submerged plants regrow.

Ponte Vedra water reclamation. The St. Johns County Utility Department selected Wharton Smith Inc.'s bid of \$32,778,000 for construction of a new advanced wastewater treatment facility.

The new system, the Players Club Water Reclamation Facility, will have a rated capacity of 2.4 million gallons a day. It will be built on the site of an existing wastewater treatment plant that will continue operation until construction of the new facility is complete.

The project cost was slightly above budget. DEP provided an initial \$20 mil-

WATCH _____
 Continued on Page 5

NFWFMD releases SWIM plans to protect major watersheds in NW Florida

By PRAKASH GANDHI

Water resources across Northwest Florida will be protected under Surface Water Improvement and Management plans released by area water managers.

The SWIM plans, developed by the Northwest Florida Water Management District, will help identify watershed needs and estimate funding requirements and alternatives.

SWIM plans were developed for Apalachicola River and Bay, Choctawhatchee River and Bay, the Pensacola Bay

System, Perdido River and Bay, St. Andrew Bay, St. Joseph Bay, St. Marks River and Apalachee Bay.

These waterbodies comprise all the major riverine and estuarine watersheds of Northwest Florida.

The district's plan updates were completed with funding assistance from the National Fish and Wildlife Foundation Gulf Environmental Benefit Fund.

The SWIM program is implemented by the district, working in conjunction with the Florida Department of Environmental Protection, other state and federal agencies, local governments and private stake-

holders, to accomplish watershed protection and restoration.

Brett Cyphers, executive director of the NFWFMD, said the plans will provide the framework for the entire region moving forward in terms of water quality improvement.

"One of the important things about these plans is that they are flexible enough to address needs now and into the future," Cyphers said.

"The district worked hard to ensure this was a collaborative effort with the many stakeholders all over Northwest Florida," he said. "That allowed us to get a clear un-

derstanding of what the needs are for this region and what the potential solutions might be."

Cyphers said there was strong support from others involved in developing the plans.

"We were encouraged by the commitment of so many stakeholders to the success of these plans," he said.

The plans were developed under the Surface Water Improvement and Management Act enacted in 1987 by the Florida Legislature to improve and manage water quality and the natural systems of the state's surface waters including lakes, rivers, streams, estuaries, springs and wetlands.

The SWIM program's primary focus is watershed management, encompassing water quality and natural system protection and restoration.

The SWIM plans are implemented through activities such as retrofitting stormwater management systems to improve water quality and flood protection, restoring wetland and aquatic habitats, supporting enhanced wastewater management and treatment, evaluating resource conditions and freshwater needs, and protecting and restoring area springs.

University of Miami launches GIS certificate program

Staff report

With the growing market demand for professionals with geospatial data analytic skills in mind, the University of Miami Division of Continuing & International Education will launch a 16-week Geographic Information Systems Certificate Program in February.

The non-credit program is designed for professionals looking to enhance their careers or gain literacy in the increasingly important field, said Desiree Young, executive director of the office of professional advancement at the University of Miami Division of Continuing & International Education.

The GIS Certificate Program provides participants with a broad introduction to the fundamental concepts and techniques of GIS and related geospatial technologies.

Developed in collaboration with UM's Department of Geography and Regional Studies, the course includes both an introduction and intermediate topics in GIS.

Participants will learn how to map and analyze spatial data using GIS software with tools such as QGIS, Google Earth,

Google Maps and ArcGIS Explorer.

The program is designed to accommodate working professionals, with classes held on Saturday mornings in a GIS lab on UM's Coral Gables campus.

No previous experience in geospatial technology is needed to enroll in the certificate program, although students must hold a bachelor's degree in any field.

According to the U.S. Bureau of Labor Statistics, the demand for professionals with geospatial data analytic skills has soared, with more than 41,000 job postings in this emerging field in 2016.

GIS involves capturing, documenting, storing and analyzing data related to geographic locations. Waze, Uber, Amazon, FedEx, and NASA are among the companies that use GIS technology to optimize scheduling, fleet movements, ridesharing, and fuel usage.

Emergency managers use the technology to deliver assistance during times of crisis, including during Hurricanes Irma and Maria. In 2015, GIS enabled Miami officials to maintain a live map of Zika outbreaks.

Classes begin on Feb. 17, 2018. The

tuition is \$5,495 with financial assistance available.

Prospective students can get more information or register online at www.continue.miami.edu/GIS or speak with a program advisor at (305) 284-4000.

UM's Division of Continuing & International Education offers credit and non-credit academic programs to students including working professionals, traditional undergraduates, high school students and older adults.

WATCH From Page 4

lion from the state revolving fund and put the remaining approximately \$12.5 million on their 2019 waiting list for possible further funding.

The utility department is responsible for the remaining \$12,778,000 million completion costs from its Utility System Enterprise Fund Reserves.

FGUA purchase. Following a year of negotiation, the Florida Governmental Utility Authority reached agreement with the city of Dunnellon to purchase the Marion County city's water and sewer utilities.

The authority will use a \$12.1 million loan from the U.S. Department of Agriculture to fund the purchase that should be complete by the end of January.

Dunnellon will use \$10.8 million of the proceeds to pay down debt.

Deep disposal opposition grows. Walton County residents have formed Safe Water for Walton Inc. to oppose a permit application for a deep-injection well proposed for Jackson County.

Waste Management owns Springhill Landfill in Jackson County, and uses it as a disposal site for municipal solid waste collected across the Florida Panhandle.

Last spring, the company announced plans to install a 4,100-foot-deep injection well to be used for landfill leachate disposal. The permit would allow the company to accept liquid wastes for deep injection in the future.

Currently, holding ponds on the property contain leachates until they are trucked for disposal to three wastewater treatment plants operated by the town of Sneads, the city of Marianna and Okaloosa County.

Company officials said that expectations of increasingly stricter wastewater plant effluent standards lead them to the option of deep well disposal on property as the best solution for leachate disposal in the future.

Local Panhandle residents are con-

cerned that the proposed deep well could release wastes to two drinking water aquifers above the disposal well's receiving strata.

They are also concerned that the wastes released into the deep aquifer, or accidentally leaked to shallower aquifers, could contaminate surface waters fed by those aquifers.

Safe Water for Walton, Inc. is currently organizing a board of directors and hopes to include experts on the board.

The permit application is currently on hold until March, 2018, but the group, by organizing now, intends to be prepared should attempts to obtain permit approval begin sooner.

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UF study concludes free-flowing Ocklawaha River would increase economic opportunity

By **BLANCHE HARDY, PG**

A recent University of Florida study concluded that a free-flowing Ocklawaha River would produce greater economic opportunity along the waterway.

The study, Ocklawaha River: Economic Importance and Public Preferences for Water Resource Management, was released late last year.

The Ocklawaha was part of the planned 100-mile-long Cross Florida Barge Canal between Jacksonville and Yankeetown.

Construction of the canal began in 1935 and continued intermittently until opposition led by environmental advocates halted construction in 1971.

Some of the canal projects were completed including the Buckman Canal and Lock connecting the Ocklawaha and St. Johns rivers, the Eureka Dam that was never closed, and the 22-foot-high, 7,000-foot-long earthen Rodman Dam, later renamed the George Kirkpatrick Dam. The Kirkpatrick Dam impounded the

Ocklawaha River, flooding springs and forest wetlands, creating a reservoir and a new ecology for the river.

The report authors surveyed visitors to the Ocklawaha and Silver rivers as well as Silver Springs to gather information about their activities at the sites, gain knowledge and opinions about alternative management strategies, document expenditures for trips, and note the frequency of visiting the locations and the distance traveled from home.

The survey results allowed UF researchers to establish the relationship between the frequency of visitation and travel cost, and the value derived from recreational use.

The Ocklawaha and Silver rivers were monitored during the 2016 winter drawdown of the 9,200-acre Rodman Reservoir.

The rivers and 20 springs were fully or partially exposed for sightseeing, paddling, and fishing during the drawdown.

The area was then monitored again in 2017 when the Rodman Reservoir was refilled, and the river and springs were no longer accessible.

The UF team found that the total expenditures and economic impacts of visitor spending for recreational activities on the natural portions of the Ocklawaha River were about twice as high as for recreational activities on the Rodman Reservoir.

Roughly 1.8 million people visited the Ocklawaha during the study period. The study team interviewed 681 groups each year to ascertain activities, preferences and spending.

UF developed a regional economic model to evaluate both the direct and indi-

rect contributions of these visitors to the local economy.

The most frequently noted recreational activities included wildlife viewing, boating, paddling, fishing and sightseeing.

Spending averaged about \$57 per group. Overall visitor direct expenditures were estimated at \$6 million at the reservoir sites versus almost \$20 million at the river sites.

Breaching or removing the dam as soon as possible and installing fishing piers and canoe and kayak boat ramps with parking lots along the restored river are actions that would need to take place to provide maximum use of the river, according to the study's author, Stephen Holland, PhD, a professor with the Department of Tourism, Recreation and Sport Management at the University of Florida.

According to Florida Defenders of the Environment, the estimated cost for removing the portion of the dam blocking the Ocklawaha River is \$5 million.

Plus, an additional \$2 million would allow construction of a new bridge over the river at the location of the dam.

The study will help to define potential solutions for the decades-long controversy over the Kirkpatrick Dam and Ocklawaha River management.

Visitors pursuing fishing opportunities typically support the river's current reservoir.

Visitors pursuing spring- and river-based recreation prefer opening the dam to restore river, springs and floodplain ecosystems and their related recreational opportunities.

The potential loss of fishing areas has garnered extreme opposition to the removal of the dam in the past.

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DEP assumes responsibility for resolving Indian Bayou sedimentation

By **ROY LAUGHLIN**

During the 2017 rainy season, a seemingly unremitting flow of rust red suspended clay sediments in stormwater runoff colored Indian Bayou, a tributary of Escambia Bay in Santa Rosa County.

It raised the ire of local residents in the neighborhoods bordering the bayou.

Local news reports pointed the finger at Prince Contracting, a construction company widening Interstate 10; the Florida Department of Transportation; the Northwest Florida Water Management District and Santa Rosa's unpaved clay roads in the area as jointly responsible for the sedimentation in the bayou.

In December, the Florida Department of Environmental Protection assumed regulatory oversight of sediment discharges into the bayou, transferring authority from NFWMD, Santa Rosa County and FDOT.

"The turbid discharges into Indian Bayou have been found to have multiple sources with three separate responsible entities," said Brandy Smith, external affairs manager with the DEP's Northwest District. "So we believe that centralizing the regulatory compliance and enforcement activities to one regulatory agency will result in more efficient and effective resolution, and a simplified regulatory process."

DEP has responsibility for stormwater management and, because sediment discharges are runoff-related, the involved parties agreed DEP oversight is the likeliest to produce the necessary corrective actions to end the discharges.

In a December letter, DEP outlined its plans to conduct routine site inspections of the interstate construction work to ensure that adequate controls are in place.

DEP will contribute \$10,000 to Santa Rosa County to help underwrite efforts to reduce sedimentation from its clay roads and take other actions to control sediment flow into Indian Bayou.

The resolution of sediment discharge is very much the result of local activist efforts led by Barbara Albrecht, a marine biologist, assisted by Pensacola-based environmental lawyer, William Dunaway.

The campaign that began with a small neighborhood's activism made it into the area's dominant newspaper, perhaps explaining what motivated DEP to assume responsibility for corrective actions.

In a January email, Smith said that since the DEP agreement was finalized in early December, they have "continued to communicate frequently with all three responsible entities to ensure that short term efforts to control sediment/turbid discharges from both the interstate construction site and the county-maintained roads remains effective as we continue to work towards permanent solutions that ensure the long-term protection of our waterways."

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Trump administration announces oil, gas leasing plan for offshore waters

ROY LAUGHLIN

In October, Interior Secretary Ryan Zinke announced a lease sale offering all remaining Gulf of Mexico Outer Continental Shelf tracts.

He followed this offering in early January with similar—almost no-hold—offers for leases for the North Atlantic, South Atlantic, Pacific and Alaskan OCS tracts.

The offering would include 90 percent of total OCS acreage and more than 98 percent of undiscovered, technically recoverable oil and gas resources in federal offshore areas.

“Responsibly developing our energy resources on the OCS in a safe and well-regulated way is important to our economy and energy security,” said Zinke. “And it provides billions of dollars to fund the conservation of our coastlines, public lands and parks.”

The U.S. Department of the Interior proposed 47 potential lease sales in 25 of 26 OCS planning areas, including 19 off the coast of Alaska, seven in the Pacific region, 12 in the Gulf of Mexico and nine in the Atlantic region.

The largest number of petroleum lease sales in U.S. history would occur over a five-year period.

Last October, Zinke announced a similar lease sale for all available unleased areas of the Gulf of Mexico’s Outer Continental Shelf. It included the entire OCS of Texas, Louisiana, Mississippi, Alabama and Florida.

In total, 76,967,935 acres will be offered for lease. The lease sale, Lease Sale 250, scheduled for March, 2018, will be live-streamed from New Orleans.

Zinke announced the expanded lease plan on Jan. 4. Immediately thereafter, Zinke reversed course and removed all OCS tracts off Florida from the proposed leasing plan.

Other Florida tracts now off the list are a tract in the Florida Straits, and tracts in the eastern Gulf of Mexico that apparently were included in Lease Sale 250.

Before the first lease offerings outside the Gulf of Mexico could be offered, a 60-day public comment must be concluded, probably in March 2018.

Public meetings will be announced on the Bureau of Ocean Energy Management’s web site. The first meeting scheduled for Richmond, VA, on Jan. 17 was canceled due to bad weather.

“The important thing is we strike the right balance to protect our coasts and

people while still powering America and achieving American energy dominance,” said Zinke in outlining his plans.

The first step of the plan will only offer leases. Any drilling, if and when it occurs, will require a second round of permitting requests and approvals. The production any new oil is likely a decade away.

Leases off the Alaskan shoreline are likeliest to be purchased first because Alaska state officials want them.

Remaining OCS leases outside the Gulf of Mexico are likely to be planned and possibly offered in 2020 and thereafter.

Results from last summer’s massive Gulf lease offering, Lease Sale 249, suggest that the oil industry interest is limited. That sale resulted in the lease of only 90 tracts containing 508,096 acres.

Twenty companies submitted 99 bids that yielded a total of \$137,006,181 in highest bidder payments.

The majority of bids occurred on the Outer Continental Shelf between the mouth of the Mississippi River and Texas, the area that already hosts the largest concentration of offshore wells and the infrastructure supporting them.

BOEM currently manages about 2,900 active OCS leases, covering almost 15.3 million acres—the vast majority in the Gulf of Mexico.

In fiscal year 2016, oil and gas leases on the OCS accounted for approximately 18 percent of domestic oil production and four percent of domestic natural gas production.

The lease offering last summer expanded OCS leased area by just seven percent.

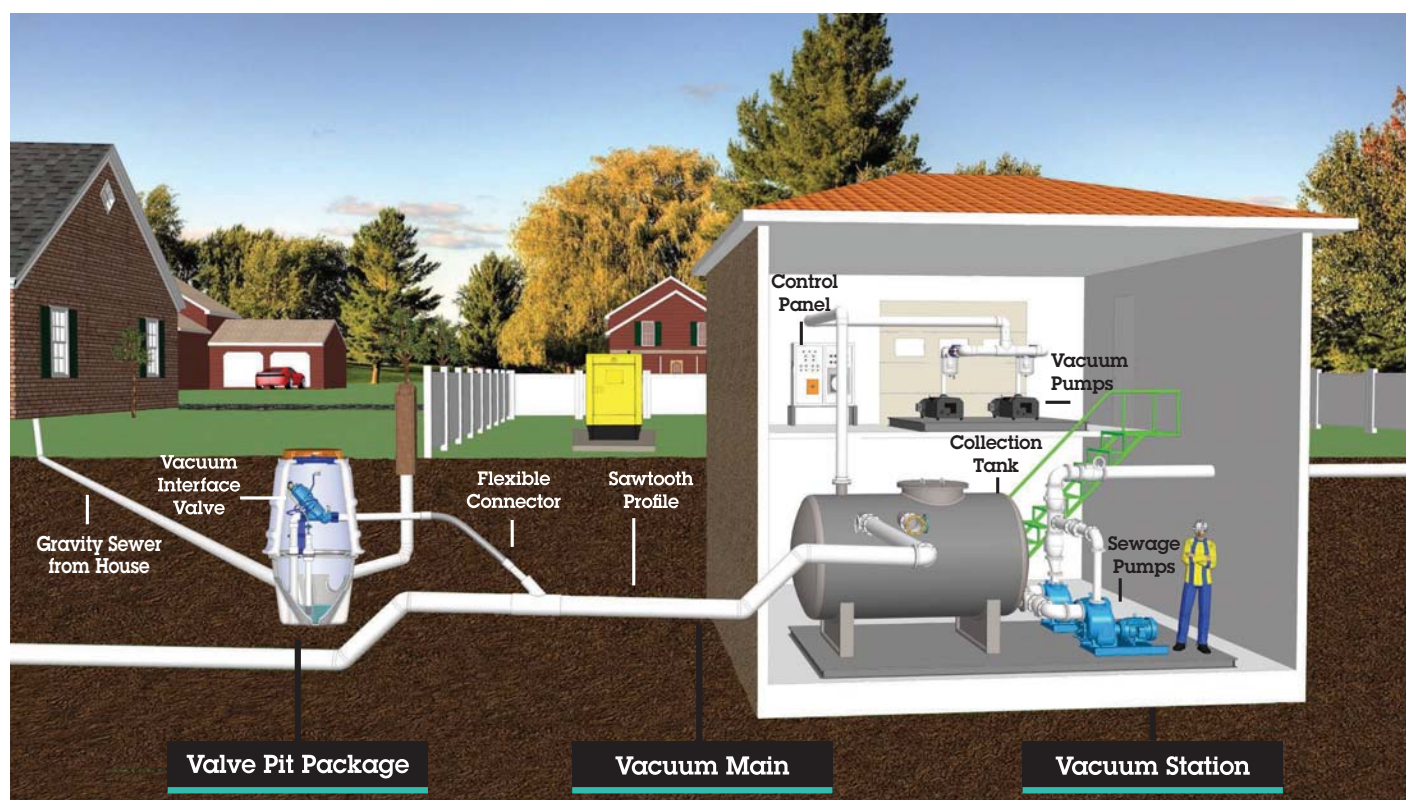
Currently, the U.S. has far more potentially productive sites on land amenable to fracking production, but today’s oil prices are the primary constraint to developing them.

Shortage of offshore leases, at this time, does not seem to constrain OCS petroleum production.

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Customers will pay to clean up FPL canals

Staff report

On Dec. 12, the Florida Public Service Commission found that Florida Power & Light Co. acted prudently in complying with environmental regulatory agencies’ requirements for its Turkey Point Cooling Canal Monitoring Plan. The finding allows FPL to recover the plan’s costs from customers through the PSC’s Environmental Cost Recovery Clause.

State Public Counsel J.R. Kelly, representing consumers in utility issues, the Florida Industrial Power Users Group representing business groups, and environmental advocates including the Southern Alliance for Clean Energy opposed the FPL proposal.

Counsel Kelly has not decided if his office will appeal the decision.

The decision allows FPL to collect \$176.4 million from customers to recover the cost of cleaning up groundwater contamination at its Turkey Point nuclear power generation facility. FPL was ordered to retract the saltwater plume resulting from the operation of its cooling canals in 2016.

Due to a reduction in other environmental costs, FPL customers may not notice the addition of the cooling canal cleanup costs in their bills this year, which are anticipated to drop from \$2.44 to \$1.59 per 1,000 kilowatts in 2018.

USGS installs storm-tide sensors along Gulf Coast to more accurately characterize storm surge

By ROY LAUGHLIN

In order to be better prepared for hurricanes in the future, the National Oceanic and Atmospheric Administration added storm surge predictions to their hurricane forecasts based on recently developed models.

Late last year, the U.S. Geological Survey took another step to more accurately characterize storm surge. Scientists installed temporary storm surge gauges when Hurricane Nate landed along the coast of Mississippi.

Under assignment from the Federal

Emergency Management Agency, USGS investigators installed 60 storm-tide sensors from Louisiana to Florida, 20 in Florida, 20 in Alabama, and 28 in Louisiana.

The gauges are autonomous, self-powered instruments that look like 1.5-inch diameter aluminum pipes strapped to pilings. Inside the pipe is a water level pressure sensor. The sensor also measures barometric pressure.

Measurements can be taken every 30 seconds for up to three days. The device

stores the data and the sensor is retrieved after the storm subsides.

The sensors are designed so they can be placed within a day or so before a hurricane's landfall. They are asymmetrically spaced, 50 miles to the left of the storms expected landfall location, and 100 miles to the right of the projected path.

The sensors were installed during the week before Hurricane Nate—up to a day and a half before the storm made landfall.

They are not permanently placed, so they can be reused in subsequent storms at locations around expected landfalls.

The data collected are primarily for study and research. After sensor retrieval, data are uploaded as a time series of water level and water pressure measurements.

USGS' data message includes generation of three-dimensional water surface images, and depth and duration maps.

These are used to study surge flooding and wave height, and provide a minute-by-minute reconstruction of the surge's interaction with coastal features including beaches, islands, estuaries and streams.

USGS scientists are particularly interested in determining the rate that flood waters transfer through various water bodies and landforms, the primary path of surge penetration, surge duration and the height and frequency of waves striking dunes and engineered structures, especially infrastructure.

USGS noted that high resolution time series characterization of storm surge interacting with geographical features is rare up to this point.

The new data will help improve flood insurance maps and building codes, and further calibrate the accuracy of hurricane inundation models. More accurate models will improve flood forecasts and warnings, and advise evacuation plans.

ASV

From Page 1

payload weight and 2.5-foot draft, Navocean's robotic sailboat can navigate anywhere from shallow coastal waters to open ocean.

Navocean and Mote Marine conducted two test cruises, one lasting two days and the other four days, to gain hands-on experience using the robotic sailboat for gathering data.

The cruises successfully employed a Turner Designs fluorometer to measure chlorophyll a and a colored dissolved organic matter detector.

The recent prototype tests showed that Navocean's sailboat was capable of char-

The USGS is making data from the sensors available online.

In early November, about a month after hurricane Nate crossed the Mississippi Gulf Coast, the USGS' site showed the location of the sensors on a GIS overlay map.

The simple data presentation indicated some counterintuitive occurrences.

For example, the highest water levels in Alabama were measured by sensors at the north end of Mobile Bay, miles from Gulf beaches.

The levels in the upper Mobile Bay were more than twice those measured at Mississippi's barrier islands south of Mobile.

"All of the USGS data from Hurricane Nate has been loaded into the Flood Event Viewer and was also sent to FEMA," said Jason Burton, public affairs specialist in the Eastern States Office of Communications at USGS.

"There are not any plans to do any analyses, interpretations, graphical presentations, etc. for this event, so what is currently available on the Flood Event Viewer is all that will be available," he noted.

The USGS site includes a download link for those wishing to do their own data analysis.

For future storms, if USGS scientists perform further data analysis, results will be available in the viewer.

The frequency of major hurricane landfalls is not increasing as quickly as the damage of the storm surge when these storms come close to the U.S.

For those storms that make landfall, storm surge damage covers a far larger area than high wind damage and persists longer. In many cases, flooding kills and injures more people than wind.

A more accurate storm surge model will be extremely useful to local governments that incorporate the findings into comprehensive plans and building codes.

acterizing bloom patchiness.

It could survey transects from Sanibel to Tampa in one day, using two sailboats launched at either end of the transect sailing towards one another.

The ASV is capable of surveying far shallower coastal waters than does Mote Marine's robotic submarine glider.

The sailboat and its detectors appear to have advantages and capabilities that other monitoring tools lack, but which can dovetail with them.

Beckler said that satellites can produce an image about once every five to seven days to indicate the possible presence of a red tide bloom, and spectral analysis can often accurately indicate red tide.

The sailboat could ground truth a larger area much faster than either stationary monitoring stations or MML's submarine glider.

Under sail, the boat can reach speeds of up to 2.5 knots and can add another 1.5 knots with assistance from its electric motor.

The boat is constructed using all of the current high-tech boating laminates and sail designs and materials.

The mainsail is a flat top main and the boat has a mast-top jib. The small boat possesses serious sailing capability—even before the research begins.

The Nav2 ASV may be operated manually or under full autonomous waypoint navigation software. Its dashboard features a web portal and Navigator 2017 iOS App, operated from an iPad.

The dashboard includes the usual navigation information such as location, speed, course, heading, wind characteristics, battery and solar panel voltage, sail and rotor position, propeller RPM and connectivity status.

Connectivity includes satellite, cell and Wi-Fi.

The Nav2 ASV currently can carry a 25-pound scientific instrument payload.

"The environmental sensors we have

ASV

Continued on Page 9



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Studies: Personal care products modify microbial ecology in fresh water ecosystems

By ROY LAUGHLIN

A pair of recently-published research papers and a review paper show that personal care products, or PCPs, discharged to fresh waters from wastewater treatment plants significantly affect microbial communities in biofilms.

The research shows suppressed microbial respiration and photosynthesis, and marked shifts in taxonomic composition of bacteria in the biofilm.

The review paper illustrated that PCPs are responsible for a wide range of sublethal influences of individual organisms representing a broad taxonomic range. Those effects, in some cases, have community-level effects.

PCPs include cosmetics and their preservatives, antimicrobials in soaps and deodorants, and prescription and nonprescription medicines and antibiotics.

In two of the research papers, teams lead by Emma J. Rosi-Marshall, PhD, an aquatic biologist at the Cary Institute of Ecosystem Studies in New York, conducted experiments to assess the effects of some of the most commonly-found PCPs on microscopic algae and biofilm bacteria.

The products tested included caffeine, cimetidine, ciprofloxacin, diphenhydramine, metformin, ranitidine, and a mixture of them.

The researchers measured biofilm respiration suppression that varied from about 51 to 91 percent for ciprofloxacin, a potent antibiotic effective against *Pseudomonas*, often the dominant biofilm bacterium. Biomass decreased by up to 22 percent in these treatments.

In the second paper, researchers examined microbial biofilm community composition at four stations along a watershed that began at the headwaters of Gwynns Run, whose streambed is covered by urban Baltimore, MD.

Three other stations were located on a receiving stream that became increasingly

rural as it flowed away from downtown Baltimore.

Water sampling showed that the stations were on a gradient from multiple PCPs, some present at very high concentrations, to one with none or very low concentrations.

Urban Baltimore's Gwynns Run was heavily contaminated by multiple PCPs, as well as caffeine and morphine.

As in the first study, respiration of the biofilm community at each of the four sites was affected by PCP products tested in bioassays, but in a paradoxical way.

The most heavily contaminated site was affected the least by experimental exposure. Microbial community sensitivity to added PCPs increased downstream where communities had less exposure to the compounds before the experimental exposure.

This indicated that microbial communities, in this case, in the heavily contaminated Gwynn's Run, adapted to PCP exposure.

The review paper, published in January, 2018, was a synthesis of PCP research on individual species from eukaryotes to vertebrates.

The take-away message from the paper is that PCPs have demonstrated effects in bioassays and ecological community studies.

The paper discussed some of the terms of a new paradigm for PCP environmental effects.

Their innate biological activity is the reason they were synthesized and used in the first place. They are usually resistant to degradation both within the human body and in the environment, so they tend to pass through wastewater treatment plants and display environmental persistence.

Typically, PCPs and pharmaceuticals are not bioaccumulated to high levels. But much of their risk comes from a third characteristic explained in the paper—the con-

coming career progression. He will soon relocate from Mote Marine to Florida Atlantic University's Harbor Branch Oceanographic Institution in Ft. Pierce.

That move opens a different focus on harmful algal blooms that will not be limited to red tide research.

Beckler said it may well include the prospects for research that includes robotic sailboat-based data collection and monitoring.

The use of small robotic sailboats for environmental research in Florida is not common yet, but may be in the not-to-distant future.

tinual addition of these compounds to the environment causes persistent exposure to nanogram per liter concentrations. On this basis, the paper characterizes them as "pseudo-persistent."

Because of these characteristics, questions surrounding the biological impacts of PCPs remain largely unanswered.

The answers to those questions will become more evident as chronic effects are studied in long-term life cycle exposure experiments in the future.

In some cases, behavioral and biochemical studies have provided insight into biological effects.

Some of the studies have shown attenuation of biological responses at low exposures, a paradoxical dose-response termed hormesis.

The researchers pointed out that these compounds are used because their biological activity has therapeutic benefits—and yet the risks of biological effects on ecosystems, as opposed to the human body, are dismissed due to the low concentrations typically found in streams and lakes.

The author suggested that this perception that the therapeutic benefits of PCPs exceed the risks has led to a lack of concern for the environmental impacts of the compounds at federal and state regulatory agencies.

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ASV From Page 8

on our vehicle now are a Turner Designs C.I. fluorometer measuring chromophoric (colored) dissolved organic materials, turbidity and chlorophyll," noted Navocean's Duncan.

In addition, it features an Airmar meteorological sensor that measures wind speed, wind direction, air temperature and barometric pressure.

The Nav2 can be outfitted with an optional conductivity/temperature sensor, he noted.

Turner Designs, which provides the fluorimeter, is a partner for instrument development for the sailboat platform.

Beckler said that the sailboat is an attempt to fill a niche for small boats in the robotic sailboat market.

He said that although other companies produce larger robotic sailboats to carry instruments, they do not provide the shallow water capability that Navocean's six-meter sailboat provides.

"We're still trying to constrain what the role of this robotic sailboat is," Beckler said after several weeks of prototype testing.

He and Duncan have been discussing various design modifications, such as the capability of lowering instrumentation from the boat to take measurements at depth, and the prospects of adding additional instrumentation to study harmful algal blooms.

Red tide blooms usually start offshore, and are typically preceded by a bloom of cyanobacteria.

They start below surface where they may not be observable by satellites in the early bloom stages, and are patchy both in surface coverage and at depth.

In its current configuration, the robotic sailboat can take only surface measurements and observations down to about 2.5 feet.

In describing his plans for possible future robotic sailboat, Beckler discussed a



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Handling of NC river contamination could provide model for other states

By ROY LAUGHLIN

In November, 2017, North Carolina Department of the Environmental Quality officials announced the suspension of Chemours Chemical Co.'s permit to discharge effluents containing polyfluorinated substances from its Fayetteville, NC, plant.

The plant had synthesized and used polyfluorinated octanoic acid and other polyfluorinated compounds for almost four decades.

It now makes and uses GenX, likely a polyfluorinated 6-carbon alkyl compound, used to make Teflon and other industrial products.

The Chemours facility discharges to the Cape Fear River, a drinking water source for residents of four downstream counties, including the Wilmington metropolitan area.

The contamination became an issue in November, 2016, when an EPA chemist and a faculty member at the University of North Carolina in Wilmington published

findings of polyfluorinated compounds—some at high concentrations—in the Cape Fear River.

The research showed that the compounds were not being effectively removed from the drinking water supply by the public treatment plants drawing water from the river.

From January through September, 2017, DEQ officials, NC Gov.

Roy Cooper and the North Carolina Legislature initiated a series of efforts to obtain information from Chemours about its GenX releases and potential environmental contamination.

They tried to convince Chemours officials to reduce their chemical discharges or risk losing their National Pollutant Discharge Elimination System permit to do so.

Regulatory officials discussed the potential for criminal investigations and the need for extensive and persistent water and sediment monitoring and other efforts.

Lawmakers approved a \$475 million bill to address GenX contamination.

However, Gov. Cooper vetoed the legislation because he claimed that \$2.6 million could get the job done.

For its part, Chemours agreed to cease GenX discharges—but apparently not discharges of other fluorinated compounds—from its Fayetteville plant.

GenX-containing wastes were to be shipped by tanker trucks to an incineration facility for disposal.

The issue came to a head late last year when the Chemours plant spilled an undisclosed amount of C3 dimer acid fluoride, which breaks down to GenX in water.

Heavy rains washed the spilled chemicals and their daughter products into the Cape Fear River.

In following weeks, drinking water utilities measured GenX well above North Carolina's current 140 parts per trillion provisional target concentration.

That spill, and Chemours' mute response to it, caused DEQ to partially-revoke Chemours' NPDES permit. The ban went into effect on Jan. 15, 2018.

The influence of this contamination event is reaching well beyond North Carolina borders.

The U.S. Environmental Protection Agency flagged polyfluorinated alkyl compounds as highly suspect human health risks. Last summer, the agency lowered its recommended threshold exposure level to 70 parts per trillion for combined exposure to all PFAS.

Neither NC's target exposure concentration of 140 parts per trillion nor EPA's recommended threshold exposure level of 70 parts per trillion is a legally enforceable standard.

The EPA is still in the process of formulating a PFAS drinking water standard.

Last July, Gov. Cooper asked EPA Administrator Scott Pruitt to move more quickly to finalize its health assessment of GenX and set a maximum contaminant level for it.

That would give North Carolina the needed authority to modify its 140 parts per trillion threshold in its drinking water, and proceed with other efforts to reduce human exposure.

It may also influence the debate and potentially reform EPA rules that now allow companies to demand confidentiality for information about chemicals that they deem to be "proprietary."

Very little MSDS information is publicly available on GenX's chemical composition. The C3-dimer characterization used above suggests that GenX is a 6-carbon polyfluorinated alkyl compound rather than the more widely used 8-carbon predecessors.

EPA scientists, including the one who



RC Development Group Inc.

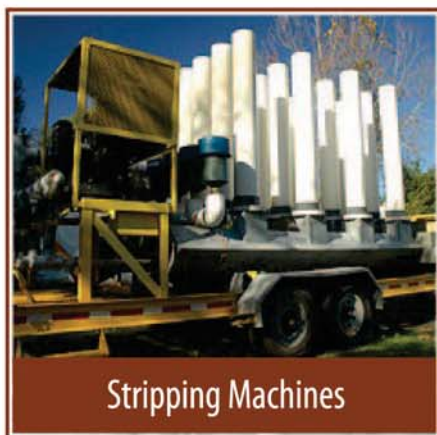
OSHA CERTIFIED REMEDIATION SUB CONTRACTOR



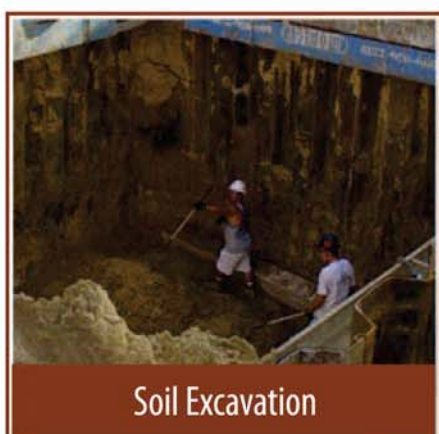
Sheet Piling



Dewatering Systems

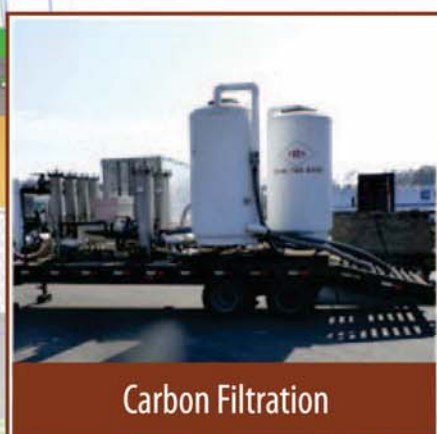


Stripping Machines

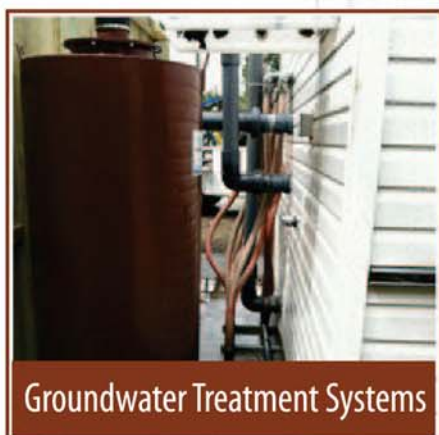


Soil Excavation

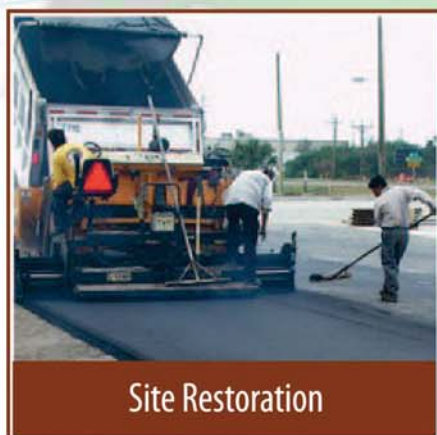
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CHEMOURS
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Calendar

February

FEB. 5-9 – Course: Backflow Prevention Assembly Tester Training and Certification, Destin, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

FEB. 5-9 – Course: Backflow Prevention Assembly Tester Training and Certification, West Palm Beach, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

FEB. 5-9 – Course: Landfill Design and Construction, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

FEB. 6-8 – Course: Respiratory Protection, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

FEB. 6-9 – Course: Water Distribution Systems Operator Level 2 & 3 Training, Kissimmee, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

FEB. 7-9 – Conference: National Conference on Beach Preservation Technology, Panama City Beach, FL. Presented by the Florida Shore & Beach Preservation Association. Call (850) 906-9227 or visit www.fsbspa.com.

FEB. 7-9 – Course: Backflow Prevention Assembly Repair and Maintenance Training and Certification, Orlando, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

FEB. 8-9 – Course: Southeastern States Vapor Intrusion Symposium, Atlanta, GA. Presented by the Georgia Tank & Environmental Contractors Association. Call (770) 426-1133 or visit www.gteca.com.

FEB. 8-9 – Conference: Environmental Law 2018, Washington, DC. Presented by the Environmental Law Institute and ALI CLE. Call (202) 939-3800 or visit www.eli.org.

FEB. 9-17 – Course: Backflow Prevention Assembly Tester Training and Certification, Ft. Myers, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

FEB. 12-13 – Course: Backflow Prevention Recertification Course, Destin, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

FEB. 13-15 – Course: Microbiology of Activated Sludge, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

FEB. 17-18 – Course: Backflow Prevention Recertification Course, Tampa, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

FEB. 17-25 – Course: Backflow Prevention Assembly Tester Training and Certification, Jacksonville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

FEB. 19 – Course: Introduction to Lift Station Maintenance, Jacksonville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

FEB. 20 – Course: Basic Water & Wastewater Maintenance, Jacksonville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

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

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

FEB. 21 – Course: Asbestos Refresher: Contractor/Supervisor, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

FEB. 21 – Course: Water Distribution System Pipes and Valves, Jacksonville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

FEB. 22 – Meeting: South Florida Aquatic Plant Management Society, Ft. Lauderdale, FL. Call (954) 370-0041 or visit www.sfpams.org.

FEB. 23-24 – Course: Backflow Prevention Assembly Repair and Maintenance Training and Certification, Venice, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

FEB. 26 – Seminar: 2018 Winter Water Seminar, Tallahassee, FL. Presented by the Florida Engineering Society and the Florida Association of Professional Geologists. Contact Stefanie Dedmon at seminars@fleng.org or (850) 224-7121 or visit www.fleng.org.

FEB. 27 – MAR. 2 – Course: Wastewater Class C Certification Review, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

March

MAR. 2 – Expo: 2018 Water Conservation Expo and Vendor Fair, West Palm Beach, FL. Presented by the South Florida Water Management District. Contact Jim Harmon at jharmon@sfwmd.gov or call (561) 682-6777.

MAR. 2-10 – Course: Backflow Prevention Assembly Tester Training and Certification, Venice, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 3-4 – Course: Backflow Prevention Recertification Course, Bradenton, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 3-4 – Course: Backflow Prevention Recertification Course, Tampa, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 5-9 – Course: Asbestos: Contractor/Supervisor, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 6 – Course: Refresher Training Course for Experienced Solid Waste Operators, Daytona Beach, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 6 – Course: Initial Training Course for Spotters at Landfills, C&D Sites and Transfer Stations – 8 Hour, Daytona Beach, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 6 – Course: Refresher Training Course for Experienced Solid Waste Spotter – 4 Hours, Daytona Beach, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 6-7 – Course: Initial Training Course for Transfer Station Operators and Materials Recovery Facilities – 16 Hour, Daytona Beach, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 6-7 – Course: Refresher Training Course for Experienced Solid Waste Operators – 16 Hours, Daytona Beach, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 6-8 – Course: Initial Training Course for Landfill Operators and C&D Sites – 24 Hour, Daytona Beach, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 6-8 – Conference: 36th International Conference on Thermal Treatment Technologies & Hazardous Waste Combustors, Houston, TX. Presented by the Air & Waste Management Association. Call 1-800-270-3444 or visit <https://www.awma.org/it3>.

MAR. 6-8 – Course: Initial Training Course for Operators of Landfills and Waste Processing Facilities, Daytona Beach, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570.

MAR. 6-9 – Course: Wastewater Class B Certification Review, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 7 – Course: Refresher Training Course for Experienced Solid Waste Operators – 8 Hour, Daytona Beach, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 7-8 – Conference: Cross Connection Control

Conference, Daytona Beach, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

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

MAR. 12-14 – Course: Greenprints 2017: Creative Disruption in Sustainability, Atlanta, GA. Presented by Southface Energy Institute. Call (404) 872-3549 or visit www.southface.org/events/greenprints/.

MAR. 12-15 – Course: Backflow Prevention Assembly Tester Training and Certification, Tallahassee, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 12-16 – Course: Backflow Prevention Assembly Tester Training and Certification, Pensacola, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAR. 12-16 – Course: Backflow Prevention Assembly Tester Training and Certification, Orlando, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

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

MAR. 19-22 – Conference: Carbon Capture, Utilization & Storage Conference, Nashville, TN. Presented by GovEvents. Visit www.govevents.com.

MAR. 19-23 – Course: Backflow Prevention Assembly Tester Training and Certification, Altamonte Springs, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.




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Every month, we publish this calendar of environmental industry events...have been for well over 35 years. It's the most comprehensive calendar available of local events here in Florida and regional/national events of interest to Florida's environmental professional community.

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



Backflow Prevention Courses

Backflow Prevention Recertification
Mar. 3-4, 2018 | Bradenton, FL
Mar. 16-17, 2018 | Tallahassee, FL
Mar. 22-23, 2018 | West Palm Beach, FL
Mar. 29-30, 2018 | Pensacola, FL

Backflow Prevention Assembly Tester Training & Certification
Mar. 2-10, 2018 | Venice, FL*
Mar. 12-16, 2018 | Orlando, FL
Mar. 12-16, 2018 | Pensacola, FL
Mar. 12-15, 2018 | Tallahassee, FL
Mar. 19-23, 2018 | Altamonte Springs, FL
Mar. 19-23, 2018 | Gainesville, FL
*(Two consecutive Fri. & Sat.) | ** (Two consecutive Sat. & Sun.)

Backflow Prevention Assembly Repair & Maintenance Training & Certification
Mar. 26-28, 2018 | Gainesville, FL
Apr. 9-11, 2018 | Altamonte Springs, FL

Solid Waste Courses

Initial & Refresher Solid Waste Courses
Mar. 6-8, 2018 | Daytona Beach, FL
Apr. 17-19, 2018 | Plant City, FL

Fundamentals of Slope Stability & Settlement for Solid Waste Disposal Facilities
Apr. 25-27, 2018 | Gainesville, FL

Water/Wastewater Courses

Water Distribution Systems Operator Level 1 Training
Mar. 20-22, 2018 | Gainesville, FL

DEP SOP's for Water Sampling & Meter Testing
May 1, 2018 | Gainesville, FL | CEUs: 0.8

Pumping Systems Operations & Maintenance
May 1-2, 2018 | Gainesville, FL | CEUs: 1.6

Intro to DEP SOP's for Groundwater
May 2, 2018 | Gainesville, FL | CEUs: 0.4

Unidirectional Flushing Workshop
May 3, 2018 | Gainesville, FL | CEUs: 0.8

Asbestos Courses

Asbestos: Project Design
Mar. 20-22, 2018 | Gainesville, FL

Asbestos: Contractor/Supervisor
Mar. 5-9, 2018 | Gainesville, FL

Asbestos Refresher: Project Design
Apr. 16, 2018 | Gainesville, FL


Asbestos Refresher: Inspector
Apr. 17, 2018 | Gainesville, FL

Asbestos Refresher: Management Planner
Apr. 17, 2018 | Gainesville, FL


Asbestos Refresher: Contractor/Supervisor
Apr. 18, 2018 | Gainesville, FL

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Solar power generation gaining momentum in the Sunshine State

By **BLANCHE HARDY, PG**

Although Florida is nicknamed the Sunshine State, solar energy has been slow to catch on here. But Florida's utility providers have finally begun to change the state's energy profile by replacing fossil fuel energy generation with solar farms.

"The Sunshine State has been a late bloomer in terms of solar development," said Sean Gallagher, vice president for state affairs with the Solar Energy Industries Association. "But we're finally starting to see signs of that turning around."

"SEIA has been involved at the Florida Legislature for the last three years working to expand access to solar energy in the state," he said. "Earlier this year, we helped a new law get on the books (Amendment 4) that will reduce the tax barriers for

people and businesses that want to go solar."

And it appears to be working.

Gallagher said that over the next five years, Florida is expected to install approximately 5,300 megawatts of new solar capacity.

"To put that in context, that's a 593 percent growth rate," he said. "This would push Florida into the #2 seat in the nation for utility-scale solar by 2022."

Low carbon emission power generation has been doing well at the national level.

The U.S. Department of Energy's 2017 U.S. Energy and Employment Report indicated that only 55 percent, or 1.1 million, of the country's energy employees worked in traditional coal, oil and gas during the reporting period while roughly 800,000 workers were employed in low carbon emission generation technologies,

such as renewables, nuclear and advanced/low emission natural gas during the same period.

The report stated that approximately 374,000 individuals worked for solar firms and an additional 102,000 were employed by wind firms.

In comparison, the Bureau of Labor Statistics reported 51,000 people were employed in the coal mining industry as of May, 2017.

But the trend may be in jeopardy.

"Across the industry, the most pressing matter centers around the solar trade case," said Gallagher. "The president is expected to make a decision this month that could have far-reaching impacts on solar nationwide."

In Florida, thousands of solar workers could lose their jobs starting this year if restrictive trade measures are put in place, Gallagher noted.

Trump is considering higher tariffs on solar panels.

The tariff increase is part of a petition filed last spring with the U.S. International Trade Commission by two foreign-owned bankrupt companies that asked for trade restrictions on crystalline silicon photovoltaic cells in response to their failed U.S. manufacturing ventures.

In response to the petition, the commission found in September that the import of cheaper solar components from certain countries hurts domestic solar manufacturers.

Trump has a history of disdain for al-

ternative energy generation, famously opposing a wind farm near his Scottish golf course because it would spoil his view.

After losing two court battles on the matter, his appeal to the Scottish Supreme Court was unanimously dismissed.

Trump has taken consistent actions in favor of fossil fuels, placing special emphasis on coal even though *Forbes* reports U.S. solar is a \$23 billion industry and there are 2.3 solar jobs for every coal job.

Even if Trump provides incentives for the coal industry, it is not likely that significant jobs will be created in that sector.


Between 1980 and 2015, coal lost 59 percent of its workforce while gaining eight percent in production. Mining efficiency jumped from 1.93 to 6.28 short tons per miner hour during the same period.

Increasing levels of automation, a shift from subterranean to less employee-intensive open pit mining, and cheap natural gas are the real reasons for coal's job losses.

And as the number of coal-production jobs continues to fall, the solar workforce increased by 25 percent and wind employment increased by 32 percent in the U.S in 2016.

Editor's note: Just before we went to press, President Trump did indeed follow through on his threat to impose steep tariffs on imported solar panels. According to industry pundits, the decision puts thousands of solar industry jobs at risk and will likely increase the cost of solar projects for both homeowners and utilities.

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FEDFILE From Page 2

The union said that reduced water flows, water pollution and shifting habitats are adversely affecting the environmental health, and the quality of Everglades habitat.

The union's report said some of the losses cannot be restored and others may take centuries to redevelop.

The organization evaluated 240 ecosystems across the world, including the Great Barrier Reef, Redwood National Forest and Lake Turkana.

News flash: Human activity causes climate change. In early November, 13 federal agencies released an extensive scientific report citing human activity as the dominant cause for global climate change.

In the past 115 years, global average temperatures have increased 1.8 degrees F. That average temperature increase has been accompanied by record-breaking weather events and temperature extremes.

Sixteen of the last 17 years rank among the warmest on record.

NOAA said that 16 major weather disaster events in 2017 caused a total of \$300 billion in damages, a new record.

Congress mandated that a climate change report be prepared every four years. The one released in December had been in preparation since 2015.

Its conclusions are in stark contrast to President Trump's complete dismissal of human impact on climate change.

Although the president appointed agency and cabinet heads who share his view, the scientists who prepared the report said they experienced no interference with report preparation activities.

The White House reviewed the report and could have blocked its release.

Some industry observers suggested that the White House allowed the reports' release to avoid competitive interference with its recent tax legislation campaign.

Suppressing the report, the observers suggested, could distract public acceptance of the administration's message to a skeptical public about the benefits of tax reform.

Florida State College in Jax gets training grant. The EPA again awarded Florida State College in Jacksonville with an Environmental Workforce Development and Job Training Grant.

This is the third time in recent years that the college received EPA funding to help low

income and unemployed/underemployed residents acquire the skills needed for environmental-field employment.

The program consists of a set of training courses that give students credentials for specific skills in waste management, environmental remediation, emergency response and other employable skills.

The college received the funding both to provide training and to recruit, train and identify employment opportunities for program students.

Leopold confirmed as EPA general counsel. In late December, the U.S. Senate confirmed Matthew Leopold, Esq., as general counsel for the EPA.

Before his appointment, Leopold worked for two years in Carlton Fields' law office in Tallahassee.

During the decade prior to 2015, he worked for state and federal agencies including the Environmental and Natural Resources Division of the U.S. Department of Justice.

In that position, he assisted in civil enforcement against BP and others resulting from the 2010 Deepwater Horizon oil spill.

He also served as general counsel for the Florida Department of Environmental Protection. There, he assisted in the legal action against the state of Georgia in the water quantity dispute with Georgia and Alabama, and advised the agency on Everglades restoration efforts.

St. Johns dredging project to move forward

Staff report

On Jan. 19, Judge Marcia Morales Howard denied St. Johns Riverkeeper's motion for a preliminary injunction to prohibit the U.S. Army Corps of Engineers and JaxPort from proceeding with plans to dredge the St. Johns River.

Riverkeeper filed the motion due to the failure of the corps to evaluate the likelihood of additional flooding as a result of the deep dredge project.

In addition, they questioned the economic viability of JaxPort's publicly announced plans to revise the scope of dredging work from 13 miles to 11 miles.

While the judge's decision allows the first phase of the project to proceed, it does not restrict opponents from pursuing concerns regarding the impacts from additional flooding in their legal challenge of the corps' environmental study.

of efficiency within the program.

There were certainly examples of program irregularities. In a summary of those related to program contractors, the IG identified approximately two dozen cases on over 900 projects—a rate of less than three percent.

While this was enough for Vinyard to initiate a complete petroleum cleanup program reformation, it was insufficient to warrant even a single instance of criminal charges against contractors when the report was turned over the Florida Department of Law Enforcement.

DEP employee intimidation

The IG was also tasked with examining alleged illegal activities by DEP employees in the petroleum cleanup program.

In early 2013, then-DEP Deputy Secretary of Regulatory Programs Jeff Littlejohn told employees in a meeting that the FDLE was investigating program staff and contractors to determine if illegal activities had occurred or were still occurring.

Jerry Phillips, director of Florida PEER and a former DEP attorney, asserted in an interview that, at one meeting, Littlejohn waved a letter in his hand that he claimed described the FDLE investigation.

Multiple PEER Freedom of Information Act requests for records of any FDLE investigation produced no evidence that FDLE ever conducted such an investigation.

The PEER paper alleged that DEP management's assertion of criminal investigation was part of an employee intimidation effort that resulted in long-time employee departures and the loss of significant program knowledge.

In concluding its discussion of the OIG review, the white paper stated that "(a) the end of the day, what we are left with is a document trail that is silent on the claims of DEP management that the FDLE was conducting a criminal investigation into activities of agency employees and third-party contractors for alleged misconduct in the petroleum contract procurement aspect of site remediation.

"The OIG likewise found no evidence of misconduct on the part of the contractors, or on the part of rank and file employees. Rather, the only misconduct occurred, ironically, by the very person(s) who was pointing the finger at others."

"The reasons for former Deputy Secretary Littlejohn's machinations are unclear. The only logical explanation is that the department saw the need to tighten controls on this program; however, it also sensed that actions taken in that direction would anger important constituents in the contractor community.

"The allegations raised, even though unconfirmed by multiple investigations, gave the department (and the Legislature and governor) the cover that they needed to pass the statutory and rule revisions that they deemed necessary at the time. It remains to be seen whether the changes will initiate a significantly positive direction for the program."

The white paper further alleged that DEP management intimidation of employees was not limited to threats of nonexistent FDLE investigations.

The report included allegations that Jorge Caspary, then-director of the DEP Division of Waste Management, was quoted as saying that "[n]othing motivates people like losing a job ..." at a July, 2011, management meeting.

When the *Florida Specifier* contacted Caspary regarding this, he said he had no memory of making such a comment. Further, he noted that at the time the white paper said he made the comment, he had been the division director for less than 45 working days.

"It was too soon for me to have made that statement," he said.

Caspary noted that during his tenure as division director, people were separated for cause from DEP. In contrast, he noted, his division and the PRP specifically had fewer staff reductions than other programs and other state agencies.

Nevertheless, the PRP program was hobbled by qualified staff shortages while revising state Agency Term Contractor

lists, promulgating scope of work and contracting policies, and reviewing completed work before authorizing payments.

Risk-based closure

PEER's white paper alleged that in the chaos of revolving-door DEP secretaries and PRP administrative leadership, and employee reductions that began during Scott's first term, PRP failed to meet its statutory requirements.

When Caspary initiated PRP reform, the single goal in public discussions was reducing the number of sites on PRP's contaminated site list.

During those first two years, the guiding principle was to adopt risk-based site closures and abandon standards-based cleanup targets.

Adopting a risk-based approach allowed the department to characterize a site as "clean" if petroleum concentrations in the soil or groundwater were below levels deemed to be a risk to human health or the environment with respect to the intended use of the property.

Properties with low contamination levels confined within the legal boundaries of the property were those most frequently closed under risk-based criteria.

That strategy has clearly borne fruit. PRP administrators' intention to significantly increase site closures using the new risk-based approach is reflected in the numbers today.

Low Score Site Initiative

In 2014, the department established its Low Score Site Initiative program to help reduce the number of sites on PRP's cleanup list.

PRP assigns each petroleum-contaminated site a priority ranking score based on its level of severity. Applying risk-based cleanup standards to the dominant category of low scoring sites would, PRP managers hoped, yield a previously unharvested crop of low hanging fruit to decrease the number of program sites.

The PEER report noted that between 2010-2011 and 2016-17, the median priority score for closed PRP sites dropped from 60 to 29. Within the same time frame, the number of site closures shows a bimodal peak.

In 2013-14, site closures peaked at 536 sites before falling back to 333 sites in 2014-15. That number was only a bit more than the next lowest number, 314 site closures in 2011-12.

In 2016-17, the number of closed sites reached 576 sites, exceeding even the 536 tally in 2014-15, the year LSSI began.

It is clear in DEP's reported tallies that since LSSI began in 2014, the annual number of "rehabilitated discharges" increased as intended, in a large part due to LSSI.

In December, 2017, PRP was conducting 3,986 site assessments or supplemental site assessments, 2,180 of which were in the lowest scoring category, below 19. At the same time, it was conducting a total of 100 site cleanups, 37 of which were in the same lowest scoring category.

In terms of raw numbers, in the four years before the LSSI began, PRP closed 1,493 sites. Since LSSI, it rehabilitated 1,629 sites, an increase of 200 sites in the most recent four years.

These numbers, contrasted with the declining median site score, lead PEER to conclude that the LSSI has bumped more heavily contaminated sites off the remediation activity list as available resources were used to shorten the site list overall.

In so doing, the PEER report asserted that the aggregated health and environmental risks of the remaining sites are higher than would have been the case if high-scoring sites uniformly received the funding that the original legislation mandated.

Caspary, in responding to assertions that LSSI distorted PRP's priorities, said that "100 percent of the highest risk sites have been addressed."

It is not LSSI that impeded PRP's activities at the remaining high-risk sites, he said.

Rather, it is site access, which site owners and responsible parties must voluntarily agree to, in most cases. If they do not agree to access, PRP's cleanup efforts can grind to a halt.

LSSI administrative problems

The LSSI program's primary justification was to reduce the number of contaminated PRP sites.

Long-term PRP observers will remember that when DEP officials originally proposed the LSSI program, they made a commitment to spread the work around to as many different contractors as possible, as quickly as possible.

The number of contractors involved in the program had dropped from over 200 in 2008 to about 70 contractors at the lowest point of the recession.

The LSSI award process was to be facilitated by changing contracting rules to allow PRP to award contracts with a value less than \$35,000 to companies on the state contractor list, rather than to use competitive bidding.

Anticipating the change in rules, then-PRP Administrator Valerie Huegel and Caspary awarded 144 LSSI jobs to 72 Agency Term Contractors before the enabling legislation, Chapter 287.057, Florida Statutes, was formally in effect.

A hearing exonerated Huegel and Caspary of any wrongdoing noting that they acted in anticipation of the rule changes.

Nevertheless, the PEER paper noted

the irony that it was the only instance of any formal action taken against DEP staff after program reform.

Rather than low level staff, management was investigated for improper activities, an allegation that was not supported by formal hearing but did create a distraction from PRP's mission.

Continuing raids on IPTF

The PRP is funded through a two-cent-per-gallon tax on petroleum products. Through 2008, those tax receipts provided in excess of \$200 million annually to fund PRP cleanup efforts.

Since Gov. Scott took office, PRP has received \$110-\$128 million each year from the Inland Protection Trust Fund, and occasionally up to \$10 million more for programs earmarked and funded by legislative appropriations.

Even though trust fund receipts have increased since 2008, PRP funding during the ensuing economic recovery has remained static in the much lower range initiated during the recession.

The PEER report noted that the state Legislature, with Gov. Scott's acquies-

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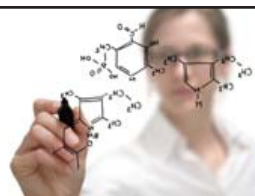
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ence, continues to diverting significant funding from the program to be used for unrelated spending.

And these diversions are accelerating.

In 2011, the Legislature diverted \$5.5 million, three percent of the \$189.6 million the IPTF earned.

And the Legislature has raided the trust fund piggy bank more and more every year since.

In 2017, the IPTF's total pot was \$200 million. PRP received \$118 million of that and the Legislature diverted \$63.5 million, 31.75 percent of the IPTF proceeds.

From 2011 to 2017, inclusive, the leg-

islature diverted a total of \$289.7 million of IPTF proceeds from the PRP to other general revenue uses—in spite of the law requiring that IPTF dollars be used specifically for cleaning up petroleum contaminated sites.

Some readers might wonder if the LSSI program, with \$25 million in annual funding, is significantly reducing the timely and effective cleanup of PRP's most contaminated sites that pose the greatest risks to human health and the environment, as the PEER report alleged.

If PEER's assertion is correct, then the Legislature's diversion of \$289.7 million from the program unequivocally compromised PRP's mission to protect human

health and the environment.

Enforcement levels continue to drop

The PEER report noted that during the Scott administration, enforcement within the tanks program has become virtually nonexistent.

In 2009, DEP assessed \$1,505,376.25 in fines and penalties and collected \$547,232.56, about a third of that. Fines and penalty assessments fell to \$51,500.00 in 2016 and DEP collected just \$27,765.25.

PEER's paper noted that over the past six years, DEP collected \$2,766,363.80, just 36 percent of assessments levied.

Caspary offered three different reasons for the decrease in penalty assessments and collections from those described in the PEER paper.

The first is operator training that included compliance requirements and equipment operation to avoid discharges, which the industry implemented over the past half-decade. He said the training significantly reduced operator errors that led to discharges.

The second is that PRP was "proactive" in implementing the replacement of single-walled tanks with EPA-mandated double-walled tanks, pipes and other structural modifications to petroleum storage and pumping facilities.

The third is that fines and assessments include three penalty categories.

Type A is a significant release to the environment that contaminates soil or water. These receive high fines that DEP usually will not reduce.

Category B includes releases to parking lots or catch basins. These are relatively minor spills that do not contaminate soil or water, and are cleaned up by facility staff.

Category C involves infractions that do not necessarily involve spills. They could be as simple as failing to measure and document the amount of petroleum in a storage tank.

Since training and facility upgrades have occurred over the recent years, discharges have declined.

"In types B & C violations, the department can negotiate lower payments," Caspary said.

Oil company double-dipping

The PEER paper alleged that Chevron USA Inc., ConocoPhillips Co. and Sunoco Inc., or their affiliates, submitted claims to Florida's PRP for reimbursement of petroleum cleanup expenses.

They also submitted claims for the same cleanups to their private insurance companies and received payment for them.

Such actions constitute fraud, historically considered a crime.

During the Scott administration, DEP hired the Tallahassee law firm of Shutts & Bowen LLP to seek recovery.

In 2014, Shutts & Bowen reached settlement agreements for \$7 million to be paid by Chevron, \$3,200,000 to be paid by ConocoPhillips and, in late 2015, \$475,000 to be paid by Sunoco.

PEER's paper said that ConocoPhillips has paid the full settlement. Chevron has paid \$5,521,085.85 of the \$7 million that it agreed to pay in 2014, leaving it with a balance of \$1,478,914.15. Sunoco has paid \$429,884.74, of the \$475,000.00, and still owes about \$45,000.

These are the only cases the department has investigated, according to PEER.

PEER also called attention to payments made to Shutts & Bowen for legal services. The law firm contracted for a rate of \$175 per hour, exclusive of expenses, with a cap of \$350,000.

The firm was to be entitled to "success fees" should the amount that it recovered exceed the department's expenses.

Shutts and Bowen, according to PEER's paper, received \$493,249.17 for services rendered. According to PEER, the receipt does not indicate what, if any, of the amount paid was for expenses.

The PEER report strongly questions whether the company could have justified expenses amounting to \$143,249 when they did not go to court and did not recover the full amount in two of three cases.

The Florida Specifier requested additional information from DEP about cleanup-related double-billing in general.

Dee Ann Miller, DEP deputy press sec-

retary, noted that Florida's reimbursement program was phased out in 1995-1996 and the last claims for payment were accepted in 1997.

Subsequently, Florida's auditor general examined claims between 1998 and 2001, Miller said. As a result, Florida recovered \$5.5 million, corresponding to the amount noted in the PEER white paper.

Miller said that the state also recovered more than \$10 million from petroleum companies for IPTF expenditures arising from leaking underground storage tank remediation.

Questionable payments made to owners for cleaning up discharges were "mostly historic" and "predate current regulatory requirements," she said, with 93 percent occurring before 1998, and 97 percent before 2000.

Since 1999, Florida required tanks to be registered when installed and for owners to take financial responsibility for cleanup, making such efforts their sole responsibility.

It appears from this information that the three oil companies named in the PEER report were not the only ones who made unsupported reimbursement claims for site cleanup.

They account for only a third of the total recoveries Florida has made so far.

Notifying neighbors

PEER also discussed notification requirements for petroleum contamination under current law.

Property owners undertaking remediation must notify DEP of contamination. But if and when petroleum contamination is discovered, or is already known, there is no requirement for disclosure either by the state or the property owners to neighbors.

The only exceptions occur if a school is located on the contaminated property or if a contamination plume is known to extend to neighboring properties and DEP has determined that the neighboring property must be cleaned up.

Florida's statutes, according to the paper, "allow contamination to exist on property without the property owner even knowing about it."

Purchasers may acquire property without any obligations for the seller to disclose the contamination. Likewise, neither tenants nor renters are required to be notified of petroleum contamination.

PEER's Phillips noted that risk-based cleanup makes it more important than ever to notify the public as well as property tenants that a neighboring property experienced a discharge.

"It makes more sense, in our opinion, to require that these sites be cleaned up to the extent that they meet rule criteria so that the danger of plumes worsening is eliminated to the extent possible and in the alternative greatly reduced," he said.

"The public needs to be informed that the department is choosing to leave contaminants in the ground and that there is a risk of the contamination posing future problems. Such is not the case in the department's current approach."

The PEER paper encouraged both rural and urban residents who drink well water to ask DEP whether there is a contaminated site near them and, depending upon the response and distance from any contaminated site that might be present, have their well water tested.

Scott's new springshed focus

Today, some sites within springsheds, PEER alleged, are receiving priority cleanup that appears unjustified and may be politically motivated.

In one of the most perplexing cases PEER described, the PRP listed 19 contaminated sites within springsheds in Brevard County. Brevard, however, is not known to have a single spring fed directly by the Floridan Aquifer.

The report discussed other sites whose prioritized cleanup does not seem justified based on the identified water quality problems identified for the springs.

Conclusions, lessons learned

The PEER paper paints a stark image of dark times during Gov. Scott's two terms

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St. Johns district grants help improve Flagler County wastewater infrastructure

By PRAKASH GANDHI

Two local governments on Florida's east coast received big cash infusions to make improvements to their wastewater treatment systems.

The St. Johns River Water Management District provided Flagler County with a \$450,000 grant to help upgrade its Plantation Bay sewer system.

District officials also awarded the city of Bunnell \$462,000 for a project to improve the sanitary sewer collection system on the city's west side.

For the past two years, Flagler County has been the only utility option for many residents in Plantation Bay, a gated community that borders the Volusia-Flagler county line between U.S.1 and Interstate 95.

Upgrades to the wastewater systems are required by a 2013 consent order with the Florida Department of Environmental Protection.

The order required the wastewater treatment systems to meet several benchmarks, including installation of continuous effluent monitoring equipment.

State environmental officials spent years urging master plan development builders to make improvements to the wastewater system, but the builders that operated the system refused to do so.

In December, 2016, thanks to a DEP loan, commissioners approved up to \$5.75 million in funding for the project.

Construction is expected to begin this spring and officials said the project should be complete by the summer of 2019.

Flagler's grant will help offset costs for a \$3.8 million plan to overhaul Plantation

Bay's sewer system.

Flagler County officials welcomed the recent grant and said it will boost the infrastructure of Plantation Bay.

"This grant provides funding for a project that fits within the county's overall plan to improve water services in Plantation Bay," said County Commission Chair Greg Hansen.

"We are working on wastewater projects now, and down the road there will be projects to improve the potable water treatment facilities."

County Administrator Craig Coffey said about 100,000 gallons of wastewater flow through the current plant each day, calling it a low-flow level that represents about

20 percent of the system's full capacity.

The revamped system will feature a new plant capable of handling about 500,000 gallons of wastewater a day as well as a new master pump station, a new reject water pump station and a million-gallon capacity ground storage tank.

"We certainly appreciate the partnership with the St. Johns River Water Management District," Coffey said. "This support allows us to more quickly address some of these larger projects, which is a benefit to our residents."

The new plant would replace an aging treatment facility for wastewater that serves about 2,000 residents in the subdivision.

Elsewhere, Flagler County and the city of Bunnell collaborated to form a public utility company to serve the residential neighborhood in 2013. But problems persisted with the quality of the potable water delivered to residents and Bunnell dropped out of the joint utility effort in October, 2015.

Flagler and Bunnell were two of 17 applicants for the district's Rural Economic Development Initiative, a cost-sharing program geared toward water projects in small municipalities.

The district rated Bunnell at the top of its list for upgrades and awarded the city about \$3.5 million in total for seven different projects

Naples officials aggressively address pollution entering Naples Bay

By BLANCHE HARDY, PG

The city of Naples is on target to start a \$1 million project to reduce pollution entering Naples Bay.

The city has been developing the project and obtaining the necessary permits since 2015.

Naples Bay has been classified by the state as an impaired water body. Analysis of samples collected from the bay exceed regulatory limits for copper, iron and fecal coliform.

This restoration effort is one of a num-

ber of projects that Naples officials have undertaken to proactively reduce the amount of pollution entering the bay.

The project will address a pollution hot-spot near Naples Landing where the city's South Florida Water Management District-permitted Cove Stormwater Pump Station discharges an estimated 450 million gallons of stormwater a year.

The pump station, located at the intersection of Broad Avenue South and 9th Street South, was built in 1965 and rebuilt in 2010.

The station receives drainage from ap-

proximately 440 acres of urban lands including 43 acres of commercially zoned property.

The station has three main pumps rated at 25,000 gallons per minute and one jockey pump rated at 4,000 gpm.

During significant storm events, all three main pumps have the capacity of discharging up to 75,000 gpm.

The city noted that an average rainfall event requires one main pump running at

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PEER

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for multiple reasons when disingenuous program criticism, employee intimidation and clumsy reform implementation affected all parties associated with the PRP.

But the two most recent years of PRP activity data suggest that it has arrived at a new steady state after the reform process.

Perhaps it is in the public's best interests to let PRP operate with the necessary technical management oversight and without the unwarranted partisan politics that motivated the interference that occurred between 2011 and 2015.

In the final analysis, restoring raided trust fund proceeds to the PRP, where they legally belong, would translate directly into more cleanup and site closures, including those contaminated sites with the most risk to the public.

As Thomas Paine said in his 1774 book "Common Sense," when people make a mystery of government, they usually do so for the worst of reasons.

If there are any lessons to be learned, consider the following:

We should hold both elected and appointed officials accountable for their actions and statements.

We should never allow elected or appointed officials to make accusations about citizens or companies without providing proof.

We should never allow elected or appointed officials to stand behind a curtain and make accusations about people or companies without affording the accused the right to stand before their accuser and defend themselves, as required by the U.S. Constitution.

And never again should we allow elected or appointed officials to supplant their own opinions in place of Florida statutory law and then accuse individuals and companies of breaking the law based upon their opinions instead of what is written in the Florida Statutes.

Editor's note: To further connect the dots, we are providing a Preapproval/PRP Timeline of Investigations by the DEP Office of Inspector General and the Florida Department of Law Enforcement obtained through FOIA requests and compiled by industry experts. The document is available in the News Updates section of our web site, www.enviro-net.com.

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- Remedial system optimization
- PRP case studies: Assessment and remediation within the state PRP—tools and techniques for ATC success
- Assessment and remediation within the Florida Drycleaner Solvent Cleanup Program
- Vapor intrusion
- Vendor-focused technologies and products (anticipated to be a session with "speed talks")
- Regulatory policy and initiatives
- Cleanup case studies of sites and surface water contaminated with petroleum, PCBs, DNAPLs and LNAPLs, chlorinated solvents, arsenic and heavy metals, pesticides, nitrates/nitrites and other contaminants.

In addition, we are considering presenting several sessions featuring open forum discussion on technologies, site assessment techniques and regulatory subjects. If you have a suggestion for an open forum subject, chime in.

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NAPLES

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25,000 gpm. However, high rainfall intensity sometimes requires two main pumps for a short duration.

Over time, approximately 511 cubic yards of sediment has accumulated over the natural bay bottom as a result of scour associated with station discharge.

In addition to the accumulation of sediments, the channel mouth leading from the cove outfall into Naples Bay has been artificially narrowed by deposited sediments.

The city reported that the existing shoal appears to have been created by sediments entering the cove outfall via the Cove Pump Station and its drainage collection system, and the scouring of the bay bottom substrate at the outfall discharge.

The shoal impacts hydraulic conditions within the cove resulting in diminished ecosystem function. The city noted the

CHEMOURS

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first identified PFOA contamination in the Cape Fear River, must be very careful in making analytical results public.

Despite the industry's demand for non-disclosure, any competent chemist with a gas chromatograph and a mass spectrometer can identify these compounds relatively easily and accurately.

The disclosure ban does inhibit regulatory agencies, however, from identify-

WEDGEWOOD

From Page 1

As a result, a summer camp being held in the community center had to be relocated.

The Florida Department of Environmental Protection issued a notice of revocation to South Palafax LLC, operators of the Rolling Hills facility, rescinding their permit and charging the facility with violating numerous environmental standards. Rolling Hills subsequently closed in 2015.

The newly proposed construction and demolition disposal site is owned by Shortleaf LLC.

The company currently operates a borrow pit from which most of the soil has been mined.

Shortleaf sought a permit from Escambia County to convert the pit into a landfill in accordance with their reclamation plan approved in 2007.

However, local regulations governing borrow pits and landfills have dramatically changed since the Shortleaf reclamation plan was first approved.

The proposed C&D landfill needed two variances from current county code to move forward.

First, the site being considered is less

greatest ecosystem impacts are on the south side.

As part of the new project, 630 linear feet of new oyster and vegetated habitat will be created on the southern shoreline. An additional 330 linear feet of habitat will be established on the northern shoreline.

Deposition of sediments has resulted in an elevation of the natural shoreline that has subsequently reduced the estuarine environment suitable for tidal marsh habitat.

As part of the upcoming project, the city will dredge and dispose of sediment and material that has accumulated at the terminus of the Cove Stormwater Pump Station outfall into Naples Bay.

The project will remove 1,080 tons of accumulated sediments and an additional 1,920 tons of sediment to accommodate improvements. Any contaminated marine sediments encountered during removal will be remediated.

ing sources and searching for available health and environmental contamination information for compounds such as GenX that are protected by nondisclosure.

This story continues to develop as the North Carolina Legislature begins its session this spring.

Considering PFAS' widespread occurrence in the environment and in organisms including humans, what NC does or does not do will likely become a model for other states.

than 40 acres and new code requires that C&D landfills be at least 100 acres.

In addition, facility operations need to be set back at least 500 feet from property boundaries. Shortleaf's setbacks are only 100 feet.

If the two variances had been approved, the company would still need to apply for an operating permit from the county, and receive authorization to operate from the Florida Department of Environmental Protection.

The Escambia County Board of County Commissioners conducted a public forum on Shortleaf's two requested variances in mid-December and voted unanimously to drop consideration of the variances.

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