# Florida Specifier

Practical Information For Environmental Professionals

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Photo by Greg Corning, AMEC Foster Wheeler

Workers place a six inch layer of sand on a canal bottom following removal of five feet of sediment from Canal #266 located between Baileys Lane and Witters Lane in Big Pine Key. The layer of sand will encourage seagrass growth after restoration is complete. The work is part of a massive canal restoration effort in Monroe County. See story below.

# Martin County plans extensive septic-to-sewer conversions in two dozen neighborhoods

**By ROY LAUGHLIN**

The Martin County Utilities Department is implementing an ambitious decade-long plan to provide centralized wastewater treatment to 24 neighborhoods, ending septic tank use.

Their goal is to reduce the level of nutrient and microbial contamination in the St. Lucie River and Indian River Lagoon, and to ensure pathogen-free drinking water where residents depend on wells.

Recent harmful algae blooms influenced county officials' plans to convert to sewer. After the first one in 2013, the county contracted for investigations to determine the role septic tanks play in ground and surface water contamination.

In 2014, the county commissioned an engineering study by Stuart-based Captec Engineering Inc. to identify and rank Martin County subdivisions and neighborhoods dependent on septic tanks for wastewater treatment that might be a source of nutrients to county waterways.

The survey included neighborhoods within the county's service area but not those in the city of Stuart.

Captec's report established a ranking system for neighborhoods that included age, number of septic systems in use, and proximity to the St. Lucie River's estuary and tributaries, and the Indian River Lagoon.

The ranking process considered population density, the source of potable water for residents, FEMA floodplain status, surface water management systems and nutrient contributions to groundwater.

Based on these characteristics, they created of priority ranking summary for the 24 neighborhoods that became the basis for further considerations of the type of sewage collection system to use and system cost estimates.

The report also identified neighborhoods with high water tables or other circumstances that called for installing public water supply service to the residences.

The county also hired researchers

***CONVERSION***
**Continued on Page 15**

# Variety of approaches, technologies tested to restore Keys canal system

**By BLANCHE HARDY, PG**

Roughly 500 canals span the Florida Keys, created when the coral cays were dredged for fill to create land for homes and to provide water access.

Residents used to swim and fish in the canals but water quality degradation now limits such use.

To begin the restoration effort, Monroe County officials assessed the current condition of the canals and found that many are a potential source of nutrients and other contaminants to nearshore waters designated by the state as Outstanding Florida Waters.

Their initial assessment identified 229 man-made canals in unincorporated areas of the county that do not meet state water quality standards.

"The county began its canal restoration program in 2012 and so far has spent $7 million of county funds on demonstration projects on seven of the worst canals," said Rhonda Haag, sustainability and projects director for the county.

The county is currently operating and maintaining the systems for demonstration projects until October, 2018, she said.

In the meantime, the county is developing a program to collect special assessment dollars from residents who live on the canals through the creation of municipal service benefit units.

These MSBUs will fund ongoing operation and maintenance costs for the air curtains and culvert technologies being used.

"The organic removal and backfill only projects do not require any long term maintenance (funding)," Haag noted.

It is anticipated that the residents will begin paying the assessment in November, 2018, she said.

The county is using a variety of approaches and technologies in various combinations to restore the canals.

These include hydraulic vacuum removal of decaying seaweed on the canal bottoms, backfilling deep oxygen depleted zones in canals, installing weed bubble curtains at the mouths of canals to prevent migration of floating

***CANALS***
**Continued on Page 16**

# Research conclusion: Environmental regulations had minimal impact on coal industry

**Staff report**

In a recent presidential order repealing the Clean Power Plan, President Trump reiterated a frequent theme from his campaign: environmental regulations have cost jobs in the coal sector.

However, a recent study by researchers at Columbia University's Center on Global Energy Policy rebukes this way of thinking with quantitative estimates of factors responsible for the decline of U.S. coal mining and use.

The researchers cited four primary causes for the 30 percent drop in coal use between 2011 and 2016.

Low natural gas prices resulted in half of the 30 percent drop, the researchers said, providing a compelling economic incentive for coal users to switch to natural gas for fuel, especially in electricity generation.

Another 26 percent of the reduction in coal use occurred due to the decreasing demand for power. LED lighting, weatherproofed homes and the increasing use of energy-efficient appliances all contributed to lower electricity use in the U.S.

Thirdly, the increasing contribution of renewable energy including wind and solar power accounted for 18 percent of the drop in coal usage.

Lastly, the researchers attribute just 3.5 percent of coal's flagging demand to four environmental regulations that were in effect during the time frame examined.

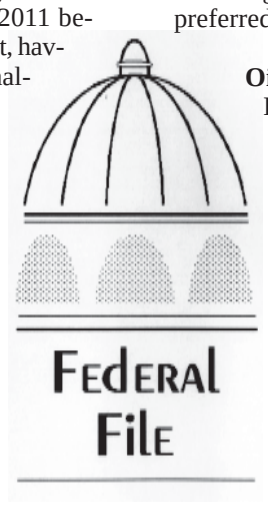
The Clean Power Plan played no role in coal's reduced usage since 2011 because the law was never in effect, having been stayed by judicial challenge.

The report estimated that had the Clean Power Plan been implemented prior to 2016, it and the four other regulations noted would have accounted for only four percent of coal's declining use, instead of the 3.5 percent the report attributed to regulation.

Beyond the percentages, the report authors acknowledge that the Clean Power Plan would have caused additional coal-fired electrical generating plant closures shortly after implementation.

The report points to the primacy of fuel prices as the primary cause of coal's declining demand, in contrast to the Trump administration's claim that the decline was regulation-induced.

Since 2008, natural gas prices have dropped considerably, and although they have fluctuated in recent years, they remain a technologically as well as economically preferred fuel when compared to coal.




**Oil exploration in Big Cypress.** In late April, U.S. District Court Judge John Steele ruled that seismic surveying for oil throughout the Big Cypress Swamp could begin again.

Six environmental groups fought expanded seismic surveying because they said the National Park Service and Burnett Oil Co. of Houston had not adequately addressed issues in their 2016 environmental impact statement that permitted seismic surveying.

The judge said that even if the report contained conclusions that were incorrect or unwise in failing to address environmental damage, the law required only that the report be informed. He concluded that after two years of public hearings and revisions, the report met that requirement.

Judge Steele also ruled that the groups who sued did not have standing to argue that the National Park Service should have reopened its preserve management plan when the Florida bonneted bat joined the federal Endangered Species List in 2013.

The Barron Collier family sold a large part of the land that is now Big Cypress National Preserve to the federal government, but retained drilling rights. Currently, two oil well sites operated by Exxon are in operation on the preserve.

Burnett Oil's surveying effort involves the use of 33-ton "thumper trucks" that traverse the 110 square miles of the preserve on a carefully laid grid.

Up to 1,000 miles of rutted truck tracks could result from the surveying so it is limited to the dry season.

In addition, tree cutting may be necessary to allow the trucks to move through the preserve.

The environmental damage of the surveying, according to activists, will be widespread and long-lasting.

Burnett Oil did no actual seismic surveying prior to the court's ruling. It conducted preliminary testing and laid out routes in the preserve for the seismic testing trucks to travel.

Unless the environmental groups decide to appeal the decision, the testing is permitted to occur until June 15 when the permit expires.

The environmental advocacy coalition that sued included the South Florida Wildlife Association, Natural Resources Defense Council, the Center for Biological Diversity, the National Parks Conservation Association, the Conservancy of Southwest Florida and Earthworks.

**USGS brackish water assessment.** Brackish water resources in the U.S. are 35 times greater than fresh groundwater resources.

In addition, fresh groundwater is tapped for use over 800 times more often than brackish water, according to a recently-updated U.S. Geological Survey assessment.

Aquifers contain most of the brackish water supply but brackish waters may also occur on the surface in some coastal areas where aquifers release water through springs and where mineral dissolution and evaporation produces inland brackish lakes.

All states but Rhode Island and New Hampshire have brackish groundwater at depths shallower than 3,000 feet.

The Southeast U.S., especially Florida, has some of the deepest and most abundant brackish groundwater resources.

The report noted that as freshwater sources are increasingly being reserved for potable water supplies, brackish water can serve as a substitute for mining, oil and gas development, and cooling water for power generation—uses that don't require high quality water.

In some places, such as Florida and California, brackish waters are increasingly used for drinking water supply because demineralizing brackish water is less expensive and more effective than desalinating seawater.

The recently released USGS report updated an earlier report completed in 1965, well before brackish water was seen as useful. Since that time, the number of municipalities using brackish water has increased from zero to 240 today.

Demineralizing brackish water is ten times more common than desalinating seawater for potable water use.

In addition, brackish water's widespread occurrence throughout the country makes it a much more widely available resource than seawater.

The new report included a much more extensive characterization of brackish water's chemical composition.

In brackish water, by definition, total

***FEDFILE***

**Continued on Page 14**

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# Environment Florida air quality report notes unhealthy air across state

**Staff report**

The Tampa Bay area earned the dubious distinction of having some of the dirtiest air in the state in 2015, according to a new report.

The report, from the advocacy group Environment Florida, said that the Tampa area experienced 56 "dirty air pollution days."

And St. Petersburg was the worst city in the state in 2015 for both soot and smog.

In all, 21 Florida cities and metropolitan areas had unhealthy levels of air pollution with an average of 17 dirty air days during 2015 including the cities of Miami, Tallahassee and Gainesville.

Smog has serious health effects including asthma, increased risk of infection and permanent damage to lung tissue.

Particulate matter can lead to health problems including heart attacks, strokes and reduced blood supply to the heart.

The group asked citizens to contact the state's two U.S. senators to put pressure on the Trump administration to back off of significant proposed cuts to the Clean Air Act.

**Suspected cancer cluster.** Manatee County commissioners want more information about a suspected cancer cluster near the site of Bayshore High School and the former Manatee Technical Institute campus.

County environmental officials said there is no evidence to support residents' fears that something in the area has caused serious health problems.

Still, county commissioners intend to conduct a joint meeting with the school board and the Florida Department of Health-Manatee to decide if more testing is needed.

The area was once home to the former Riverside Products Inc., an industrial machinery manufacturer at 4443 30th Street West. That property is a now an active Superfund site.

County officials said the Bayshore High site has two active irrigation wells and another that has been plugged. None of the wells were used for drinking water.

Bayshore High also had an underground heating oil tank and an underground fuel tank used for an emergency generator, both of which have been removed.

The county report showed that after the removals, the required soil testing revealed no contamination.

At MTI, four underground heating oil tanks, one underground fuel tank, a separate underground gasoline tank and three above-ground storage tanks for used oil were removed at various sites.

Testing there reportedly showed no contamination other than a small area of stained soil near the above ground tanks.

**CWA lawsuit.** Pilgrim's Pride, the second largest chicken producer in the world, refused to consider further reductions in water pollution from its operations and supply chains.

The company is facing a citizens' lawsuit in Florida from Environment America and the local Sierra Club chapter for dumping its toxic wastewater into the Suwannee River.

The environmental groups said that Pilgrim Pride's operations are responsible for significant water pollution in several states including Texas, Florida and Virginia.

In 2014 alone, the company dumped more than half a million pounds of toxic pollution into U.S. waterways, according to the U.S. Environmental Protection Agency's Toxic Release Inventory.

The citizens' lawsuit alleged that the company has committed 1,377 days of Clean Water Act violations since 2012 from its poultry processing plant in Live Oak.

The suit claimed that the company discharged wastewater into the Suwannee River that exceeds pollution standards by as much as triple the legal limits.

## Florida Notes

**Tampa solar.** Suncoast Credit Union, the largest credit union in the Tampa Bay area, has built the fifth largest solar array in the region.

They installed 1,170 solar panels atop their Members Contact Center at 6804 East Hillsborough Avenue.

The company now has 13 solar-powered buildings including four of its branches that use no electricity from the grid to power its buildings.

Suncoast officials said the credit union saves more than $300,000 annually from its green initiatives.

A Suncoast branch typically has 100 to 150 solar panels in a 40-kilowatt solar array. Since Suncoast began its solar program, the technology has improved and the price of solar panels has come down about 25 percent.

**Tire mess**. A massive stockpile of used tires on a Lehigh Acres site is being cleaned up by the state.

The Florida Department of Environmental Protection estimated that there were over 250,000 tires stored on the West Coast Tire Recycling property.

West Coast signed an agreement with DEP to clear away 20,000 tires every month or face fines.

But because the pile presented a health hazard, the state hired an independent contractor to speed up the cleanup work.

The cost, $365,000, is being covered by taxpayers until West Coast ponies up.

**Eglin award.** Eglin Air Force Base was named winner of the 2017 Secretary of Defense Environmental Award for Sustainability.

This is the sixth DOD environmental award that Eglin has won over the past seven years.

The award is given to the installation that best extends the longevity of its resources by preventing or eliminating pollution at the source.

In addition, the recipient must show that it has practiced efficiency and sustainability in the use of raw materials, energy, waste or other resources.

Eglin's environmental team displayed

*NOTES*
**Continued on Page 16**

# St. Johns Riverkeeper sues corps over deepening of JaxPort channel

**Staff report**

The St. Johns Riverkeeper filed suit against the U.S. Army Corps of Engineers to block the Port of Jacksonville's channel dredging project.

The long-planned project has obtained permits and was headed for a contributed funding vote at the Jacksonville City Council. The city is expected to pay a portion of the estimated $684 million cost for dredging.

The lawsuit cites deficiencies in the corps' environmental impact statement.

On its website, the Riverkeeper notes that Obama administration officials fast tracked the project's EIS under its "We Can't Wait" initiative.

The shortened 14-month fast-track EIS schedule limited the ability of the court to thoroughly evaluate the issue, according to the Riverkeeper.

The most significant criticism is that increasing the ship channel's depth to 47 feet and its width by almost 20 percent from the river's mouth to the Dames Point Bridge would increase salinity levels up the river enough to significantly modify the freshwater character of the estuary.

The ecological effects of the dredging work, the group said, have been significantly underestimated.

Riverkeeper also criticized the projected economic costs and benefits of the dredging.

Most significantly, they said that the economic benefits should be evaluated based on a scenario of how the port will fare in comparison with other regional ports also being dredged for the expected larger vessels.

The lawsuit also questioned dredge spoil disposal both during the initial deepening and during a 50-year annual maintenance dredging scenario.

The Riverkeeper includes a list of approximately 50 additional points of concern about the project on their website.

## THE WATER WATCH

**Silver Springs flow.** The St. Johns River Water Management District Governing Board approved minimum flows and levels for Silver Springs during an early April meeting.

In a presentation to the board, Andrew Sutherland, PhD, technical program manager in the district's Bureau of Resource Evaluation and Modeling, proposed the following minimum flows and levels: minimum frequent high 828 cubic feet per second, 40.0 feet, North American Vertical Datum of 1988; minimum average 638 cubic feet per second, 38.2 feet, NAVD88; minimum frequent low, 572 cubic feet per second, 37.0 NAVD88.

"The district has developed three draft minimum flows for Silver Springs based on criteria established from vegetation, soils and topography data," notes the district's website. "The recommended MFLs will protect the structure and function of wetlands and aquatic habitats, as well as other ecological functions and values."

District board members characterized the data in the study as the best available science during their discussions, according to local reports.

Silver Springs, Florida's largest first magnitude spring, has been under extensive study since the 1930s. Since 1930, its average flow has decreased by 32 percent.

In his presentation to the board, Sutherland noted that a 97-inch rainfall deficit between 1971 and 2015 has been the largest influence on Silver Springs' reduced flow rate.

Flow suppression due to algal growth that blocks water flow down the spring run resulting in "back pressure" has been a significant factor since 2000.

Finally, water pumping from the Marion County springshed, currently ranging from a low of 57 million gallons per day to a high of 82 million gallons per day between 2000 and 2017, is the third ranked factor in long-term reduced Silver Spring flow.

Over this time frame, the average withdrawals have declined 10 percent from the longer-term average.

In a subsequent presentation, Mike Register, director of the Division of Water Supply Planning and Assessment at the district, noted that if the proposed MFL standards were implemented, by 2024 they would be exceeded by current water utilization growth rates.

That would require the district to implement additional efforts such as water conservation or reduced level pumping permits to maintain the MFLs.

Of all pumping impacts, public drinking water supplies exert the largest, 62 percent, on the Silver Spring's flows and possible excess demand. Agriculture is a distant second at 16 percent while domestic self-supply at 14 percent ranks third.

The recommended minimum flows protect 94 percent of the long-term average flows, according to district officials. Of the allowed six percent reduction, approximately 3.5 percent has already occurred, leaving about 2.5 percent of additional allowable reduction.

About 40 members of the public reportedly attended the hearing. Most were opposed to the proposed MFL standards and wanted no reduction in flows—and a moratorium on new pumping permits to achieve it.

District staff had until May 31 to write a formal Silver Springs MFL rule that implements the board's decision.

Florida statutes require the adoption of minimum flows and levels for Outstanding Florida Springs by July 1, 2017.

**Lake Worth dredging.** Lakefront property owners on Lake Worth may, by the end of the summer, enjoy the results of a dredging project to deepen navigation channels to docks in front of their homes.

The planned dredging affects the northern channel between Everglades Island and the Southern Boulevard Causeway, the channel south of the causeway to Widener's Cove, and the southern channel between Widener's Cove and Sloan's Curve.

The dredging will remove accumulated muck that has shallowed navigation channels.

The dredging contractor, Coston Marine Services Inc., originally intended to dump the dredge spoil from the canals into John's Hole, an underwater site on the West Palm Beach side of the lagoon near the C-51 Canal.

Opposition by local property owners led the Palm Beach City Council to look for another site where public opposition would at most delay the dredging and at worse require a search for an alternative dredge spoil disposal site.

The dredging project's planning and preparation has been in the works for the past three years. Work is expected to begin this summer and could be complete within about seven months.

**Anuvia Fertilizer reconnects to Apopka sewers.** The city of Apopka allowed one of its largest industrial customers, Anuvia Plant Nutrients, to reconnect to its wastewater treatment system.

In early March this year, Apopka utility officials ordered Anuvia to suspend use of the city's wastewater treatment system.

City officials alleged that excess biosolids and high nutrient levels in Anuvia's wastewater compromised effective treatment at Apopka's wastewater plant.

***WATCH***

**Continued on Page 5**

# Polk homeowners file suit claiming impacts from high radiation levels

By PRAKASH GANDHI

A class action lawsuit was filed on behalf of homeowners in Central Florida who claim they have been exposed to radiation from widespread phosphate mining operations.

The Lanier Law Firm claimed that operators of phosphate mines failed to warn residents about dangerously high levels of radiation in Polk County.

The lawsuit said that residents of the Lakeland-area subdivisions of Oakbridge and Grasslands have been exposed to toxic contamination from phosphate strip mines operated by the Drummond Co.

Chris Gadoury, an attorney with Lanier Law, said the main concern is that people may be exposed to unsafe levels of radiation. The radioactive phosphate materials emit gamma radiation that has been determined to be cancer causing, he said.

"When you are doing phosphate mining, you are not just digging up phosphate, but also radium," Gadoury said. "Our biggest concern in this case is gamma radiation. I have been to Lakeland 12 times and visited people's homes. Talking to people on the street, they are genuinely afraid of radon gas and the harm it could have done to them."

Decaying uranium from phosphate mining operations releases radon, a radioactive gas linked to lung cancer. The gas can seep into homes from underground and contaminate indoor and outdoor air. Exposure can also occur from contaminated water.

Tests have shown that radon levels in the two subdivisions are much higher than in surrounding areas.

Mining operations typically retrieve about 9,000 tons of phosphate rock per acre mined but create even larger amounts of toxic radioactive waste in the process.

Attorneys with Lanier said that for every ton of usable phosphate recovered, mining operations create five tons of hazardous waste material.

Preliminary estimates indicate that about 40,000 homes have been built over former phosphate mines in Polk County. Many of the homes are believed to have elevated levels of radon or gamma radiation that exceeds federal standards.

The controversy centers on the development of 1,400 acres of land into subdivisions, including Oakbridge and Grasslands.

Lanier said that reports from the U.S. Environmental Protection Agency show that Drummond Co. officials knew of the toxic conditions on these properties, but never warned homebuyers about the risks.

The lawsuit seeks compensation to cleanup the contamination and initiate medical monitoring for residents and full disclosure of all state, federal and private testing results.

Gadoury said that steps are needed to assess the degree of contamination and exposure, and to implement the appropriate measures to reduce potential health risks to residents.

In a letter to residents, Leonard Mass, vice president of the Drummond Co., said in developing Grasslands and Oakbridge, the company went through the state-regulated process to reclaim previously mined land and make it ready for residential use.

"We received state certification for reclamation of the developments," Mass said.

"Additionally, the homes and buildings in the Oakbridge and Grasslands communities were constructed pursuant to applicable state and local rules and regulations that address the issues raised in the lawsuit."

## *WATCH*

**From Page 4**

Although the biosolids and ammonia levels in Anuvia's discharges caused Apopka's wastewater treatment plant to malfunction, both levels were within the limits stipulated in the company's permit.

Without permitted waste disposal, Anuvia's fertilizer manufacturing stalled for about 10 days until the Florida Department of Environmental Protection allowed the fertilizer company to discharge its wastewater on a nearby sprayfield.

DEP required Anuvia to treat, test and monitor those discharges over the last two months when they occurred.

In the meantime, according to company officials, representatives from the company and the city collaborated to modify the fertilizer plant's processing procedures so that its wastewater is compatible with Apopka's treatment plant.

City officials are also working on a plant upgrade that could cost as much as $62 million, according to local reports.

Both Anuvia and the city will be carefully monitoring discharges to Apopka's sewers and the performance of the wastewater treatment plant.

If the plant's effectiveness begins to wane again, Anuvia's discharges will be decreased or eliminated to maintain wastewater treatment standards for the rest of Apopka's wastewater customers.

Both city officials and the Anuvia management team have made significant efforts to maintain a positive working relationship while correcting the wastewater treatment plant problems.

**Indian River wastewater.** In lieu of paying nearly $10,000 in fines for periodically discharging out-of-compliance effluent from its West Regional Wastewater Treatment Facility, Indian River County has agreed to spend $32,926 on a treatment plant process study aimed at preventing such discharges in the future.

DEP cited the county for discharges of organic matter, nitrogen and phosphorus from the facility from November, 2014, through February, 2017.

The county's treatment plant releases its treated effluent into a 135-acre artificial wetlands near Interstate 95. Water from the wetlands is then released into a canal, or can be used for irrigation.

Even though local officials agreed to work with DEP to resolve the problem, they criticized the department's approach to evaluating the problem.

They believe that their discharges should be averaged over the entire reporting period. Instead they said that DEP officials cited them on a small number of days when high discharges occurred.

Local officials also defended the wastewater treatment plant's function noting that it discharged into the treatment wetlands first, preventing high biosolid releases to the canal.

The high organic matter detected leaving the wetlands, city officials said, was biomass produced by plants in the treatment marsh, along with low levels of the treatment plant's biosolids.

The Indian River County Commission agreed to spend $73,000 to have cattails and decaying wetland vegetation removed from the wetlands.

That was a separate appropriation from the $33,000 that will pay for equipment to conduct real-time monitoring of water quality entering the plant.

The commissioners also contracted with a consulting engineer to evaluate protocols used at the biosolids facility adjacent to the West Regional WWTP.

**St. Lucie departments merge.** St. Lucie County merged its water, wastewater and solid waste departments into a single department now named St. Lucie County Public Utilities.

Ron Roberts, formerly director of the Solid Waste Department, will head the new unit. Allison Macdonald was promoted to solid waste operations manager, replacing Roberts.

The combined department has 78 employees.

The money saved through the merge, about $300,000 annually, will help pay down utility debt.

# Trump orders agencies to dismantle policies aimed at reducing climate change risks

By ROY LAUGHLIN

Earlier this year, President Donald Trump signed the Energy Independence Executive Order aimed at, among other things, reversing the U.S. Environmental Protection Agency's Clean Power Plan.

The Clean Power Plan set restrictions on carbon dioxide emissions from electricity-generating plants that essentially eliminate the use of coal as a fuel capable of meeting them.

Trump stated in his executive order's preamble that the order was intended "to promote thousands of jobs and strengthen energy security while ensuring that our policies provide clean air and clean water for all our citizens."

It directed all federal agencies regulating domestic energy production to propose measures to revise or rescind regulatory barriers that impede progress toward energy independence.

The order directly rescinded several of President Obama's executive orders and policies related to addressing climate change.

It specifically directed the EPA administrator and secretary of the interior to review, revise or rescind regulations that "may place unnecessary, costly burdens on coal-fired electric utilities, coal miners, and oil and gas producers."

The presidential order will start to roll back an arguably successful attempt to reduce CO2 emissions from U.S. power plants. The rule's goal was to reduce carbon dioxide emissions by 32 percent from the benchmark year, 2005.

The U.S. Energy Information Administration reported that 2015 CO2 emissions, the most recent available data, were 12 percent below the benchmark year, declining from 6 billion metric tons of CO2 equivalents to about 5.275 billion tons.

"Overall, the fuel-use changes in the power sector have accounted for 68 percent of the total energy-related CO2 reductions from 2005 to 2015," noted the EIA in its report on 2015 emissions.

EPA Administrator Scott Pruitt, one of the CPP's most aggressive foes, will lead the repeal effort but exactly what he can do remains to be seen. One thing is for certain—he will have to follow the protracted rulemaking process to make changes to the existing rule.

Pruitt could write a new rule abdicating EPA responsibility for regulating greenhouse gas emissions from power plants. Or, he could propose a less stringent rule with nearly painless prolonged, incremental restrictions on coal-burning electric power plants.

A third option could be to change the rule's language for carbon sequestration. The existing rule requires the "best available control technology." Allowing technology that's a little bit less effective—or even a lot a lot less effective but also much less expensive—could lower coal costs at power plants.

But modifying carbon sequestration requirements for coal-burning utilities is not likely to improve the fortunes of coal mining companies or the miners who work for them.

Natural gas is currently so cheap, power companies are converting to it for financial reasons. It's the market—not the regulations—that has driven the power plant conversion from coal to natural gas.

Trump's order will also reverse Obama-era rules for controlling methane emissions from drilling operations and from pipelines.

To roll back this rule, the old rule will have to be replaced through the formal rule-making process that includes public hearings.

In addition, the rulemaking process will have to comply with a federal court order that requires climate change to be taken into account when weighing the costs and benefits of any new regulation.

Methane contributes to greenhouse gas warming about 30 times more than CO2. Rule revision offers few technical strategies to evade the court's order.

Lowering the "social cost of greenhouse emissions," an essential term in cost/benefit calculations, is one obvious way to soften the rule.

In 2009, the federal government accepted a value of $35 per ton as the social cost of greenhouse gas emissions. That cost has risen since then due to inflation and other factors, but remains a cornerstone used to justify regulations in cost/benefit analyses.

Federal agencies could convene a panel to re-evaluate the social cost of greenhouse gas emissions, only to suffer the fate of unintended consequences.

Many scientific experts, among them the most respected in the field, have advised that the cost used in these calculations should be increased, not decreased.

The presidential order also stipulates an increase in fossil fuel exploitation on federal lands. That applies to both coal and petroleum.

But loosening regulations on oil and gas wells will likely have little impact on energy independence and employment levels for several years.

Trump's presidential order could also terminate a requirement that National Environmental Policy Act reviews include consideration of climate change. NEPA reviews must be published, but nothing requires federal agencies to act on the reviews.

Repealing NEPA review requirements to exclude climate change considerations is another opportunity for the Trump administration to maximize self-inflicted injury. Complying with this rule costs little, requires less and will be open to promised legal challenges.

Affected federal agencies have 180 days to complete their reviews, essentially the remainder of the current fiscal year.

The reviews may not factor into the federal budget planning this year because they are due in September, past the end of the usual annual federal budget legislation cycle.

But they are likely to influence agency spending decisions in fiscal year 2018 and beyond.

Florida Specifier

# 2017 Environmental Lab Directory

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

You're invited to complete the form below, providing details about your lab and its analytical capabilities. **There is a fee of $200 to list your lab this year.** *(Fee waived for* Specifier *advertisers, and 2016 FRC exhibitors.)* In addition to your listing in the directory, **your lab will also be included in a special lab listing on our Enviro-Net website.**

Please type or LEGIBLY print the information requested and return as soon as possible to Mike Eastman via fax at (321) 972-8937, e-mail mreast@enviro-net.com or mail to P.O. Box 2175, Goldenrod, FL 32733. You can reach us at (407) 671-7777. The deadline for submissions to the August Lab Directory is **Friday, July 14, 2017.**

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

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

**Laboratory name:** _____

Primary Florida address: _____

City, State, Zip: _____

Phone: _____ Fax: _____

E-Mail: _____ Web: _____

Contact: _____ Title: _____

Locations in FL: _____

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

Lab capabilities/specialties: _____

_____

Sample types: _____

_____

Certifications: _____

_____

Additional services: _____

_____

Number of years in business: _____ years

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

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

_____

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

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

____ Submitting a column for the Lab Focus issue

## NRDC releases report on drinking water

Staff report

Nearly 77 million people—roughly a quarter of the U.S. population—spread across all 50 states were served by drinking water systems reporting violations of the Safe Drinking Water Act in 2015, according to a recent report released by the Natural Resources Defense Council.

The offenses ranged from arsenic to nitrate contamination, and included failures to test or report contamination levels.

The report found the top five states with the most offenses based on population were, in order, Texas, Florida, Pennsylvania, New Jersey and Georgia.

The report covers health-based violations of the Safe Drinking Water Act as well as violations for improper water monitoring and reporting, at more than 18,000 community water systems across the nation.

The report revealed that 27 million people, or one in every 12 Americans, were served by a drinking water system with health-based violations.

Meanwhile, repercussions for violations were virtually nonexistent. Nearly nine in 10 violations were subject to no formal action, and even fewer—just 3.3 percent—faced financial penalties.

# Cleanup work on Pensacola Superfund site could be complete by 2021

By ROY LAUGHLIN

In late April, U.S. Environmental Protection Agency representatives told residents and neighbors of the 18-acre American Creosote Works Superfund site in Pensacola that cleanup work could be complete by 2021.

The EPA, which has been involved with the property since its designation as a Superfund site in 1983, is currently working towards completion of the record of decision phase.

This phase includes meetings with local residents and government officials to create a broad framework for remedial action on the site.

Peter Thorpe, a remedial project manager at the agency, announced that they expect to complete the ROD phase by August, 2017.

In addition, they hope to complete the detailed plans for the cleanup, the remedial design phase, by early 2019.

The remedial action phase—the shovels-in-the-dirt stage—will begin subsequent to that. Site cleanup should be complete by 2021, Thorpe said.

The planned remediation effort at the former wood treatment facility are primarily soil removal and installation of an underground barrier below the water table's surface to prevent groundwater plumes from carrying contamination off-site.

Several dozen off-site residential properties will also be involved in the remediation action phase. There, up to two feet of contaminated soil will be removed and replaced with clean fill. Residential site remediation is also expected to be complete by 2021.

The work is funded through the ROD phase, now close to completion. But the final two phases are currently unfunded by the federal government and require congressional appropriations to proceed.

The expected cost to fund the work through the remedial action phase is $34 million.

"All residential properties are included in the $34 million figure," said Thorpe.

The agency has removed the structures from the site, graded it, filled sections and built a retention pond to prevent surface water runoff from reaching adjacent streets and residential properties.

The agency installed a two-phase dense nonaqueous phase liquids removal system, currently being operated by the U.S. Army Corps of Engineers.

The DNAPL extraction wells were deepened in 2009 to reach more DNAPL product.

According to the agency, tens of thousands of gallons of creosote have been removed. The EPA also installed 10 monitoring wells as part of continuing groundwater monitoring.

The agency has moved contaminated soil from "hot spots" on adjacent properties and ditches to the site.

The contaminated soils are temporarily capped with clean soil as cleanup work continues.

# New Lee County drinking water plant draws on new sources, technologies

By BLANCHE HARDY, PG

Lee County's new state-of-the-art Green Meadows Water Treatment Plant is expected to go on-line in August. The new plant's production capacity is 14 million gallons a day and it will serve over 21,000 households.

The plant is located east of I-75, south of the Southwest Florida International Airport and north of Alico Road.

The plant has been under development for some time. It will add an additional five million gallons of water a day to the existing plant's treatment capacity.

The facility combines new and existing technology and will be the first of its kind in Southwest Florida. The incorporation of multiple water supply sources with customized treatment trains has resulted in the plant being characterized as featuring "Star Trek" technology.

The Green Meadows WTP supplies most of the water distributed by Lee County Utilities.

Like many utilities in the state, Lee County's needed to identify possible alternatives to their traditional use of groundwater for future supplies. The new plant will use a variety of water sources for potable supply.

"Typically, water treatment plants treat one type of source water with one type of treatment technology," said Timothy Engstrom, communications specialist with Lee County. "The new plant will treat groundwater from three different sources with three different technologies."

The technologies include reverse osmosis to treat brackish water from the Floridan Aquifer; ion exchange to treat water from the surficial aquifer; and degasification to treat water from the sandstone aquifer.

"The treated water will be blended together," he said.

The county's former plant treated groundwater from wells in the sandstone and surficial aquifers at the Green Meadows wellfield.

Green Meadows's water was then blended with water produced from the utility's Corkscrew Water Treatment Plant and wellfield.

The new plant will allow the utility to increase the reliability and safety of their supply by adding an additional Floridan Aquifer source.

The new plant will also save customers money in the long run.

"The construction cost of the project is $75.4 million and is being paid with a combination of debt/bond and funds on hand," Engstrom said.

Staff has reported a potential cost reduction from the current $1.29 to treat 1,000 gallons of water to $0.52 for the same 1,000 gallons when the new plant comes on-line.

The new plant will be paid for over a thirty-year period and, although there are rate increases, the utility has been able to maintain fees that are roughly 20 percent lower than their regional competitors.

The county intends the new plant to be in service for some time into the future.

"It's life expectancy is 50+ years," Engstrom said. "And the new plant is easily expandable to 16 mgd to accommodate growth."

The utility estimates that five mgd of water will be needed by its household customers. The new plant will allow additional customers—business, industry and others—to utilize the supply.

# Corps posts Miami Harbor assessment

Staff report

The U.S. Army Corps of Engineers, Jacksonville District, released the Miami Harbor Deepening Project one-year post-construction assessment for hard-bottom middle and outer reef benthic communities.

The report includes data relevant to an assessment of project effects at channel-side as per the Florida Department of Environmental Protection permit conditions for construction.

The goal of the monitoring plan is to assess status and trends of physical and biological responses to construction activities.

The report focused on impacts to channel-side hard-bottom communities including corals, octocorals, sponges and other benthic invertebrates. Scientists studied thousands of photos and videos, and hundreds of hours of dive-time observations from more than 7,000 dives.

The report is available at www.saj.usace.army.mil.

# Permit opposition stalls horse waste processing facility in Palm Beach County

By ROY LAUGHLIN

In April's issue, we reported that the Palm Beach County Board of County Commissioners was ready to approve a land use permit for Horizon 880 LLC to build and operate a horse waste processing facility on 32 acres north of County Road 880, about eight miles from Belle Glade.

However, winter vegetable producers in western Palm Beach County strongly protested Horizon's plan to process as much as 200,000 tons of horse barn wastes annually.

What once seemed almost certain to be approved by county commissioners now faces at least a temporary setback.

The protesting farmers include a substantial number who grow fresh vegetables.

At least some of the local farmers and other opponents voiced fears that the waste material could include enteric bacteria, some of it potentially pathogenic, and degradation-resistant pharmaceuticals from horse manure and dried urine that could potentially contaminate their crops.

In 2013, the federal government issued new regulations affecting fresh vegetable growing and handling in the Food Safety Modernization Act. The federal law stipulated a 120-day interval between applications of raw manure to crop fields, later reduced to 90 days, but did not stipulate required distances between composting facilities and crop fields.

Palm Beach County's vegetable farmers apparently feared that crops grown near the proposed materials recycling facility would be unwelcome in grocery stores. They lobbied the commissioners to require a mile of separation between the proposed facility and their crop fields.

When it appeared that the commission had been adequately swayed by facility opponents, Horizon officials withdrew their permit application, a move that ensures the option of resubmitting a new application at any time going forward.

Had the commissioners rejected the permit by vote, Horizon would have been subject to a mandatory two-year waiting period before it could resubmit.

Most of the horse waste is now being spread on a sugar cane field as described in our prior article. But not all of it.

One *Florida Specifier* reader, Professor J. William Louda, PhD, an associate scientist and faculty member in the Department of Chemistry and Biochemistry at Florida Atlantic University, wrote to us to explain that the "nursery composting" mentioned in our article was in fact a multi-foot deep spreading of horse manure across land zoned as a nursery.

The implication was that the nursery zoning classification was a ruse to simply spread horse barn wastes over several acres. These so-called nurseries do not properly restrict runoff, posing a threat to water quality through high nutrients, especially soluble phosphorus and other contaminants in the runoff, Louda noted.

More recent press accounts confirm the improper manure spreading in the Loxahatchee area of Palm Beach County. County and village of Wellington officials would like to end the controversy by establishing a designated facility for horse barn waste disposal or recycling.

References to land spreading on sugarcane lands, illegal waste piling in other parts of Palm Beach County and the local media's references to Horizon's planned processing facility as a "composting" facility may have misled public perception of the proposed activities and the facility in which it will occur.

Bob Rogers, CEO of Horizon, said that about 80 percent of the barn wastes will be recovered and reused, while the remaining 20 percent, the horse manure, will be composted and recycled as a landscape soil amendment.

He said that the planned facility will separate wood shavings from fresh barn wastes so they can be reused as horse barn bedding. The wood shavings will be processed in a large dryer whose heat will sterilize them.

After drying, a natural oil with antimicrobial and dust reduction characteristics will be added to the wood shavings. Then they will be bagged and shipped to be reused as horse barn bedding material.

The horse barn wastes will be processed over a period of about three days.

Rogers said that the horse manure is separated from the wood shavings before the shavings are dried and processed for reuse.

The horse manure will be composted in vessels under cover within the facility to produce the horticultural soil amendment.

He said that barn bedding processed for reuse as outlined above has, over the last 10 years, become a standard practice in dairy country up north.

Perhaps most significant, Horizon's Belle Glade facility would process the wood shavings and horse manure compost in an enclosed building.

Rogers said that there will be no large piles of horse waste spread over the approximately 30 acres where his company would like to build its processing facility.

Horizon's application for a land use permit also included composting waste landscaping materials outside of the horse barn waste processing facility. These materials include grass clippings, palm fronds, tree branches and other plant materials.

Rogers said they would grind that material and blend it with the composted horse manure to produce the soil amendment to be sold in nurseries and home improvement stores.

He expressed surprise that significant opposition materialized in the final stages of permitting. Horizon 880 and its consultants spent a couple of years planning the facility, working with Palm Beach County staff, and meeting with local farmers, scientists and other stakeholders to explain their plans.

"We're hoping to go back and have a fair discussion with the (Palm Beach County) commissioners and farmers," said Rogers. "We would like them to consider our process as a risk mitigation effort," rather than one portrayed as a threat to agriculture in western Palm Beach County.

Perhaps Horizon 880 will be successful the second time around.

Otherwise, a different location in Palm Beach County might be the key to turning Rogers' plans into reality.

There are currently not a lot of other options available to economically reuse thousands of tons of waste wood shavings annually, and to turn tons of horse manure into a landscaping amendment with an established market.



## Manatee mitigation bank permit denied

Staff report

The U.S. Army Corps of Engineers denied Long Bar Pointe's permit for a wetland mitigation bank for the proposed Aqua by the Bay development in Manatee County.

The corps denied a similar permit in 2016 indicating that the developer failed to address their concerns including adverse impacts to seagrasses in the area and a weakening of the wetland shoreline.

"In consideration of the information provided above, the corps has determined that the project, as proposed, does not have the potential to provide sufficient compensatory mitigation to compensate for unavoidable impacts to waters of the United States," wrote the corps in its response.

They said that the proposed mitigation bank project does not have the necessary potential to provide environmental benefits over existing conditions.

In related news, the Manatee County Commission denied the latest Aqua by the Bay development proposal before it.

The county's planning commission will have to conduct a new public hearing to consider any updated information.

# Gemini Springs MFL standards approved by St. Johns water district

By ROY LAUGHLIN

At its May meeting, the governing board of the St. Johns River Water Management District approved staff recommendations for minimum flow and level targets for Gemini Springs in DeBary.

The governing board directed staff to formally draft a rule setting 9.3 cubic feet per second as the minimum flow for the springs. The no-pumping average flow 1995-2015 is 10.91 cubic feet per second.

The target value focuses on maintaining sufficient residence time to maintain water levels behind a weir in the spring run.

The district characterizes Gemini as a second magnitude spring, although its 9.8 cubic feet per second flow is below the minimum threshold for second magnitude springs of 10 cubic feet per second.

The staff recommendation is based on a generalized approach. "A commonly applied MFLs determination criterion, which allows a 15 percent reduction in aquatic habitat or change in a resource when evaluating a change in flow, was used for Gemini Springs' MFL determination," noted the planning document.

In recommending the 9.3 cubic foot per second standard, the district's planning document noted that "a 15 percent increase in water residence time in Gemini Springs' impounded reservoir is the resource change applied to the Gemini Springs minimum flow determination and corresponds to an allowable 1.6 cfs total decrease in spring discharge from a no-pumping condition due to consumptive use.

"Current pumping, as defined by 2010 conditions, has resulted in approximately a 1.0 cfs reduction in Gemini's spring flow from no-pumping conditions. Therefore, approximately 0.6 cfs of additional reduction in spring flow due to consumptive use would be allowable prior to the MFL being violated."

At a public hearing held in mid-April, several speakers questioned the proposed MFL standard.

The existing lowered flows combined with allowable future flow reductions establishes the widest gap between prepumping spring flows and what will be allowed in the future for any of the eight designated Outstanding Florida Springs in the region.

DeBary public officials want Gemini Spring's flows increased in the hopes that swimming could again be allowed in the basin. Swimming has been prohibited since 2001 due to high concentrations of bacteria in the water.

The governing board's decision to approve lower flow rates apparently follows logic used in April to establish MFL values for Silver Springs—in setting MFLs, the board and its staff consider only flow. Water quality issues that are not affected by water withdrawals do not influence MFL target determinations.

Chip Schelble, environmental supervisor in the Volusia County Health Department, confirmed that the county sampled Gemini Springs' water in the early 2000s because it was a swimming area and found high enteric bacteria levels in the spring reservoir.

The health department closed the springs to swimming as a result. Subsequently, sampling ended because the area was no longer used for swimming, he said. The current enteric bacteria status is unknown.

Schelble said that water testing procedures have changed. The Volusia County Health Department no longer monitors all swimming areas for microbial contamination. The facility operator has to do it, typically by contracting as certified lab for sampling and analysis.

City of DeBary officials would be the ones to make a decision to monitor at this point.

The governing board also approved the use of emergency rulemaking for MFLs for Gemini Springs, Alexander Springs and Silver Glen Springs.

The board acted to ensure that they will meet a deadline imposed by Florida statute to set MFL targets for designated Outstanding Florida Springs.

The district's MFL target setting is not the last chance to address water quality at Gemini Springs or DeLeon Springs.

Casey Fitzgerald, initiative leader in the district's Division of Water and Land Resources, said that the Florida Department of Environmental Protection has the lead on springs' water quality.

Fitzgerald noted that while DEP has first responsibility for water quality standards, the district has spent more than $120 million on springshed water quality improvements.

"The district has participated heavily in projects that deal with water quality and water quantity," he said. And it may be involved with Gemini Springs water quality in the future.

DEP scheduled its first meeting to discuss water quality at Gemini and DeLeon springs for May 22, likely the first of several for water quality planning at the Outstanding Florida Springs.

# Everglades, reservoirs, cleanup funding highlight environmental issues of 2017 legislative session

By STEVE HILFIKER

Specifier guest column

This column begins and ends with water. So does our economy. And the key environmental issues addressed during the 2017 legislative session involved water quality and water quantity in some way.

Highlights from the session included authorization for a Lake Okeechobee reservoir, the Public Notice of Pollution Act, funding for certain redevelopment projects, more action on sites eligible for the Drycleaning Solvent Cleanup Program and praise for killing a bill that would have impacted the geology industry.

It was clear that something had to be done during this year's session to address water resources. The impact on water quality from agricultural and mining operations over the years came to a head last summer in South Florida. Lake Okeechobee water levels were dangerously high, requiring extensive releases into the Caloosahatchee and St. Lucie rivers. The polluted lake water caused extensive summer algae blooms.

The water quality impacts hit our tourism industry hard; but water quantity is a deeper issue for long term sustainability.

The Everglades are a natural treasure unique to the world and must be protected. But they also provide recharge water to the Biscayne Aquifer.

When functioning properly, the vast wetlands treat the water keeping both the estuaries and aquifers healthy, as long as the wetlands are wet.

A lack of fresh water increases saltwater intrusion, exacerbating the problem. Water blocked by a dike and diverted to rivers does not reach the Everglades.

But with the enrollment of Senate Bill 10, perhaps now it can.

The "Water Resources" bill authorizes the South Florida Water Management District and the Board of Trustees of the Internal Improvement Trust Fund to: negotiate the amendment and termination of leases on lands within the Everglades Agricultural Area for exchange or use for the reservoir project; require certain lease agreements for agricultural work programs to be terminated in accordance with the lease terms; require the district to request that the U.S. Army Corps of Engineers jointly develop a post-authorization change report for the Central Everglades Planning Project; and provide requirements for the C-51 reservoir project if state funds are appropriated for the project.

The EAA reservoir provides storage, treatment and conveyance south of Lake Okeechobee to reduce nutrient discharges into Florida's estuaries. Simply put, the new legislation accelerates its planning and provides funding for the EAA, a piece that was missing from the enormous Everglades restoration puzzle called the Comprehensive Everglades Restoration Plan.

State funding is critical to the Everglades project. At the time of this writing, Gov. Rick Scott had not approved the budget. The Okeechobee reservoir and other Everglades restoration projects represent $900,000,000 of the overall $82.4 billion proposed restoration budget.

Speaking of budgets, the proposed budget for the state Department of Environmental Protection is $1.799 billion of which $115,000,000 is allotted to the Petroleum Restoration Program.

Funding for the PRP is generated from petroleum tax revenues deposited to the Inland Protection Trust Fund, which exceeds $200,000,000 annually. For many readers of the *Florida Specifier*, it is disturbing to see how much of that money is swept into general appropriations each year. All environmental assessment and remediation professionals should pay attention to these numbers and communicate with their local legislators about the need for these funds to protect our environment and drinking water resources, restore property values, and promote redevelopment—another major theme this session.

Progress was made through the enrollment of Senate Bill 1018 for redevelopment projects on low-scored sites eligible for the PRP under an amendment to Florida Statute 376.30713, Advanced Cleanup.

Assuming the amendment becomes effective July 1, owners of property with priority ranking scores below the funding range that was recently reduced to 27 can apply for Advanced Cleanup at any time during the year. Advanced Cleanup applications are typically accepted twice a year.

To stimulate redevelopment, owners who can demonstrate local government approval of a viable redevelopment project can apply for up to $1,000,000 in petroleum cleanup funding without the copayment or cost-sharing provisions required for other Advanced Cleanup sites.

Funding is on a first-come, first-served basis with up to $5,000,000 per fiscal year. Advanced Cleanup remains a popular program and with the exception of raising its annual funding limit to $30 million, no other significant changes were made.

Amendments to Florida Statute 376.3078(14), if Senate Bill 1018 is signed by Gov. Scott, will enable property owners eligible for the Drycleaning Solvent Restoration Program on sites below the priority funding range to request advanced site assessment funding up to $70,000 per site provided, among other criteria, that they agree to appropriate institutional controls if the site meets risk management criteria outlined in DEP rules.

Additionally, the bill provides that the department may undertake assessment of sites out of priority order, for instance, dry cleaner sites in vulnerable spring watersheds where the PRP program has already been evaluating sites for a couple of years.

The drycleaning program is funded through the Water Quality Assurance Trust Fund and the proposed budget for the drycleaning program for fiscal year 2017-2018 is $8,500,000. That same funding level, $8.5 million, was approved for the Hazardous Waste Site Cleanup program in the budget passed for fiscal year 2017-2018, pending approval of the governor.

The Public Notification of Pollution Act passed this year and at the time of this writing is awaiting Gov. Scott's signature. Florida Statute Sections 403.076 - 403.078 were created originally in Senate Bill 532, which was rolled in to Senate Bill 1018 in the last week of the session.

The Senate summarizes this portion of SB 1018 as: defining the term "reportable pollution release;" requiring an owner or operator of an installation at which a reportable pollution release occurred to provide certain information to the DEP within 24 hours after the discovery of the release; and creating the State Watch Office within the Division of Emergency Management.

The definition is important. As used in this section, the term "reportable pollution release" means a release or discharge of a substance from an installation to the air, land or waters of the state that is discovered by the owner or operator of the installation, which is not authorized by law, and which is reportable to the State Watch

HILFIKER
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# Calendar

## June

JUNE 1-2 – Exam: Backflow Prevention Recertification Exam, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

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

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

JUNE 5 – Course: Initial Training Course for Spotters at Landfills, C&D Sites and Transfer Stations - 8 Hour, Port Charlotte, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

JUNE 5 – Course: Refresher Training Course for Experienced Solid Waste Operators - 8 Hour, Port Charlotte, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

JUNE 5 – Course: Refresher Training Course for Experienced Solid Waste Spotter - 4 Hour, Port Charlotte, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

JUNE 5-6 – Course: Initial Training Course for Transfer Station Operators and Materials Recovery Facilities – 16 Hour, Port Charlotte, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

JUNE 5-7 – Course: Initial Training for Operators of Landfills and Waste Processing Facilities, Port Charlotte, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

JUNE 5-7 – Course: Initial Training for Landfill Operators and C&D Sites, Port Charlotte, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

JUNE 6-9 – Symposium: 28th Annual Florida Lake Management Society Technical Symposium, Water Resource Management: A Balancing Act, Captiva, FL. Email flmshome@aol.com or visit www.flms.net.

JUNE 7-8 – Symposium: Annual South Florida Regional Brownfield Symposium, Sebring, FL. Organized by the Florida Department of Environmental Protection. Call Terry Cerullo or Martha Avila at (239) 344-5600.

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

JUNE 9-10 – Exam: Backflow Prevention Recertification Exam, Venice, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570.

JUNE 12 – Symposium: Nutrient Symposium 2017, Fort Lauderdale, FL. Presented by the Water Environment Federation in cooperation with the Florida Water Environment Association and Water Environment and Reuse Foundation. Contact Diana Prado at dprado@wef.org or visit www.wef.org/nutrients.

JUNE 12 – Course: Introduction to Backflow Prevention, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

JUNE 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.

JUNE 12-16 – Course: Wastewater Class A Certification Review, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.


**Florida Specifier**

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


JUNE 13-14 – Course: Cross Connection Control: Survey and Inspection, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

JUNE 14-16 – Conference: Florida Stormwater 2017 Annual Conference, Fort Myers, FL. Call 1-888-221-3124 or visit www.florida-stormwater.org.

JUNE 14-16 – Conference: Florida Association for Water Quality Control 2017 Annual Conference, Naples, FL. Contact Jon Hull at (813) 777-1041 or visit www.fawqc.com.

JUNE 15-16 – Course: Cross Connection Control: Ordinance and Organization, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

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

JUNE 20-23 – 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.

JUNE 26 – Course: Hazardous Waste Regulations for Generators, Orlando, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

JUNE 26-29 – 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.

JUNE 27 – Course: U.S. DOT Hazardous Materials/ Waste Transportation, Orlando, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

JUNE 27-30 – 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.

JUNE 29 – Meeting: South Florida Aquatic Plant Management Society General Meeting, Boynton Beach, FL. Call (954) 370-0041 or visit www.sfapms.org.

## July

JULY 7-11 – Course: Backflow Prevention Assembly Tester Training and Certification, Miami, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

JULY 8-9 – Exam: Backflow Prevention Recertification Exam, Bradenton, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

JULY 10-14 – 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.

JULY 10-14 – 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.

JULY 10-14 – Course: Backflow Prevention Assembly Tester Training and Certification, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

JULY 11 – Course: Initial Training Course for Spotters at Landfills, C&D Sites and Transfer Stations - 8 Hour, Kissimmee, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

JULY 11 – Course: Refresher Training Course for Experienced Solid Waste Operators - 8 Hour, Kissimmee, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

JULY 11 – Course: Refresher Training Course for Experienced Solid Waste Spotter - 4 Hour, Kissimmee, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

JULY 11 – Course: Refresher Training Course for Experienced Solid Waste Operator - 4 Hour, Kissimmee, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

JULY 11-12 – Course: Initial Training Course for Transfer Station Operators and Materials Recovery Facilities – 16 Hour, Kissimmee, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

JULY 11-13 – Course: Initial Training for Operators of Landfills and Waste Processing Facilities, Kissimmee, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570.

JULY 11-13 – Course: Initial Training for Landfill Operators and C&D Sites, Kissimmee, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

JULY 10-14 – Course: Backflow Prevention Assembly Tester Training and Certification, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

JULY 12 – Course: Refresher Training Course for Experienced Solid Waste Operator - 8 Hour, Kissimmee, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

JULY 12 – Course: Refresher Training Course for Experienced Solid Waste Operator - 4 Hour, Kissimmee, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

JULY 13 – Course: Refresher Training Course for Experienced Solid Waste Operator - 4 Hour, Kissimmee, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

JULY 14-22 – 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.

JULY 15-16 – Course: Backflow Prevention Recertification Exam, Tampa, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

JULY 17-18 – Course: Phase I Environmental Site Assessment and All Appropriate Inquiry Training Course, Fort Lauderdale, FL. Presented by the International Society of Technical and Environmental Professionals. Call (850) 558-0616.

JULY 17-19 – Course: Backflow Prevention Assembly Repair and Maintenance Training and Certification, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

JULY 22-30 – Course: Backflow Prevention Assembly Tester Training and Certification, Tampa, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

# Earthjustice files suit on behalf of Apalachicola ecosystem in latest chapter of Tri-State Water War

By BLANCHE HARDY, PG

Earthjustice is challenging the U.S. Army Corps of Engineers over its management of the waters of the Apalachicola-Chattahoochee-Flint river basin.

In late April, they filed a legal challenge in federal court in Washington, DC, on behalf of the National Wildlife Federation, the Florida Wildlife Federation and the Apalachicola Riverkeeper.

This is the latest chapter in the long running Tri-State Water War saga between the states of Florida, Georgia and Alabama.

The corps' newly revised Water Control Manual (2016) for the ACF basin became an issue during the recently concluded Supreme Court-appointed Special Master Ralph Lancaster's hearings on Florida's lawsuit requesting that the court limit Georgia's water consumption from the ACF basin.

The corps was excluded from consideration as a party to the suit by the special master who ultimately recommended refusal of Florida's request.

That recommendation was made, in part, because control of the basin's water flow is not confined to the states, Lancaster said. The corps controls much of the flow and therefore apportionment of the water is not limited to the states.

"The corps' new Water Control Manual will dramatically increase upstream withdrawals and severely restrict downstream releases," the Earthjustice complaint stated. "The corps would increase the frequency of 'drought operations' (when they hold back more water) by 600 percent and triple the amount of time that those restrictive operations are in place."

"The corps wrongly concluded that its plan would have little to no adverse impact on the Apalachicola ecosystem—a finding that is both legally indefensible and factually unsupportable," said Tania Galloni, managing attorney for the Earthjustice Florida regional office.

"The corps' mismanagement continues to threaten the livelihoods of thousands of Floridians as well as the Apalachicola River and Bay—an ecosystem of international significance that supports fisheries worth billions of dollars to Florida," said Apalachicola Riverkeeper Dan Tonsmeire. "Federal regulators need to address the ecological issues that are affecting communities in our three states.

"With this lawsuit, we hope to restore a level playing field that considers the ecosystem functions that are critical to meet the human needs for all involved."

Earthjustice hopes to use federal environmental laws to oblige the corps to establish better control of water management activities in the ACF river basin.

Criticism of the corps' plan includes failure to conduct a sufficient environmental impact statement when assessing the rivers and failure to create a plan to mitigate impacts to fish and wildlife.

The plaintiffs are concerned that the corps' plan will further starve the Apalachicola River and its ecosystem of vital freshwater flows including during the critical breeding, spawning and flowering seasons for many species.

# Miami joins climate change compact

Staff report

Concerns about climate change and rising sea levels prompted the city of Miami to join the Southeast Florida Regional Climate Change Compact as a municipal partner. The compact was executed by Broward, Miami-Dade, Monroe and Palm Beach counties in 2010 to coordinate mitigation and adaptation activities across county lines.

More than 30 municipalities have joined so far, including the cities of South Miami, Coral Gables, Miami Beach, Hialeah and Key Biscayne.

Miami officials believe that rising sea levels will have major impacts on the city's infrastructure, public health and the availability of drinking water.

Jane Gilbert, the city's chief resilience officer, said city staff and its Sea Level Rise Advisory Committee have been involved with the compact for a few years.

In late 2016, the city partnered with the compact and the University of Miami to develop adaptation ideas for the Shorecrest neighborhood in Miami, Gilbert said.

The resolution to join the compact noted that most of Miami is close to sea level and abuts Biscayne Bay, the Miami River and Little River along a considerable length of its border.

The resolution acknowledged the city's commitment to addressing the causes and impacts of climate change.

In January, the city's Sea Level Rise Advisory Committee recommended that capital projects be developed with considerations made for anticipated sea level rise.

Shortly thereafter, the committee unanimously passed a resolution recommending that the city formally join the compact, endorse its Mayors' Climate Action Pledge and affirm support for the Regional Climate Action Plan.

The resolution was unanimously supported by the commission.

In the short term, sea level rise is projected to be six to ten inches by 2030 and 14 to 26 inches by 2060.

Gilbert said the adaptation efforts involve a commitment to long-term and collaborative planning.

She said the city is moving forward with assessing its vulnerability to the impacts and developing a priority action plan.

## *HILFIKER*

From Page 10

Office within the Division of Emergency Management pursuant to any department rule, permit, order or variance. Owner and operator responsibilities are in 403.077(2) and DEP responsibilities are in 403.077(3).

This bill was the endpoint of the evolution of an initial and ultimately legally flawed attempt by DEP to address this issue.

I will defer further comment on how this matter will impact property owners, facility operators and industry until the law is signed and some time passes after its effective date.

In other business, an attempt to deregulate geology businesses failed again this year. HB 7047 entitled "Deregulation of Professions and Occupations" would have eliminated business licensing for geology firms. The professional geologist license itself was not at risk in this bill.

The bill passed in the House, but died in the Senate.

Other bills that did not make it but are important to our state's large recycling industry had to do with the definition of "recovered materials" and exempting certain materials as "solid waste."

So, let's get back to water. Florida is the Sunshine State, a condition that creates a nice warm climate for algae. I'd like our tourism-dependent economy to remain strong and for that to happen, the algae that is proliferating in our springs, rivers and along our beaches is not a good thing.

I hope water resource management and environmental protection remain high priorities so my children do not have to deal with these issues in 50 years.

The $50 million allocated to springs restoration is a step in the right direction. Most of Florida is dependent on groundwater as its drinking water source. Desalination plants, costing billions of dollars and funded entirely by taxpayers, will be needed if we can no longer tap our groundwater resource for drinking water.

Whether from the restoration of natural water flows through the Everglades, or notification and cleanup at pollution source areas, we must stay committed to protecting our potable water resources.

Funding for environmental cleanup programs and Everglades restoration must remain high on Florida's political agenda.

*Steve Hilfiker is president of Environmental Risk Management Inc. in Fort Myers and can be reached at steve@ermi.net.*

# Demographer considers migration impacts on Florida, other coastal states from sea level rise

By ROY LAUGHLIN

Matthew Hauer, PhD, applied demographer at the Carl Vinson Institute of Government at the University of Georgia, in a recent letter to the journal *Nature Climate Change*, posed a question that has been largely overlooked by those who ponder the consequences of sea level rise: Where will people forced from their homes by rising sea levels go?

Hauer developed a big data-GIS analysis method to characterize a scenario of migration from the U.S.' flooding coastal zones. His model assumes a sea level rise of 1.8 meters between 2010 and 2100.

His four-page letter provided some eye-opening conclusions.

First, four states are likely to lose the most people due to migration caused by sea level rise. Florida leads all others with a projected net loss of more than 2.5 million people. And nearly the same number is predicted to move from Florida's coastal areas, especially in south Florida, to higher ground within the state.

The second state in terms of migration losses, Louisiana, might net an out-migration of about a half a million people.

New Jersey and Virginia would experience out-migration of a few hundred thousand residents.

South Carolina and California were two other states that would experience smaller but significant SLR-associated out-migration.

Texas would be the primary beneficiary of the migration, with a net increase of almost 1.45 million people. Georgia and North Carolina are the next two states that would receive the largest number of people, predominantly from Florida.

The number of migrants to these two states, however, is much less than for Texas with about 300,000 people resettling in Georgia and about 250,000 moving to North Carolina.

Human migration to avoid calamity has been consistent throughout recorded history. Analyzing it and predicting its outcomes, however, are among the firsts in Hauer's work.

To broadly characterize what might guide migration to escape sea level rise, Hauer wrote that "it is likely that a combination of press and press events will spur migration across pre-existing migration pathways, leveraging established networks of social capital and kin networks in destination decisions."

To progress from concept to data, Hauer supplied his migration model with data from the Internal Revenue Service's annual series of county-to-county migration flow data, 1990-2013. He noted that it is the largest dataset of its kind, based on 95-98 percent of tax filers and their dependents.

Based on current migration patterns, inland Central Florida is likely to see most of the migration inflow from South Florida.

This scenario assumes that the carrying capacity of both the economy and the environment in Central Florida would be capable of assimilating 2.5 million people on top of the expected 40 percent population increase over the next 20 years.

Hauer discussed some uncertainties or external factors that could influence his model's initial predictions. One is the extent to which residents could shelter in place, making adjustments to sea level rise over several decades.

He suggested that only the wealthy—those whose household income exceeded $100,000 a year in current dollars—would likely be able to bear the cost of building new homes or retrofitting existing homes with flood resistant features.

That constitutes about a quarter of the current population.

People who do not own their own homes or cannot afford to upgrade the one they own would be the likeliest to migrate.

This presumption is important because economics do not favor widespread SLR adaptation, at least in South Florida where it is expected to be most extensive.

Migrants will largely come from the lower half of the socio-economic spectrum, in search of low skilled labor and service jobs, Hauer wrote.

By the end of the century, Floridians could be known nationwide for out-migration.

The situation could be made much worse if our growth-dependent economy fails to maintain its infrastructure, a likely scenario.

The model, based as it is on migration trends since 1999 when people migrated toward opportunities, can be used by government agencies for migration response and management, Hauer noted.

Using the model, state and federal agencies could prepare for the migration.

Additionally, migrants could be encouraged to move to areas with available resources. Updated data would assist with evaluating migration as it occurred.

There remains some uncertainty regarding how rapidly SLR will occur, with an acceleration of timeframes more likely than a deceleration.

Within the lifetimes of people born this year, adjustments to sea level rise will likely be in progress.

Perhaps subsequent versions of Hauer's model will be integral to managing the expected migration effectively.

# Hybrid wetland treatment projects help reduce Trout Lake nutrient levels

By PRAKASH GANDHI

Officials in the central Florida city of Eustis are heralding a major project that will help breathe new life into a polluted lake.

A $3 million hybrid wetland treatment facility will help clean up Trout Lake, helping to remove nutrients that have plagued the lake for years.

Last year, Watershed Technologies LLC leased 17 acres from the city to build the facility after the Florida Department of Environmental Protection declared Trout Lake an impaired waterbody due to high levels of phosphorus.

City officials said the project is good for the city and for the environment.

"This is a win-win situation for us," said Rick Gierok, city engineer and public works director for Eustis.

Trout Lake is on the state's list of impaired waterbodies, with current total phosphorus levels exceeding allowable levels by about 2,000 pounds per year.

A pump station has been in operation since the fall, moving water from Hicks Ditch into various ponds at the main facility.

The Eustis City Commission recently approved construction of a second pumping facility to be used during the dry season when there is no water flow in Hicks Ditch.

The Phase 2 project is located on five acres of city property in the Country Club Manor Mobile Home Park in what was once a wastewater treatment plant.

The second pump station will take water from Trout Lake, move it through about 4,550 feet of pipe running north to County Road 44, then east to the Phase 1 pump station. There, it will be filtered, sent back through the pipes and pumped back into the lake.

Gierok said it is important to bring the lake back to good health.

"Hicks Ditch pulls a tremendous amount of agricultural runoff that feeds into Trout Lake," he said. "Half of the lake is surrounded by wetlands and conservation areas."

City officials said the facility will also treat Trout Lake waters during the dry season. The goal is to remove more than 2,000 pounds a year of phosphorus, enabling Trout Lake to meet its TMDL target for the nutrient.

The state is covering all costs associated with construction of the second pump station, plus maintenance and operational costs, and has agreed to fund hybrid wetland treatment facilities across the state to help clean up polluted lakes.

# Swiftmud, TNC combine financial resources to acquire Rainbow River land

By PRAKASH GANDHI

Environmental activists are applauding the decision by Southwest Florida water managers to buy land along the Rainbow River in Dunnellon.

The Southwest Florida Water Management District approved a deal to buy a major part of the eastern bank of the river. The parcel proposed for acquisition consists of nearly 115 acres and includes almost a half mile of river frontage.

The deal was accomplished in part by a grant from The Nature Conservancy, which praised the acquisition of the land.

The total purchase price is $3.9 million with the conservation lands being purchased using Florida Forever Funds and a grant from The Nature Conservancy.

TNC contributed $250,000 toward the purchase of the tract.

The river and surrounding lands host a unique collection of aquatic plants and animals, and provide a home to several federal- and state-listed species.

Rainbow Springs, one of the largest first magnitude springs in the state, feeds the Rainbow River, which flows for almost six miles until it merges into the Withlacoochee River.

The property expands the connection between Rainbow Springs State Park to the east and the Rainbow River.

The 115 acres have been the source of legal and political battles for more than a decade. Dunnellon-area activists and residents fought plans to develop the land for homes near the river.

Developers got into a feud with several members of the Dunnellon City Council and area residents over their plans to develop the waterfront property.

The developers were initially granted permission for development but at a level greater than the city's comprehensive plan allowed.

A year ago, an appeals court overturned the prior ruling approving the deal, ensuring the public's interests were protected.

Officials hope the purchase will help curb unwanted nutrients from entering the river. The nutrients are mostly due to human activity that has continued to grow over the past 60 years.

The water district said the property with its shoreline of marshes, wetlands and giant bald cypress trees is the last major undeveloped property along the natural river corridor.

The district will work closely with the Florida Department of Environmental Protection's Florida Park Service to develop an agreement to manage the park as part of the adjoining Rainbow Springs State Park.

***FEDFILE***

**From Page 2**

dissolved solids range between 1-10 parts per thousand. The source of those solids markedly affects brackish water's chemical composition.

Other brackish water sources have markedly different solute profiles and concentrations than seawater. Mineral dissolution, leaching from sailing soils, road salt, brine from oil or gas wells or dissolved solutes from other human activities are responsible for the differences.

As extensive as the new report is, its lead author, Jennifer Stanton, a hydrologist in USGS' Northeast Region, said that across large regions, brackish groundwater data has not been sufficiently collected below depths of 500 feet.

**Federal lawsuit for discharging polluted water.** Gulfstream Park in Hallandale Beach agreed to pay a federal civil penalty of $456,500 for discharges into a drainage canal adjacent to the facility.

The agreement followed a lawsuit filed by the U.S. Attorney's Office for Southern Florida alleging that Gulfstream Park discharged pollutants into a canal and then into the Intracoastal Waterway beginning in 2011 and continuing for at least four years.

Those discharges violated the Clean Water Act and could incur up to $37,500 per day per violation. The fines could easily have totaled more than $50 million.

Gulfstream Park is a combination racetrack, horse stable, shopping center and clubhouse near Hallandale Beach. It occupies 243 acres.

Up to 1,100 horses board year-round at the park, according to local reports. During events in the winter, the number of horses may be even higher.

The alleged pollution occurred from washing down horses, with the wastewater drained to a 24-acre pond and then to a nearby canal. The suit alleged that the resulting discharges to a drainage canal caused fish kills.

The racetrack owners and officials with the U.S. Environmental Protection Agency reached agreement on a consent order in late April. A federal judge must still approve its terms.

**New regs to promote offshore oil, gas exploration.** On May 1, U.S. Department of Interior Secretary Ryan Zinke announced that the department's Bureau of Ocean Energy Management will draft a new five-year plan to assertively promote oil and gas exploration in offshore waters.

The new plan is expected to include reconsideration of a number of regulations affecting and allegedly limiting offshore exploration and drilling.

Zinke also signed a second order to establish a new position, counselor to the secretary for energy policy, who will coordinate the Interior Department's energy portfolio. That portfolio involves nine of the Interior Department's ten bureaus.

Secretarial Order 3550, the first mentioned above, directs BOEM to expedite authorization requests for seismic surveys with special emphasis on approving new or resubmitted permit applications in the Atlantic Ocean.

Seismic surveying of the Atlantic Ocean's Offshore Continental Shelf was a contentious proposal through much of President Obama's second term until he finally ended it last year. Now it's back in play.

Secretarial Order 3550 also withdraws the Obama Administration's Offshore Air Quality Control, Reporting and Compliance Rule, an air quality rule proposed for rulemaking in September, 2016.

A number of other rules will be reviewed and potential changes reported to Secretary Zinke by the end of May.

In a press release, the Interior Department noted that the U.S. has 1.7 billion acres of OCS territory. Of that, 16.9 million acres are leased for oil and gas development with only 4.4 million of those acres currently producing gas and oil.

Ninety seven percent of all OCS leases are in the Gulf of Mexico on just 160 million of the 1.7 billion acres of federal OCS territory.

BOEM estimates that the entire OCS holds 90 billion barrels of undiscovered recoverable oil and 327 trillion cubic feet of undiscovered technically recoverable natural gas.

About half of those potential reserves are believed to be under the Gulf of Mexico OCS. Most of the central and western Gulf of Mexico OCS has been surveyed or drilled.

**Guidelines for safe coal ash disposal.** In December, 2016, Congress passed the Water Infrastructure Improvements for the Nation Act.

A rider on that bill mandated that EPA modify its 2014 Coal Combustion Residuals Rule to give state regulators much greater latitude in handling coal combustion wastes.

The EPA since released a public notice of and guidance for implementing the amended rule.

"The EPA is issuing this guidance to promote the swift submission and review of state permit programs, make state and federal management of coal ash more consistent, and place enforcement in the hands of state regulators—those who best know the needs of local communities," said EPA Administrator Scott Pruitt.

In early May, Pruitt sent a letter to Gov. Brian Sandoval of Nevada encouraging him to "work with the EPA to submit your program applications for approval in a timely manner. If you have not done so, I encourage you to evaluate developing a CCR permit program and submitting it to the EPA for authorization."

In the same letter, Pruitt said that the agency has started developing guidance for states about how it expects to review and approve state applications to operate permit programs and allow greater flexibility in individual state permits in lieu of national standards.

**2017 Energy Star Partners.** The EPA's Energy Star Program includes 16,000 voluntary partners across a broad spectrum of industries involved with energy efficiency. Each year, the agency awards recognition in categories ranging from energy efficiency to product design.

Seven Florida partners received special recognition, some for the second time in two years, when the EPA announced its awards earlier this year.

Intertape Polymer Group Inc. in Sarasota received a Partner of the Year Award for Sustained Excellence in Energy Management. A second award for Sustained Excellence in Energy Management went to Parmenter in Miami.

Providence Homes in Jacksonville was honored for Sustained Excellence for New Home Builder. Welbilt Inc. in New Port Richey was recognized for Sustained Excellence for Product Brand Owner.

The program recognized three Florida companies for Sustained Excellence As Home Energy Raters: Jacksonville Building Science in St. Johns, SkyeTec Energy Rating Services in Jacksonville and Top-Build Home Services in Daytona Beach.

# Future of Turkey Point plant expansion uncertain after additional issues arise

By BLANCHE HARDY, PG

A three-judge panel of the Nuclear Regulatory Commission's Atomic Safety and Licensing Board panel conducted an evidentiary hearing in early May regarding Florida Power & Light's application to build two new pressurized water reactors next to the two existing reactors located at FPL's Turkey Point Nuclear Generating Station south of Miami.

The hearing was granted to the Southern Alliance for Clean Energy in response to their petition arguing that the reactors could result in adverse environmental impacts. SACE collaborated with the National Parks Conservation Association and residents on the petition.

SACE claims FPL's environmental impact statement is deficient. Specifically, the petitioners are concerned that FPL's proposal to inject wastewater into 3,000-foot-deep Boulder Zone wells could result in wastewater leaching upward into the regional drinking water supply.

The petitioner's response regarding the evaluation of groundwater impacts states that, in the EIS for the proposed units, U.S. Nuclear Regulatory Commission staff claimed that injected wastewater is "extremely unlikely" to migrate upwards into the drinking water supply aquifer.

If any upward migration should occur, the EIS stated, the environmental impact would be small.

The petitioners assert that the EIS lacks any valid technical basis for such claims. Pollution of drinking water supplies in Florida by wastewater injection is a serious concern, they said, and deserves the full "hard look" required by the National Environmental Policy Act.

SACE and the NPCA weren't the only objectors at the hearing. Miami Assistant City Attorney Xavier Albán and an attorney for the village of Pinecrest requested

TURKEY POINT
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## CONVERSION

From Page 1

from Florida Atlantic University's Harbor Branch Oceanographic Institute to study the sources of nutrients that could feed algal blooms.

They showed by isotopic measurement that the nitrogen sources fueling the algae blooms likely originated in sewage rather than runoff.

High enteric bacteria populations associated with stormwater runoff are also part of the contamination mosaic in the St. Lucie River.

Diane Hughes, senior ecosystem specialist in the county's Engineering Department, said that the Florida Department of Environmental Protection conducted studies prior to 2014 to find the source of high enterococcus levels in the county's waterways.

But the results were ambiguous due to the lack of tools at that time capable of identifying bacteria from human sources.

"In 2014, when we had the first bloom, high enterococcus levels returned," said Hughes.

The county again requested the assistance of DEP to conduct a microbial source tracking study.

"(DEP) revisited the study area with newer techniques that could identify human enteric bacteria," she said.

The study included 14 sampling sites at canal tributaries and in the St. Lucie Estuary. Enteric bacteria were identified at every station in the study. During wet season sampling, enteric bacteria detection and standards exceedance was most common.

DEP's 2014 study highlighted four neighborhoods with bacterial exceedances in adjacent surface waters, both freshwater and estuarine stations.

A specific marker for human enteric bacteria, *Bacteriodale*s HF183, was detected at least once during year-long monitoring at each of the four sampling locations.

No wastewater treatment plants release effluent to either the Indian River Lagoon or to the St. Lucie Estuary. Septic tanks were the only sewage source that could account for the amount and types of enteric bacteria.

By the time the algal bloom crested in late spring, 2016, the St. Lucie Estuary experienced the worst of the progressively severe algae blooms that started after the 2004 hurricanes, energizing the public and local officials to implement septic-to-sewage conversion.

Captec's engineering report analyzed three types of wastewater collection systems that could be used for servicing the neighborhoods including conventional gravity sewers, vacuum systems and grinder pump systems.

Captec's cost comparisons led the county to select a vacuum collection system. The requirement for 250 or more connections made this the most cost-effective collection system options.

Captec's initial budget estimate for a 10-year implementation was $138 million for the 24 neighborhoods, using a combination of vacuum and grinder systems. A more recent budget estimate rose to $158 million.

The more recent estimate is not just an increase in costs over time. Phil Keathey, senior project manager in the county's Utilities/Solid Waste Department, said the increased costs reflect the construction of water supply systems in project areas without current supply and also include construction, engineering and inspection services for the vacuum sewer projects.

Martin County has two wastewater treatment plants. Both have adequate capacity to meet the demand from the projects, according to John Polley, utilities & solid waste director in the county's Utilities/Solid Waste Department.

No new treatment plant construction will be necessary to service the anticipated 10,300 additional users.

If the plan is approved as currently formulated, construction will begin in 2018. Annually, one to four neighborhoods will be centrally sewered. Construction could take more than a year.

During the 10-year interval, sewer collection system construction costs will range from a little less than $11 million to $20.8 million, according to a 2017 estimate.

The Captec report's cost estimates per unit varied among the subdivisions, as well as the type of collection system to be installed, ranging from $15,000 - $18,000 per unit.

Martin County Utilities is proposing a 20-year payback period with equal annual assessments added to ad valorem property tax bills.

In his proposed budget, Gov. Rick Scott proposed $20 million of state money for septic-to-sewer conversions that will improve water quality in the St. Lucie River and Indian River Lagoon.

"I think we will do well with the Legislature because we have a plan and scientific study," said Polley. "We have shovel-ready projects.

While the Legislature's financial support is generous, Martin County homeowners will pay the majority of the costs for conversion.

Over the past three years as this plan evolved, some significant changes occurred. Most notably, the time frame was cut in half from 20 to 10 years.

There is still the possibility of additional modifications.

"The final decision is made at a public hearing where county commissioners receive comment from the public," said Polley. It's possible that the board could decide not to move forward with any particular project.

Public hearings are scheduled for this summer.

## Valenstein named as DEP secretary

**Staff report**

Noah Valenstein was named as the next secretary of the Florida Department of Environmental Protection.

He will begin work at the department on June 5.

Valenstein is the current executive director of the Suwannee River Water Management District.

Valenstein was one of 142 applicants for the job—but the only candidate interviewed.

Ryan Matthews has served as the interim secretary since former Secretary Jon Steverson left this February for a position in the private sector.

Valenstein maintains close political ties to Governor Rick Scott. Before being named as SRWMD executive director in October, 2015, Valenstein served as Scott's policy coordinator for energy, agriculture and environment for three years.

He also worked as a legislative lobbyist for the DEP.

Valenstein earned his undergraduate degree in environmental policy from the University of Florida and his law degree from Florida State University.



### *TURKEY POINT*

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NRC reconsider the approval of the Turkey Point EIS.

Albán noted that the impact of the combined waste injected in up to 13 deep wells hadn't been considered collectively.

SACE noted several sources including FPL engineers' statements that upgradient leakage is possible to support the potential for migration of injected contaminants from the Boulder Zone to the Biscayne Aquifer.

The Ground Water Atlas of the U.S. indicates that the Boulder Zone may be connected to the Atlantic Ocean east of Miami along the Straits of Florida. Additionally, a study conducted by the U.S Geological Survey reported that numerous tectonic faults and fissures exist under Biscayne Bay and the adjoining seafloor.

The results of NRC's evidentiary hearing had not been published at press time.

Another large hurdle to the expansion arose in late March when Westinghouse Electric Co., filed for bankruptcy protection leaving the availability of additional nuclear units uncertain.

FPL has already collected $289 million from customers in rate increases applied in advance toward the cost of the expansion. Rate increases to cover the cost of the proposed plants in advance need to be approved annually, and approval depends on demonstrated feasibility of the project.

### *NOTES*

From Page 3

environmental leadership by recycling or reusing municipal solid waste, pursuing alternative energy sources, enhancing its prescribed burn program and achieving designation as a clean and resilient installation.

The Eglin Environmental Division consists of more than 80 biologists, scientists, foresters, fire management specialists and engineers.

Eglin recycles or reuses about 77 percent of the municipal solid waste it creates, exceeding the DoD goal by 27 percent and saving the base $3.5 million in waste disposal costs.

**People news.** Gov. Rick Scott appointed Joel Schleicher and Rebecca Smith to the Southwest Florida Water Management District's Governing Board.

Schleicher represents Charlotte and Sarasota counties and Smith represents Hillsborough and Pinellas counties.

Schleicher is founder and executive chairman of Focal Point Data Risk LLC. He was appointed for a term beginning May 12, 2017, and ending March 1, 2019.

Smith is president and chief executive officer for the A.D. Morgan Corp. She was appointed for a term beginning May 12, 2017, and ending March 1, 2021.

Cardno promoted Vinnie LaVallette to the role of Orlando/Altamonte Springs branch manager. In her new role, Vinnie will lead the branch's utilities engineering and surveying business, which also provides clients with utility coordination expertise.

**Company news.** Dynamic Enviro Inc. opened a new office in the Fort Myers area to better serve Southwest Florida's environmental response needs.

DEI was established as an environmental cleanup contractor in the Midwest in 2005 and expanded to the Gulf region in 2015.

### *CANALS*

From Page 1

seaweed, and installing culverts to increase flushing in the dead end areas of canals.

Monroe County is evaluating five different restoration technology combinations in their pilot restoration efforts: 1) Installing culverts; 2) Installing air curtains; 3) Removing organics and installing air curtains; 4) Backfilling; and 5) Removing organics, backfilling and installing air curtains.

"These technologies along with alternative technologies such as augmented aeration systems, capping and variations of the aforementioned technologies are being implemented in order to improve dissolved oxygen impairment within the canals," Haag said.

Restoring the canals will not be cheap.

"The approximate cost for restoring these canals is $671 million," Haag said. "The future funding for canal restoration projects is anticipated to come from the Florida Keys Stewardship Act, the U.S. Environmental Protection Agency, the Florida Department of Environmental Protection and the RESTORE Act.

"These funds are allocated on a yearly basis and are anticipated to range from $100,000 to $6 million annually, depending on legislative allocations."

The county is working with the Florida Keys National Marine Sanctuary's Water Quality Protection Program and the Canal Restoration Advisory Subcommittee to develop a canal management master plan that outlines the implementation strategy of the county's canal restoration plan.



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