

Florida Specifier



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Practical Information For Environmental Professionals

Single Copy Price: \$5

December 2014

Volume 36, Number 11

Cooling Turkey Point 5

Florida Power & Light has been struggling to control the heat level of canal waters that are used to keep the Turkey Point Nuclear Plant from overheating.

DPR research 6

In October, the WaterReuse Research Foundation board approved more research projects regarding a practice known as direct potable reuse—using purified wastewater as a potable water supply source.

PRP survey results 8

A recent survey of Agency Term Contractors participating in the state's Petroleum Restoration Program yielded 36 pages of feedback about the agency's new cleanup program. The dominant theme of the responses was the inefficiency of program operations to date. But things are looking up, according to Steve Hilfiker.

Albergo on CREC 10

Nick Albergo clarifies confusion regarding the "controlled recognized environmental condition" concept within the new ASTM standard of practice for Phase I Environmental Site Assessments.

Landfill lawsuit settlement 12

Waste Management recently reached a settlement with landowners addressing a class action lawsuit filed in June 2013 to address odors emanating from "Mount Trashmore," the Monarch Hill Landfill.

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Got a story lead?

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

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Development could have big impact on Glades restoration

By BLANCHE HARDY, PG

In December of 2008, the South Florida Water Management District accepted a contract with U.S. Sugar Corp. to acquire 180,000 acres of agricultural land to store and treat surface water for restoration of the Everglades, Lake Okeechobee and the St. Lucie and Caloosahatchee rivers and estuaries.

Then in October of 2010, the district closed on 26,791.31 acres of that land for \$194,234,078.08. The district also secured a ten-year option to purchase additional portions of that land ending in October 2015.

This June, Hendry County accepted a long term master development plan from U.S. Sugar and Hilliard Brothers to develop 43,313 acres—greater than 67 square miles—of undeveloped agricultural land into Sugar Hill, a community in close proximity to the lower southwest shore of Lake Okeechobee, west of Clewiston.

The proposed planned community would be permitted to create as many

SUGAR HILL
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Photo courtesy of Paragon Waste Solutions Inc.

Operator starts Paragon Waste Solution's CoronaLux waste destruction system for a four-hour operating run. The combustion component is in the foreground. The taller plasma generator, the second component in waste destruction, turns volatile organic compounds into simple inorganic gases. See story on Page 14.

Construction begins on All Aboard Florida rail stations, lines in South Florida

By BLANCHE HARDY, PG

Privately-owned All Aboard Florida has broken ground on its South Florida rail stations in Miami, Fort Lauderdale and West Palm Beach, as well as portions of 230 miles of track that will facilitate rail service between Miami and the Orlando International Airport.

The intercity passenger rail plans to operate 32 trains a day between Miami and Orlando when fully operational.

The Miami to West Palm Beach leg is scheduled to be operational by 2016. The Orlando portion will follow in 2017.

Initially, AAF was seeking federal Railroad Rehabilitation and Improvement Financing to fund the project. RRIF can provide funding for up to 100 percent of a project over 35 years.

But in order to more confidently assure the viability of their aggressive development schedule and to provide a non-publicly funded option, AAF alternatively selected to pursue and received Broward County's support to market and sell \$1.75 billion in tax exempt private activity bonds that, upon U.S. Department of Transportation approval of their allocation, carry no taxpayer risk.

Jennifer Reich, AAF spokesperson, said that "the RRIF loan is still pending and the U.S. Department of Transportation is currently reviewing AAF's private activity bond application."

In order for AAF to pursue federal funding, an Environmental Impact Statement must be secured. The impact assessment is complete and it is nearing the end of its comment period. Comments are currently being accepted

digitally and by mail, and were also collected at eight public meetings conducted throughout AAF's proposed service area.

"The comments received during the comment period will be included and addressed where appropriate as part of the final EIS document, which will be published by the Federal Railroad Administration after they have addressed the comments received," said Reich. "A record of decision will then be issued that determines how the project can be implemented."

The initial findings indicate that

AAF
Continued on Page 15

North of the border: Georgia Water Coalition releases latest environmental issues list

By PRAKASH GANDHI

The most significant water quality issues facing Georgia are highlighted in a new report released by the Georgia Water Coalition.

In the report, the coalition names its "Dirty Dozen" list of the major water issues confronting the state.

The report is aimed at highlighting how environmental policies, enforcement and funding impact water quality.

The list was compiled by the coalition after accepting nominations from member groups across the state.

The problems highlighted in the report include:

- The state Environmental Protection Division announced that it would no longer enforce laws designed to pro-

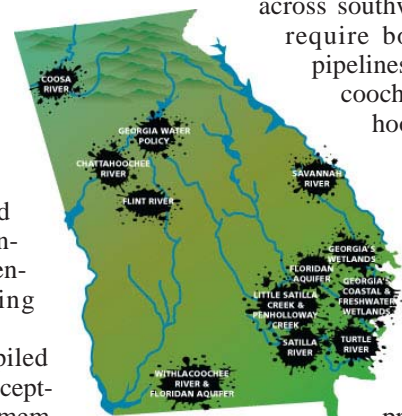
tect Georgia's coastal marshlands. In addition, a long-standing protection for well water on the Georgia coast expired because of inaction on the part of the administration and legislature.

- The Sabal Trail pipeline's path across southwest Georgia would require boring underground pipelines beneath the Withlacoochee, Flint and Chattahoochee rivers as well as numerous smaller streams, and would run underground above the Floridan Aquifer.

- Stormwater from industrial facilities creates ongoing pollution problems in the Chattahoochee River largely

because there are only two EPD staffers responsible for inspecting and moni-

DIRTY
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Courtesy of Georgia Water Coalition

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Appeals court greenlights EPA's Cross-State Air Pollution Rule implementation

Staff report

In late October, the U.S. Environmental Protection Agency received approval to implement some key provisions of its Cross-State Air Pollution Rule from the U.S. Court of Appeals for the District of Columbia.

Specifically, the agency may now implement the Clean Air Act's "good neighbor" provision, one the district court had struck down twice previously.

The EPA may also now implement a two-step evaluation to first determine whether a state contributes more than one percent to a downwind state's exceedance of EPA air standards.

In the second step, the EPA can determine how much the upwind states should reduce their emissions to achieve compliance in downwind states.

The appeals court action is a formality following the Supreme Court's April 2014 decision to reverse the circuit court's rulings, a case in which the Supreme Court did not rule on all aspects of the appeals court's decision.

The circuit court's recent order opens the way for the EPA to begin implement-

ing the major part of its Cross-State Air Pollution Rule, an effort that began in 2011.

Pesticide ingredient list. In October, the EPA requested comments on a list of 72 chemicals it proposed to remove from a longer list of approved pesticide inert ingredients.

The chemicals include both organic and inorganic chemicals.

Toxicologists will recognize many of them, for example copper acetate, as having biocidal effects or suspected effects on sensitive taxa.

Others, such as phthalates also used as softeners in plastics, have been under suspicion by toxicologists for many years.

The EPA proposed delisting these 72 chemicals following a petition from the Center for Environmental Health, Beyond Pesticides, Physicians for Social Responsibility and other health advocacy groups.

The groups asked the EPA to require disclosure of any of the 371 inert ingredients used in pesticide products.

The EPA sidestepped requiring disclosure by selecting the 72 chemicals it considered hazardous inert ingredients in pesticide products.

Even if all 72 proposed chemicals lose approved status, industry will still have 299 approved inert ingredients to use in pesticide formulations.

The proposed rule's comment period closed Nov. 21. A new rule could be in effect as early as the winter of 2015.

Grant opportunity for technical assistance. The EPA will select up to 25 recipients to participate in its Building Blocks for Sustainable Communities Program.

Selected communities will receive technical assistance to help small cities, rural areas, coastal communities and underserved communities "increase resilience to natural disasters and strengthen the economy while protecting human health and the environment."

This year, EPA listed five topics that its technical assistance team will offer to applicants: bike-share planning; equitable development; infill development for distressed cities; sustainable strategies for small cities and rural areas; and flood resilience for riverine and coastal communities.

Community participants will be selected through a competitive selection process based on application information.

The EPA is partnering with the U.S. Department of Housing and Urban Development and the U.S. Department of Transportation through the Partnership for Sustainable Communities.

The agency will offer both one- and two-day workshops to representatives of selected communities at which EPA experts will discuss strategies, policies and practices on the topics of interest to the applicants.

This year's successful applicants will be announced in February, 2015.

School indoor air quality, energy efficiency. The EPA recently released new guidelines entitled Energy Savings Plus Health: Indoor Air Quality Guidelines for School Building Upgrades.

The guidelines address a dilemma local school districts face when they renovate school facilities to meet new energy

efficiency and indoor air quality guidelines.

Often, school buildings have to remain in use while renovation construction activities create dust and air contaminants, aggravate moisture problems and create inadequate ventilation in occupied areas.

The guidelines offer advice on how to keep dust and other airborne materials away from students and staff during renovation activities.

The agency's efforts to improve children's health by creating healthy indoor environments in schools has gone on for more than a decade.

Prior programs such as Energy Star for Schools and Indoor Air Quality Tools for Schools have equipped personnel at the state, district and school level with essential knowledge to help schools identify, resolve and prevent indoor air quality problems.

The agency touts many of its suggestions as low- and no-cost measures.

The EPA said that about half of U.S. schools have indoor air quality management plans, and almost all of those use the EPA's IAQ guidance for schools.

Nevertheless about 25 million children attending about 60,000 schools are not yet protected by indoor air quality management programs.

River pollution lawsuit. A lawsuit filed in June by the Apalachicola Riverkeeper, Southern Alliance for Clean Energy and the Waterkeeper Alliance alleging contamination from coal ash impoundments at Gulf Power's Herbert Scholz Electric Generating Plant will continue despite challenges by the defendant's lawyers based on procedural issues.

Specifically, lawyers for Gulf Power said that the plaintiffs did not properly submit a 60-day notice letter before filing a case against the company. In addition, they said that activists who found evidence of coal ash containment leaks were trespassing when they observed the alleged contamination.

The environmental groups' lawsuit claims that Gulf Power Co. violated its Clean Water Act permit. They said that Gulf Power released contaminants from coal ash to surface waters where they can accumulate in fish, which then may affect humans that eat the fish.

U.S. District Judge Mark Walker issued a 19-page order at the end of September that denied the motion by Gulf Power's lawyers to dismiss the case.

A trial is scheduled for July 2015.

Management agreement for Keys Marine Sanctuary. The National Oceanic and Atmospheric Administration signed an agreement with Florida International University to help manage the Florida Keys National Marine Sanctuary.

Under the agreement, NOAA will provide \$1.3 million to support FIU scientists in monitoring and assessing natural resources, providing logistical support for facilities maintenance and mooring buoys, and providing education and outreach specialists.

The agreement is for one year, with options for renewal.

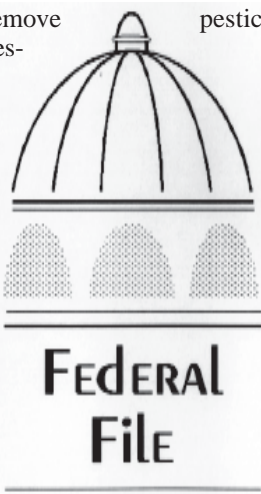
USF students receive STAR grants. Suzanne Young and Joshua Breithaupt, both doctoral students at the University of South Florida, received Science to Achieve Results Fellowships from the EPA.



Suzanne Young's research focuses on the influence of global anthropogenic changes in the environment on waterborne pathogens, according to her web page at the University of South Florida.

Joshua Breithaupt's research focuses on carbon and nutrient dynamics and sequestration by mangrove swamp sediments.

STAR fellowships include support for research, living expenses and tuition for up to four years for a PhD student.

The two Florida students were among 105 selected nationwide for the most recent round of fellowships.




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Contributing writers and columnists

NICHOLAS ALBERGO, PE, DEE
Professional Engineer
Conestoga-Rovers & Associates
Tampa, FL

STEVEN FRINK
Underwater Photographer
Key Largo, FL

PRAKASH GANDHI
Senior Environmental Correspondent
Orlando, FL

BLANCHE HARDY, PG
Environmental Correspondent
Sanford, FL

CLAY HENDERSON
Senior Counsel
Holland & Knight
Orlando, FL

STEVE HILFIKER, MS, LEP
President
Environmental Risk Management Inc.
Fort Myers, FL

ROY LAUGHLIN
Environmental Correspondent
Rockledge, FL

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The *Florida Specifier* (ISSN 0740-1973), founded in 1979, is published each month for \$24.95 per year (\$49.95 for three years) by National Technical Communications Co., Inc., P.O. Box 2175, Goldenrod, FL 32733. Subscription refunds are not provided.

Standard postage paid at Orlando, FL 32862.
POSTMASTER: Send address changes to the FLORIDA SPECIFIER, P.O. Box 2175, Goldenrod, FL 32733.

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Miami officials approve \$10 million for park cleanups

Staff report

Officials with the city of Miami have taken a major step toward cleaning up contamination found at city parks. City commissioners approved spending about \$10.1 million to cleanup six contaminated parks within the city including Douglas Park, which has been closed for nearly a year.

The estimated cost for environmental remediation at Douglas Park alone is about \$3.3 million.

Officials discovered some parks contained contamination in the soil when they investigated the environmental status of the parks in late 2013 and early 2014.

The city conducted environmental status evaluations at 112 parks. Officials said several locations were suspected of being landfills before they were converted for recreational use.

Soil was tested at each park of concern. Workers found that eight contained a combination of solid waste debris and heavy metals at levels that exceed the Miami-Dade County cleanup target levels for the residential threshold.

Mark Spanioli, PE, director of the capital improvements and transportation program with the city of Miami, said the contamination present within the city parks consists of heavy metals such as lead, arsenic and barium and soil mixed with residential incinerator ash from former landfill activity.

"Although it has been decades since the need to address the presence of the contamination, it still poses a threat if anyone were to ingest the material," said Spanioli.

The state requires the city to remedy environmental hazards on any property it owns. The parks that are still pending remediation will all be cleaned up by the end of next year, Spanioli said.

"The cleanup of these city parks is mandatory and benefits the public by ensuring that the parks are safe to utilize, especially for children," Spanioli said.

This year, city commissioners designated the contaminated properties as brownfield sites so that they could apply for transferrable tax credits that can be sold.

The North Miami City Council voted to designate their Rucks Park site as a brownfield area, which provides the city with potential financial benefits as it cleans up the park's soil.

The contamination includes arsenic, pesticides and ammonia. The land was home to a sewage treatment plant for about 20 years.

The designation gives North Miami liability protection once the cleanup begins, and opens them up to tax credits, tax refunds and grants through the cleanup process.

The city is eligible for state aid equal to 50 percent of every dollar spent on cleanup and an additional 25 percent bonus when the cleanup is approved by Miami-Dade County.

If the city spends \$100,000 on cleanup, they could receive \$50,000 in state income tax credits that could later be sold and put back into the city's general fund.

North Miami officials are also considering designating Claude Pepper Park and the Biscayne Landing site as brownfield areas.

The city's community redevelopment agency had planned to use the Rucks Park site for more than 130 affordable housing units. Those plans were in place as early as 2004, but funding issues and a lawsuit from the former construction company, Urban Residential Development Group, stalled development of the 6.3-acre site.

Green government. The town of Jupiter has been named a certified Florida Green Local Government.

Two other South Florida local governments—the city of Wellington and Palm Beach County—already hold the honor. Delray Beach is in the certification process now and is expected to be named as a green government soon.

Jupiter started the process in 2006,

forming a committee of 17 employees from different departments.

Crews installed two electric car charging stations at town hall; the town became a registered Tree City USA; employees were encouraged to recycle envelopes; the town passed a septic tank replacement ordinance and adopted laws that give builders incentives for developments achieving green certification.

They also enacted a rain sensor ordinance for irrigation systems and began to provide the air quality index on their website.

During the past six years, 72 governments throughout the state have enrolled in the program.

Dredge permit rejected. The U.S. Army Corps of Engineers rejected Pasco County's permit for a channel dredge at the future SunWest Park near the Pasco-Hernando county line.

The corps' Jacksonville district last year denied the permit to dredge a 60-foot wide

channel that would provide boat access to the Gulf of Mexico.

The decision came after Pasco won an administrative appeal of the 2013 denial, which sent the application back to the Jacksonville office for reconsideration.

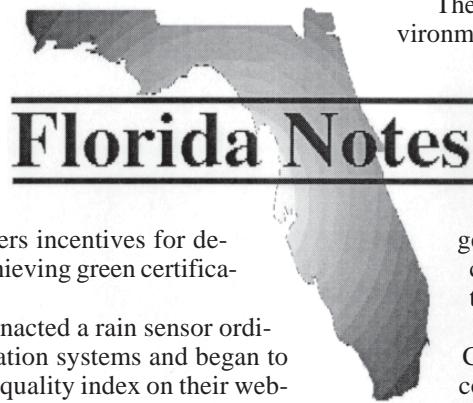
The Florida Department of Environmental Protection approved a permit for the dredge.

But the corps determined that the proposed project is contrary to the public interest based on several factors including general environmental concerns, flood hazards and water quality, among others.


District Commander Col. Alan Dodd informed the county that he is sustaining the denial and that the county has exhausted of its administrative appeal options.

Recycling facility opens. The Sun Recycling subsidiary of Southern Waste Systems opened its newest recycling facility in South Florida.

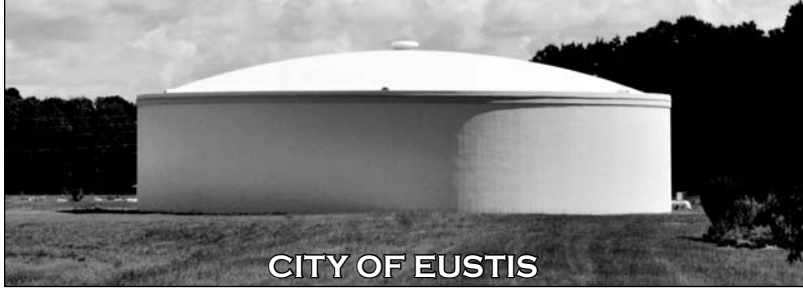
The 10-acre site on Wallis Road in West




NOTES
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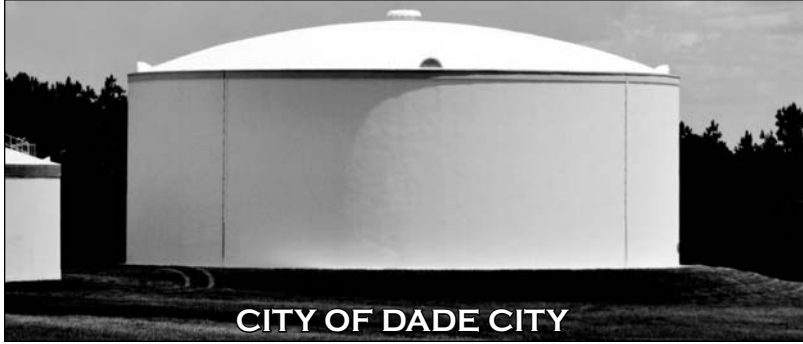
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Construction begins on Highlands County's Spring Lake stormwater facility

Staff report

In late October, the Spring Lake Improvement District broke ground on a 70-acre stormwater system improvement project. The facility will treat stormwater runoff from the adjacent Lake Wales Ridge, the Sebring International Airport and the U.S. 98 highway corridor.

Currently, stormwater flows through Arbuckle Creek and canals into Lake Istokpoga, and from there south to Lake Okeechobee.

The new facility is in the district's far northwest corner. A substantial part of the stormwater it will treat comes from outside its boundaries.

The new construction includes treatment marshes, canals and a pumping station that will collect stormwater, allowing sediments and nutrients to settle out before the water heads south, beginning with Lake Istokpoga.

The Florida Legislature appropriated \$416,000 for the Spring Lake Improvement District to underwrite part of the project. The Florida Department of Environmental Protection contributed \$624,000 for construction of a treatment pond and wetland that are expected to cost about

\$1 million.

The construction is part of a planned \$4.9 million water control plan that will help manage stormwater outflows from the entire Spring Lake Improvement District.

Lake Worth Lagoon sand island complete. The first half of constructing two muck-capped sand islands in Lake Worth Lagoon came to an end in early November when the first island was completed.

It required placement of over 43,000 cubic yards of sand.

By the end of November, the plan was to place an additional 14,000 cubic yards of sand to complete the second island.

The project will create a half acre of seagrass habitat, over one acre of salt marsh, one-third of an acre of mangroves, one-third of an acre of tidal flats and two-thirds of an acre of artificial oyster reef habitat.

Biological monitoring began before the

sand placement and changes in fish populations have already been noted.

Hardhead catfish dominated the unrestored areas, while bait fish and recreational fish species were captured near the restoration sites. Shoreline birds are also present on the uncompleted restoration sites.

The project was originally scheduled for completion by the end of November, but contractors required additional time to

complete the planned restoration work, partially due to weather delays.

Sand is being obtained from maintenance dredging at the Boynton Beach Inlet, the Hypoluxo Natural Area and from the Okeechobee Park wetland restoration projects.

The project cost is estimated to be about \$3 million with \$2.5 million coming from state and federal grants.

Beach groins at Anna Maria. Sand-trapping groins on Anna Maria Island are slated for replacement beginning sometime this winter.

The existing three groins have been in place for several decades and are in a state of advanced deterioration.

The plan is to replace them with new, more advanced groins that will allow some current-driven water and sand to pass through while retaining a substantial portion of the entrained sand to nourish the beach upstream.

The new groins will allow adjustment of the amount of sand and water allowed to pass through.

Replacement of the sand-retaining groins follows a \$16 million beach renourishment project in two different areas on Anna Maria Island.

The U.S. Army Corps of Engineers provided about 75 percent of the funding, with Manatee County and the state of Florida picking up about 12.5 percent each.

Project costs could reach \$5–6 million and require about nine months to complete.

Manatee County has applied to DEP for partial reimbursement of project costs, but the department has not yet made a commitment to the share costs.

County officials have said this is a necessary maintenance and improvement effort that they will begin—with or without DEP funding. Manatee County will use

bed taxes paid by tourists to pay its share of groin construction.

DEP, Fort Myers joint project. The city of Fort Myers and DEP have started a joint project to build a stormwater treatment facility adjacent to one of the city's golf courses.

Diversion structures, filter marshes and control structures are part of the planned project.

The goal is to remove fertilizers, pesticides, oil and grease from stormwater before it is released to the Carrell Canal and the Caloosahatchee River.

The project is expected to cost \$1.7 million. DEP will pay \$840,000. The city will contribute the remainder, nearly \$900,000.

Deltona to test viability of Lower Floridan. The city of Deltona received \$550,000 through an appropriation from the Florida Legislature to build a test well to the Lower Floridan Aquifer.

The test well will allow the city to evaluate the use of brackish water from the Lower Floridan as a drinking water source.

If the city is able to use brackish water from the Lower Floridan, it will ease the demand on the Upper Floridan, which provides water to both drinking water wells and many of the area's springs.

Blue Spring is considered to be one of the likely beneficiaries of the use of brackish water from the Lower Floridan. In addition to its aesthetics, Blue Spring is a manatee refuge during cold weather.

This test well, expected to be completed by the end of 2015, could be the first of several wells used to provide an additional four million gallons of water per day that the growing community might need within the next 25 years.

More monitoring wells in NW Florida. The Northwest Florida Water Management District and the Florida Geological Survey are teaming up to drill 14 new monitoring wells at sites located around Tallahassee from near the Florida-Georgia border, south to the Gulf of Mexico.

The district said the wells will provide data crucial to the development of minimum flows and levels for three priority water bodies including Wakulla Springs.

The wells are an expansion of the district's monitoring network and are specifically intended to supply data for St. Marks Rise, Wakulla and Sally Ward springs.

The district plans to drill 14 new wells, seven of which will be drilled by FGS. FGS will take core samples at its wells to provide data for a groundwater flow modeling.

FGS will also use data from drilling and coring to further develop its potentiometer surface mapping and refined hydrogeological characterization of this part of the Florida Panhandle.

In addition to the wells, the district is also initiating nine new surface water monitoring stations.

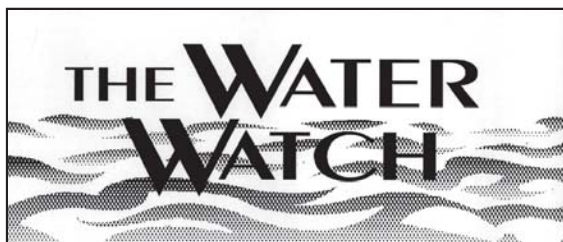
All together, NFWMD has budgeted \$2.4 million for the current year's effort to develop MFLs. This project is supported by part of that budget.

NAS Whiting Field award. Naval Air Station Whiting Field received a Plant Operations Excellence Award from the DEP's Northwest District.

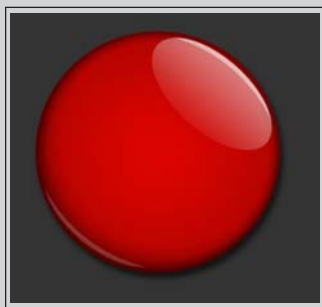
The award recognized the base's Public Works Department water management team for both the quality of the water it provides and administrative accomplishments that include detailed record-keeping, good customer relationships, staff and safety training, and outstanding operations and maintenance practices.

Naval Air Station Whiting Field competed against 106 facilities in Northwest Florida in its size category.

A press release noted that water conservation was a large factor in the award. The Navy facility reduced water usage by 15.1 percent in the preceding year, and 40 percent overall since 2011.



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SFWMD permits more cooling water for FPL Turkey Point nuclear plant

By PRAKASH GANDHI

Florida Power & Light is grappling with serious problems with its Turkey Point Nuclear Plant cooling canal water.

Since June, FPL has been struggling to control the heat level of the canal water and an algae bloom that has spread throughout the 168-mile canal loop.

The canals were dug in the 1970s to act like a radiator to help keep the nuclear power plant from overheating.

Now, Miami-Dade County officials are now taking a closer look at the utility's cooling canals.

Utility officials have asked the South Florida Water Management District twice for more water to freshen the canals.

Earlier this summer, the district signed off on providing up to 14 million gallons a day from the Floridan Aquifer and, more recently, agreed to a temporary permit for up to 100 million gallons of freshwater a day from a nearby canal.

County officials said the problems began after FPL temporarily shut down the canal pumps when it expanded to increase capacity by 15 percent.

Hotter water can lead to saltier canals. This summer, salt levels have been about 50 percent higher than normal and twice

the salinity of the nearby bay.

Luis Espinoza, a spokesperson for the Miami-Dade Department of Regulatory and Economic Resources, said monitoring data revealed that hypersaline water from FPL's Turkey Point plant cooling canal system is impacting parts of the Biscayne Aquifer outside the boundaries of the cooling canal system.

He said that over the past several years, water quality has rapidly deteriorated in the cooling canal system. The salinity peaked this summer at record levels that were roughly three times greater than typical salinity levels in Biscayne Bay.

In addition, a cyanobacteria bloom developed in the cooling canals that created operational issues for FPL and worsened water quality issues including increasing the nutrient levels within the canal system.

"Corrective actions are needed to address the root causes of the deteriorating water quality and to develop sustainable solutions for operation of FPL's cooling canal system" Espinoza said.

In addition, he said that groundwater impacts to the Biscayne Aquifer must be addressed to protect the limited supplies of fresh water that are important to surrounding wetlands, wellfields and the bay.

The utility blamed below-normal rainfall on the rising temperatures and in-

creased salinity.

In July and August, temperatures exceeded 102 degrees and twice threatened to shut down the plant.

Because of the spike, the U.S. Nuclear Regulatory Commission raised temperature limits to 104 degrees to keep the plant operating.

Over the summer, the utility said it needed millions more gallons of freshwater to manage cooling canals that keep two nuclear reactors at Turkey Point from overheating.

To cool the canals, the South Florida Water Management District authorized

pumping up to 100 million gallons of water a day from a nearby canal system, but only if it doesn't pull too much water stored for Everglades restoration.

The canals carry freshwater to Biscayne Bay and tamp down salinity, high levels of which can fuel algae blooms and harm marine life.

Environmental groups warn that a spreading underground saltwater plume potentially worsened by the hot canals poses a greater risk to Biscayne National Park and area water quality.

The state is currently revising its regulations on how the cooling canals operate.

Gulf watch: Red tide levels low, so far

By ROY LAUGHLIN

Florida has had a series of bad experiences with red tide, *Karenia brevis*, during the past decade. 2005-2006 were years of persistent, extensive red tide blooms along Florida's central and southwest Gulf Coast.

This summer got off to a similar start.

A bloom in the northeast Gulf, off Florida's big bend area, was the largest bloom on a spatial basis since 2006, said Brandon Basino, a spokesperson for the Florida Fish and Wildlife Conservation Commission.

Red tide watchers are now keeping a close eye on Florida's southwest coastal region for blooms. Last year, red tide blooms were cited as the cause of 170 manatee deaths from January to May. Massive fish kills also occurred.

So many manatee deaths resulting from harmful algal blooms are unusual.

Basino said that special circumstances of location, persistence and time of year all influenced the damage caused by last winter's red tide.

Manatees were migrating and congregating in the warmer waters of Southwest Florida.

The bloom came during the winter months and it was extensive, giving manatees few refuges away from the red tide organisms.

The good news as of mid-November is that the extent of red tide blooms is lower than expected this time of year along Florida's southwest coast.

The most extensive mid-November red tide bloom is in the southeast Gulf, south of Sanibel Island and west of Collier County. The highest *K. brevis* concentrations are considered 'moderate' in the ranking system used by FWCC.

The current bloom occurs from the shore to dozens of miles out over the continental shelf. This is in an area where the Caloosahatchee River drains into the Gulf of Mexico.

Harmful algal blooms including red tide may occur at almost any time of the year along parts of Florida's Gulf Coast. Many blooms occur when and where stormwater runoff carries nutrients into estuaries and coastal waters. For some algae that form blooms, high nutrient concentrations are a trigger.

For *K. brevis*, the scenario is different. Red tide blooms typically begin away from shore near the edge of the continental shelf. From there, the blooms may move toward shore.

"Nutrients can become a factor in main-

taining or continuing a bloom inshore," said Basino.

In spite of ample rain in South Florida this fall, nutrients carried in runoff have apparently had a modest influence on red tide blooms, at least so far.

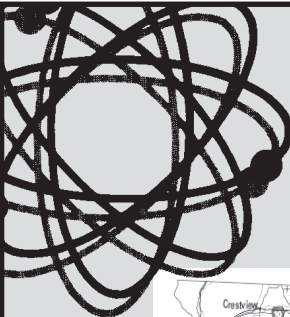
The primary concern for manatees in particular is that red tide organisms are occurring above background levels in a few places in Pine Island Sound, where feeding manatees may ingest the micro organisms while eating sea grasses.

In recent weeks, one manatee with red tide symptoms was rescued.

FWC makes red tide projections only a few days in advance, so no official projection of persistent red tide activity like last year's bloom in Southwest Florida waters has been made.

"We know we're seeing red tide in Pine Island Sound. Its cell concentrations are lower than last year. But I can't make a predication about a future bloom," said Alina Corcoran, PhD, research scientist for the FWCC's Fish and Wildlife Research Institute.

So far, the large bloom that began in August has not been a harbinger of a large red tide bloom in Southwest Florida.



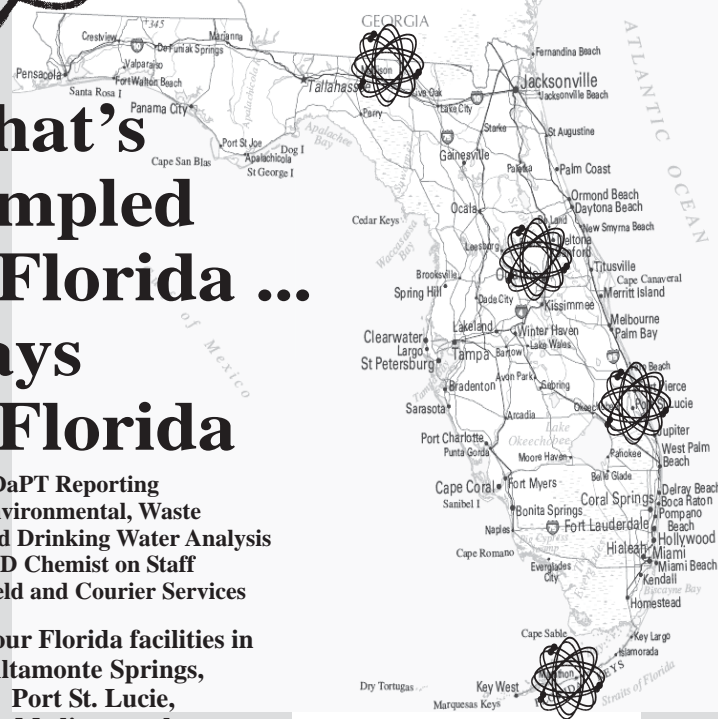
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Immobilized chelating agents developed by Florida chemist have many applications

By ROY LAUGHLIN

Earlier this year, Periodic Products Inc. received a synthesis patent for immobilized metal chelators. Chelating agents are chemicals with functional groups arranged in the molecule so they bind or hold a metal ion by electrostatic attraction that forms a molecular “claw” around it.

Periodic Products’ chelating invention differs from conventional chelating compounds in a couple of significant ways.

They are not soluble in water, as are traditional chelating agents. The chelating functional groups are attached to plastic polymers. Polymers can be put into a packet or cartridge, or dispersed in water as a particle. A fine powder of the chelating material dispersed in water can be filtered out with inexpensive paper filters.

Filtration of traditional soluble chelation chemicals requires membrane filtration, a much more expensive and less efficient process at higher chelating agent concentrations.

Spacing and selection of chelation functional groups on the plastic polymer backbone allow engineering at a molecular level for chelation specificity, said Jo-

seph Laurino, the inventor of the new technology and president of Periodic Products.

The polymers have a metal binding capacity about equal to their own mass, he said. The polymers can be regenerated by lowering the pH if reuse is the primary goal.

The resins are relatively inexpensive and, as organic compounds, can be incinerated easily and without hazardous emissions. The ash remaining is metal oxides of the chelated metals and is suitable for metal recovery.

This product has already been successful in several industries and is poised to move into new ones with higher value.

Periodic Products’ first big success was CuLator. It removes iron and copper from swimming pool water, holding it in filter cartridges that can be discarded when saturated. CuLator has about a 40 percent share of the pool product market, according to Laurino.

CuLator’s success led to a licensing agreement with an aquaculture products company, Two Little Fishes, to use Periodic Product’s chelating polymers in aquaculture applications to remove met-

als from aquaria and aquaculture ponds.

Application in environmental remediation was one of his first ideas, Laurino said, even if it was not his first successful product.

He explained that when he started Periodic Products, the barriers to entry into the environmental remediation applications seemed too high for a fledgling company.

With revenues from his first two market successes and the recently granted synthesis patent, he is now looking closely at environmental remediation involving transition metals.

The Florida Industrial and Phosphate Research Institute recently funded a study that showed that Periodic Products’ polymers, in Laurino’s words, “quantitatively extract and bind” rare earth metals from aqueous rinses of phosphate wastes by Periodic Products’ chelating agents.

The resins were burned to recover the metals. Phosphate mining companies are planning to begin extensive use of Periodic Products’ polymers for rare earth metal recovery from phosphate wastes.

Laurino said he is now involved with projects to demonstrate successful applications of his polymers to recover transi-

tion metals from fly ash, to reduce its metal contamination.

Removing metals from fracking water to allow the water’s reuse is also under development.

If polymer chelator use becomes widespread in energy production markets, their chemical manufacture would rise significantly.

Laurino said that while they are not a “green product, they are obtained by green synthesis.” He said that the manufacturing process produces the polymers and salt water as products.

Ramping up their production to address an environmental contamination problem will not create another one. And their relatively low cost makes chelated metals recovery through incineration a profitable prospect.

Laurino said that polymers have properties that would make them effective in a wide range of applications.

That these plastics already have a successful track record in swimming pool maintenance and aquaculture—along with their ability to tailor the chelating properties at a molecular level using inexpensive ingredients—suggests that they may have bright prospects in new markets, particularly environmental remediation and resource recovery.

WRRF approves additional direct potable reuse research

By ROY LAUGHLIN

The WateReuse Research Foundation Board of Directors approved an additional seven research projects in October for a water conservation practice known as direct potable reuse, or DPR. That brings the total number of DPR projects to 26 that WRRF has approved for funding since 2011.

WRRF has allocated about \$4 million of its funds, and with in-kind contributions and funding, the foundation said the total value of the research is “\$11.5 million and counting.”

Public aversion to the idea of drinking sewage water has so far prevented utilities from returning highly treated wastewater directly to potable water systems, although some experts have said it is safe.

The definition of DPR, provided in a 2011 document prepared by WRRF, is: “purified water [from a wastewater treatment plant that] is introduced directly into a potable water supply system or into the raw water supply immediately upstream of a water treatment plant.”

Practices that fall under this definition include drawing water from a reservoir or wetland receiving predominantly treated wastewater, or an aquifer recharged predominantly by treated wastewater.

In Florida, direct injection of treated wastewater into a stratum of the Floridan Aquifer from which drinking water wells draw source water is considered DPR.

The current set of WRRF’s research initiatives addresses topics including assessing the resilience of unit treatment processes; determining the specific kind of health data required to address health issues adequately with implementation of DPR; using molecular methods for pathogens in evaluating water quality in potable reuse facilities; and predicting the removal efficiency of compounds identified by state or federal regulatory agencies by reverse osmosis.

It is hoped that this research can confidently back claims of DPR safety and provide monitoring and assessment tools to assure those claims.

DPR is currently getting increased attention out west because of California’s record drought.


In its announcement of the new research awards, WRRF makes frequent mention of those water shortages and a legislatively mandated assessment.

California SB 918 required the California Department of Health to evaluate the human health risks of indirect potable reuse for groundwater recharge by 2013 and to evaluate surface water augmentation by the end of 2016.

Justin Mattingly, research manager at the foundation, said that although the current research on DPR clearly has a California tilt, the research project he leads includes case studies, one of which will be a Florida project.

Aquifer storage and recovery using treated wastewater is the primary practice in Florida associated with DPR. But early projects have not been uniformly successful for several reasons. For one, the aquifer may not have had suitable characteristics for recharge. Public opposition has stopped others. To be clear, in Florida, some direct aquifer recharge programs are in operation. But few use treated wastewater for recharge.

WRRF’s increased funding for DPR research will further define the usefulness of the process as a source of potable water. Plus, it may help to allay public aversion to the idea of drinking water that is supplied by a wastewater treatment plant.



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Final phase of Lakewood Ranch reclaim water system completed

By ROY LAUGHLIN

Lakewood Ranch, a large development of homes and golf courses in Manatee County, receives reclaimed water from four wastewater treatment plants in other communities.

The reclaim project to pump water from nearby wastewater treatment plants began in 2012 and is now complete except for final operational adjustments.

The most recently completed phase includes a pipeline that sends treated reclaimed water from Sarasota's wastewater treatment plant to southwest sectors in Lakewood Ranch. The pipeline is capable of delivering up to two million gallons per day, the volume dependent on the amount of wastewater treated by Sarasota's plant.

The recently completed pipeline from Sarasota is part of a larger plan that includes three lines from Bradenton's wastewater treatment plant. In the Bradenton project, three pipelines and pumps, each capable of carrying up to two mgd, were

installed.

This pipeline supplies irrigation water to the northwest and southwest sectors of Lakewood Ranch.

Lakewood Ranch has two additional sources of reclaimed water. A water treatment plant jointly owned by Sarasota County and Braden River Utilities supplies reclaimed water to the University Parkway neighborhood in the southern part of Lakewood Ranch.

A fourth wastewater treatment plant in Manatee County provides treated wastewater to the northern sectors of Lakewood Ranch.

The Southwest Florida Water Management District fostered and participated in agreements to move the treated wastewater from other Manatee County treatment plants and distribute it to Lakeview Ranch.

The district paid half of the \$14 million project and BRU, Lakewood Ranch's utility, paid the other half to build the pipelines from wastewater treatment plants to their distribution system.

When recycled water reaches Lakewood Ranch, BRU is responsible for distributing it throughout the development as needed.

BRU currently pays 32 cents per 1,000 gallons of treated wastewater it receives, a cost that may increase based on the consumer utility price index.

The district is involved in the project because although the wastewater treatment plants in other communities provide recycled wastewater to their customers contributing sewage, they have an excess of reclaimed water.

By sending it to BRU for use at Lake-

wood Ranch, multiple watersheds benefit, including the Braden River watershed.

It also helps increase aquifer levels, according to Anthony Andrade, reuse coordinator at the SWFWMD.

The price of the reclaimed water, 32 cents per 1,000 gallons, is low, but Andrade noted that it is more than the utility would receive if it released the water as effluent. Plus, the reuse helps the utility meet U.S. Environmental Protection Agency and Florida Department of Environmental Protection regulatory requirements.

BRU buys water year round from the contributing wastewater treatment plants.

NWFWMD awards nearly \$8 million in water supply funding

Staff report

In November, the Northwest Florida Water Management District's Governing Board approved nearly \$8 million in grant funding to be used for 26 new water supply development projects across Northwest Florida.

This funding was awarded as part of the second cycle of a competitive grant program to help local governments and nonprofit utilities address local water supply challenges and meet regional water supply protection and management needs.

During the first grant cycle that was approved at the February 2014 governing board meeting, the district awarded nearly \$10 million to fund 24 priority water supply projects.

"An important part of the district's mission is ensuring a safe and reliable supply of water for the people of this region," said Governing Board Chairman George Roberts. "This grant program allows the district to play an active part in contributing to the health and well-being of our communities by addressing regional water resource and supply development needs."

Projects eligible for grant funding include traditional water supply development projects, alternative water supply projects including reuse projects, and conservation projects that result in quantifiable ground-water savings.

After evaluating the 87 project applications submitted, the district selected 26 new projects that it was able to fund during this grant cycle.

The \$8 million also includes supplemental funding for two previously approved projects from the first grant cycle.

"These water projects will be a tremendous boost to our communities throughout North Florida," said Senator Bill Montford. "The much needed funds will help address serious issues that, when completed, will provide better and safer service."

The district will continue to work with grant recipients to finalize projects details and execute funding agreements in the coming weeks and months.

Many of the funded projects include replacements, repairs and upgrades to water distribution systems that will help improve reliability and drinking water quality, as well as protect the region's water supply by reducing water loss.

Several projects will also support the development and growth of reclaimed water use, which helps extend the water resources available for beneficial purposes while also helping to protect and restore watersheds by reducing wastewater discharges.

The full list of projects that were awarded funding can be found at <http://www.nwfwmd.state.fl.us/>.

DEP provides funding for stormwater work

Staff report

The Florida Department of Environmental Protection awarded Brevard County more than \$116,000 to install stormwater filtration technologies aimed at improving water quality in the Banana River Lagoon. The work is expected to reduce nutrient pollution by 20 percent for both total phosphorous and total nitrogen.

Brevard County is providing match funding of more than \$121,000.

As part of this project, Brevard County is installing filtration technology known as floating vegetated islands in two water detention ponds along Fortenberry Road.

The department administers this grant program with annual appropriations from the Florida Legislature.

Projects are ranked for funding based on the impaired status of the waterbody, the estimated pollutant load reductions the project is designed to achieve, the cost-effectiveness of the project and the percentage of local matching funds.

Another important consideration is whether the applicant has a stormwater utility fee or other dedicated revenue source to continue effective stormwater management in the future.



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PRP survey results reflect concern with processing speed, inefficient operations—but DEP making progress toward “less process”

By STEVE HILFIKER

A recent survey of Florida Department of Environmental Protection Agency Term Contractors conducted by the *Florida Specifier* yielded 36 pages of feedback about the agency’s new Petroleum Restoration Program operations.

The dominant themes of the responses are slow processing and inefficient operations experienced to date. One respondent summed it up by reminding DEP of their

“More Progress, Less Process” motto.

PRP has been receiving similar feedback for months and, based on recent decisions made by the department, it seems like they are making some progress toward “less process.”

Change orders and general concerns related to the state’s eProcurement system, MyFloridaMarketPlace, MFMP, seem to be the most significant sources of frustration. Many responses were critical, with details to justify the comments. The good news is that the issues are on the table.

Twenty-seven returned surveys from the seventy-two ATC participants is an excellent response, according to typical survey standards. The comments appear to be from experienced professionals including those who managed projects when the program was processing roughly 4,500 work orders and \$181 million per year, and are now managing projects under the new system. The survey data will be constructive for the PRP.

On Nov. 12, 2014, DEP conducted a webinar announcing improvements made to invoicing and change order procedures. It was interesting to note that most of the presentation was a proactive attempt to resolve many of the same issues outlined in the survey, which DEP officials had not seen at that time. DEP has made additional moves recently to improve processing that correlates directly with the most significant concerns.

This column is more of a status update than a perspective, and summarizes the results of these recent communications from both ATCs and the PRP. The perspective I have stems from numerous interviews with DEP leaders since May. The results are encouraging. Time will tell, but the state is at least addressing the most important issues described in the survey.

Please note that this column does not address the Relative Capacity Index formula, work distribution or pricing. It is intended to be a report on the survey results regarding PRP processing of work after acceptance of an offer by ATCs.

There were many survey comments about how implementation is adding unexpected costs for ATCs. This is not the proper forum to address those issues, but they need to be addressed soon if DEP wants to encourage more cooperation and positive assessment from their remediation industry partners that perform the work.

The survey deadline has passed but further comments can be sent to the *Specifier* through a confidential PRP Suggestion Box. The e-mail address is mreast@enviro-net.com.

So where’s progress being made and will there really be less process?

As forecasted by DEP in September, much work has been procured. All of the remaining program funds for FY 2013-2014 have been encumbered, and they are making progress toward getting the 2014-2015 appropriations into contracts, according to the department.

The PRP expects to see a spike in RAPs and RACs over the next 60-90 days due to the natural progression of projects in SAR and RAP phases. DEP remains committed

to obligate the full appropriation by the end of the fiscal year. It will be good to demonstrate that the appropriated funds have been encumbered and work has been issued going into the 2015 state legislative session this spring.

An important factor as far as the ATCs are concerned is the invoiced amount to document completed professional services. ATCs are asking if the work can be turned around faster. Based on PRP strategic and responsive directives—if implemented as designed—DEP believes there will be a reduction in document turnaround time. Positive developments are expected.

The PRP staff is working overtime to speed up processing and iron out glitches in the new system. Officials understand there are specific parts of the pipeline that are backed up and they are enlisting resources to clear the logjams. The bottlenecks were a result of the initial learning curve and an emphasis—perhaps an over-emphasis—on quality assurance.

Many checks and balances are part of the new system. Purchase requisitions and change orders, for example, have meandered through the fourth floor of Blair Stone Road as many reviewers, both technical and contractual, made sure the documents were accurate. The time taken for this process has greatly impacted the bottom line of many ATCs. The survey results clearly describe the impact that these growing pains are still having on industry.

But DEP has apparently heard industry complaints over the recent months and is taking action in an attempt to resolve the processing speed going forward.

The PRP has implemented a Rapid Process Improvement approach to streamline the new system. Invoices have gone from a high rate of rejection to a more manageable process. Based on the *Specifier* survey, many firms are no longer having invoice issues. Many invoices were initially returned based on minor issues, according to survey respondents. Absolute precision is required by the new system, right down to the penny. Insignificant typos that were previously corrected by site managers cause the software used by MyFloridaMarketPlace to reject submittals.

However, only four of the twenty-seven respondents reported a high return rate, which indicates the new procedures are understood better now and invoices are precise. Progress on invoice approvals is being made. Hopefully the PO and CO process can achieve the same results.

Much of the emotion expressed in survey results was based on the need for ATCs to spend non-billable time to learn the details, which many have done, despite the financial losses. For those still having trouble with invoices, the DEP has posted information to help on their web site.

High levels of frustration were also expressed in the responses regarding change orders—clearly the most significant ATC concern. DEP has made changes designed to help alleviate this clog in the pipeline that has caused extensive project delays.

The new field change order procedure, called Field Request for Change, or FRFC, is the result of industry emphasizing—and PRP understanding—that the nature of our work requires decisions in the field. The PRP has set goals and new procedures involving only a few reviewers for timely FRFC response to keep field crews working—not sitting or demobilizing. They understand that approval must be prompt, within an hour or two, to avoid problems related to scheduling and cost for ATCs and drillers.

PRP has reportedly empowered site managers, team leaders and county program administrators to accomplish this goal. The former process only required site manager approval. Survey respondents support more authority, with appropriate accountability, being given to site managers. Industry will be grateful if PRP can

HILFIKER
Continued on Page 13

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Florida water, land conservation funding amendment passes with ease

By CLAY HENDERSON

Florida's Water and Land Conservation Initiative that dedicates billions of dollars to conservation over the next 20 years was ratified by Florida voters by a wide margin.

Voters in all parts of the state and across the political spectrum approved the measure on November's ballot.

Amendment 1 received 75 percent of the vote with over four million votes cast for approval. It was the only constitutional amendment to be ratified by the voters.

As of 2006, Florida law requires 60 percent approval for ratification of an amendment.

The amendment dedicates one-third of the existing documentary stamp tax for land and water conservation. The Legislature estimates the amendment will bring in over \$600 million in 2015 and close to \$20 billion during the 20-year life span of the program.

The initiative was a reaction to the lack of funding for land conservation over the last four years.

Between 1991-2010, the Legislature appropriated \$300 million each year for conservation. However in 2014, lawmakers appropriated only \$15 million.

Constitutional amendments proposed by citizens through the initiative process

must also pass review by the Florida Supreme Court, which approved it for the ballot in 2013.

In their briefs to the court, the sponsors said that the measure was "self-executing," meaning that no new legislation is required to implement the amendment.

The amendment simply dedicates a funding source that can be applied to existing programs such as Florida Forever, the sponsors told the court.

Opponents of the amendment argued that the initiative ties the hands of the Legislature in the appropriations process. Indeed, one historic aspect of the initiative is that it is the first to dedicate a significant sum of money to a specific program. Earlier amendments created trust funds or dedicated a relatively small amount of funds.

Lawmakers are expected to amend existing programs in order to fully take advantage of the new dedicated funding because the scope of the amendment is larger than existing programs.

The amendment not only dedicates money to land acquisition, it also authorizes funds for environmental restoration, recreation, historic preservation, land management improvement and protection of water quality.

Water projects are expected to take center stage as the Legislature contemplates

how to spend this dedicated revenue.

Lawmakers already appropriate millions to Everglades restoration and that can continue under the specific terms of the amendment.

In 2013, the Florida Senate unanimously passed a bill to restore springs and its sponsor has already indicated that the amendment can be used to fund programs authorized in the bill.

Other legislators have discussed a program to protect the Indian River Lagoon, while others have singled out the St. Johns River for special restoration.

The sponsors of the amendment called

it a "lasting legacy" in the sense that its programs will have a lasting affect.

For the next 20 years, Amendment 1 provides Florida the opportunity to lead the nation in land conservation, environmental restoration and cleanup of water pollution.

Clay Henderson is senior counsel with Holland & Knight in their Orlando office.

Editor's note: Holland & Knight lawyers drafted Florida Amendment 1 and shepherded the review and approval process by the Florida Supreme Court to get the amendment on the ballot. These efforts were a pro bono project for the firm.

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In spite of potential, Florida lags behind country in clean energy jobs

By PRAKASH GANDHI

Florida is lagging behind in creating new clean energy jobs compared to other states, according to a new study. The state has been adding these jobs, but not at the rate of other states, according to the first major survey of clean energy jobs in Florida.

The report, "Clean Jobs Florida: Sizing Up Florida's Clean Energy Jobs Base and its Potential" was released by Environmental Entrepreneurs in conjunction with the Florida Alliance for Renewable Energy and the Florida Chapter of the Energy Services Coalition.

Critics who want the state to step up to the plate and start actively advancing clean energy development put most of the blame on Florida's lawmakers. They claim legislators fail to promote renewable energy and energy efficiency.

"To me, what is highlighted by this report is the difference between where we could be and where we are," said Mike Anthail, executive director of the Florida Alliance for Renewable Energy, which has been advancing a free market for renewable energy production. "The difference between where we are and where we could be is staggering."

The study was conducted by the BW Research Partnership. The survey on Florida clean energy jobs was done between Aug. 21 and Sept. 21, and involved nearly 12,000 phone calls and 2,611 e-mails to employers.

Researchers found more than 130,000 clean energy jobs at some 14,000 businesses in Florida. Many of them were at firms employing fewer than ten people.

Employment is nearly evenly distributed across the state with slightly more clean energy workers in the southwest part of the state.

Florida has the country's third highest solar potential. But just 7,100 of the clean energy jobs are linked to solar energy, said the report.

In all, clean energy jobs represent just 1.5 percent of Florida's employment compared to about 2.5 percent in Massachusetts and more than four percent in Vermont.

North Carolina has attracted nearly \$2.7 billion in clean energy investment and built an industry that supports more than 37,000 jobs.

"We are number three in terms of solar potential, but number 18 in terms of actual development," said Anthail.

Anthail said it's easy to pinpoint why the state is so far behind.

"There is no doubt in my mind that the reason we are lagging is because there is a lack of political will," he said. "Other states have gotten their act together with a Legislature that understands the necessity to diversify the fuel mix."

"We are going backwards in Florida. Investor-owned utilities spend millions of dollars on campaigns and elected officials. And those same elected officials are pro-utility."

In response to the report, some called for a renewable portfolio standard that specifies the share of energy that should come from renewable sources like wind and sun by a target date.

Anthail said solar energy does not need subsidies from ratepayers or taxpayers.

"All it needs is a free marketplace to compete," he said. "The proof is in the pudding. You don't have to look further than our energy laws. Right now, the utilities have a stranglehold on the ability to sell electricity within the state of Florida."

\$34.4 million for Gulf restoration projects

Staff report

In November, the National Fish and Wildlife Foundation announced funding of \$34.3 million for nine Florida projects that address high priority conservation needs.

The projects, developed in consultation with the Florida Fish and Wildlife Conservation Commission, the Florida Department of Environmental Protection and federal resource agencies, are designed to remedy harm or reduce the risk of future harm to natural resources that were affected by the 2010 Deepwater Horizon oil spill.

The money is the second obligation from NFWF's Gulf Environmental Benefit Fund, created 18 months ago as part of the settlement between the U.S. Department of Justice, and BP and Transocean.

In early 2013, a U.S. District Court approved two plea agreements resolving certain charges against BP and Transocean related to the spill. Provisions within the agreements direct a total of \$2.544 billion to the National Fish and Wildlife Foundation over a five-year period to be used to support projects that remedy harm or reduce the risk of future harm to natural resources that were affected by the spill.

What the heck is a “controlled recognized environmental condition?”

By NICHOLAS ALBERGO, PE, DEE

I would like to clarify the “controlled recognized environmental condition,” or CREC, concept within the new ASTM E 1527-13 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, as I am starting to see definitional creep within our ranks of environmental professionals, or EPs, as well as within our industry among attorneys, lenders, developers and other real estate professionals.

Background

The “de minimis condition,” a condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies, has always been a part of the standard since its initial draft and publication in 1993. At that time, it was and has remained envisioned as an indication of a “minor” release, such as a petroleum product stain on a supermarket parking lot.

In the 2000 revisions to the standard, we introduced the concept of an “historical recognized environmental condition,” an environmental condition which in the past would have been considered a recognized environmental condition, but that may or may not be considered a recognized environmental condition now. We reminded EPs and Users, often purchasers of real estate, that the final decision to use the HREC concept rests with the environmental professional and will be influenced by the current impact of the historical recognized environmental condition on the property.

If a past release of any hazardous substance or petroleum product has occurred in connection with the property and has been remediated, with such remediation accepted by the responsible regulatory agency as evidenced by the issuance of a no further action letter or equivalent, this condition shall be considered an historical recognized environmental condition.

In essence, the HREC definition was created as a “fix” to the confusion created in the marketplace in connection with pre-2000 vintage Phase I assessments that were correctly identifying a past release of a hazardous substance or petroleum product as a REC, even though such had been cleaned up to the satisfaction of an applicable regulatory agency. The prior REC designation, in such instances, was negatively impacting Users’ ability to receive bank loans and insurance as well as creating other unnecessary stigmas in the marketplace.

What neither of these definitions of de minimis and HREC anticipated was the challenge posed by risk-based closures and “self-directed” cleanups. The problem started seeping in with HRECs wherein the term, applied correctly, was offering a false sense to Users that whatever the prior release concern, it had been “cleaned up” and of no future consequence. As activity and use limitations, AULs, became the regulatory norm for closures and not the exception, this misinterpretation was also becoming the norm. And of course as Users were being alerted to certain AUL constraints “after acquisition,” they often viewed the conclusion of an HREC as a gross misrepresentation of the actual site conditions.

Even worse, the term de minimis was also being misapplied, especially in instances of self-directed cleanups where contaminants by regulation could remain so as long as such met, for example, commercial versus residential criteria or that such impacts were below two feet, limiting exposure, or that a contaminant plume was “stable or reducing,” or that other local ordinances, resolutions and/or development orders took precedence, necessarily allowing a regulatory agency to “sidestep” issuing a no further action or site rehabilitation completion order letter altogether.

While it is true that such circumstances could technically meet the de minimis definition of no obvious exposure or enforcement threat, it was, again, a misuse of the “intent” of the term and, again, resulted in a false sense to

Users that whatever the prior release concern, it was of no existing or future consequence.

The pressure continued to mount as the All Appropriate Inquiry regulations were passed and began to take hold, especially in instances of the Bona Fide Prospective Purchaser defense, where “continuing obligations” were required to “maintain” a defense to CERCLA. Recall the requirement, for example, that the User take “reasonable steps” to stop any continuing releases, prevent any threatened future release(s) and prevent or limit human, environmental or natural resource exposure to earlier hazardous substance releases.

Failure to recognize that there still remains contaminants that may require future management in this regard because the Phase I identified such as a de minimis condition or an HREC is the genesis of where the concept of a CREC originates. This failure to understand the existence of contamination above unrestricted use conditions was especially disconcerting when you consider that the landowner liability protection defenses to CERCLA are all “self implementing,” meaning that you don’t need a formal determination by the U.S. Environmental Protection Agency, and thus a User may believe that they have achieved an LLP but later learn that a court holds otherwise. Furthermore, no administrative rules have been promulgated further defining continuing obligations, and little, if any, instructive case law exists.

The “Fix”

In 2013, we introduced the concept of a “controlled recognized environmental condition,” a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls such as property use restrictions, activity and use limitations, institutional controls or engineering controls. A CREC remains a recognized environmental condition in the conclusions section of the Phase I Environmental Site Assessment report.

Along with edits to the de minimis and HREC definitions, the CREC determination now captures the continuum of scenarios that were susceptible in the past to misinterpretation by Users, including self-directed cleanups that embrace risk-based closures or the establishment of alternative site cleanup target levels, other cleanups signed off by the regulator but without referencing a formal control, petroleum cleanups that rely on natural degradation and other instances where contaminants remain in place and may still pose existing or future challenges to site redevelopment and/or valuation. In fact, we added

a definition for migrate/migration in 2013 that emphasizes that “migrate” and “migration” refer to the movement of hazardous substances or petroleum products in any form, including, for example, solid and liquid at the surface or subsurface, and vapor in the subsurface.

And to close the loop, we modified the HREC definition to *only* apply when there has been a past release of hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls. And, before calling the past release an historical recognized environmental condition, we emphasized that the environmental professional must determine whether the past release is a recognized environmental condition at the time the Phase I Environmental Site Assessment is conducted, for example, if there has been a change in the regulatory criteria that could negate the former regulatory decision. With regard to the de minimis condition, we added a last sentence that reminds EPs and Users that a de minimis condition cannot also be a controlled recognized environmental condition.

But having offered this CREC “fix” doesn’t necessarily mean we are home free, so to speak. There are states, New York for example, where self-directed cleanups are not allowed and where reporting is required. Here, self-directed cleanups could result in violations much less additional investigation by the regulator, if discovered after the fact. There are also other states, including New Jersey, that allow self-directed cleanups—but only by licensed professionals with reporting obligations if the cleanup is not performed by a licensed professional or the reporting is not done. In these instances, the EP cannot technically call it a CREC, even though at first glance such a conclusion may appear applicable.

In general, Users of Phase Is with CRECs should ask the following questions:

- 1) Did the EP review the NFA letter or decision document concluding that the cleanup met state standards or site cleanup target levels?
- 2) Did the EP identify what the cleanup standard was and if it remains in effect or has been changed since the NFA letter or its equivalent was issued?
- 3) What “controls” were identified as the basis for concluding that the condition is a CREC?
- 4) Has the “control” been properly implemented—recorded in the land records, working properly, being main-

ALBERGO
Continued on Page 12

Modern sewers help coral reefs make a comeback

By STEPHEN FRINK

I live in Port Largo, a subdivision of Key Largo that happens to have very deep, wide canals. I noticed an almost immediate difference in water clarity within six months of the completion of the sewer system in our community.

I wasn’t necessarily surprised, because I was aware of septic tank tests where they flushed color dye into the system and within an hour you would see it percolating out through the bedrock and into the canals. Switching from septic tanks to a modern sewer system made an obvious and almost immediate impact on the local marine environment.

My work takes me around the world so I don’t often dive in my home waters. I dive Key Largo episodically, but that’s good because if you see the conditions infrequently, you notice the changes. That’s what has happened over the past two years in Key Largo.

In 2011, the city installed a new vacuum sewer system in our community and what I saw this summer was a lot of new coral growth and good marine life, which is encouraging.

In recent years, we had a lot of algae in those waters, primarily because of high nutrient levels in the water. There are no livestock in this area and very few lawns and golf courses to fertilize, so sewage from septic tanks is almost certainly the source of the excess nitrogen that was present in the ocean.

The nitrogen creates a breeding ground for algae, and algae cloak the substrate and make coral growth difficult, if not impossible. If you want a coral reef to thrive, you have to have a substrate free of algae. If you reduce the

nutrients present in the water, you will reduce algae.

I came to Key Largo in 1978 and saw a steady degradation of the coral reef to the point where I thought it would never come back. Now I feel much more optimistic.

There are other challenges to creating a healthy marine environment, like ocean acidification and coral bleaching from global warming, but there are some im-



Photo by Stephen Frink

portant things we can do to help promote cleaner, healthier waters.

It’s a cliché, but we have to think globally but act locally. We can start by making wise decisions about our wastewater infrastructure.

Stephen Frink is a world-renowned underwater photographer who resides in the Florida Keys. With more than three decades experience, he is among the most frequently published underwater photographers in the business. Frink is also the publisher of Alert Diver, a coffee table magazine devoted to diver safety and the sea.

Florida Specifier

P.O. Box 2175
Goldenrod, FL 32733

Michael R. Eastman
Publisher/Editor
Goldenrod, FL
mreast@enviro-net.com

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

Calendar

December

DEC. 4-5 – Seminar: Stormwater Treatment Using Detention Ponds and Commercial Devices, Tampa, FL. Presented by the American Society of Civil Engineers. Call 1-800-548-2723 or visit www.asce.org.

DEC. 6 – Course: Backflow Prevention Recertification Review, Jacksonville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

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DEC. 7 – 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.

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DEC. 8 – Course: Backflow Prevention Recertification Review, Destin, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

DEC. 8-9 – Course: Phase I Environmental Site Assessment and All Appropriate Inquiry Training Course and Licensed Environmental Professional Exam, Jacksonville, FL. Presented by the International Society of Technical and Environmental Professionals. Call Gene Jones at (850) 558-0617 or visit www.swix.ws.

DEC. 8-12 – Course: 40-hour OSHA HAZWOPER Training Course, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

DEC. 8-12 – Conference: Linking Science, Practice and Decision Making, Washington, DC. Presented by ACES: A Community on Ecosystems Services. Contact Jasmine Garcia at UF/IFAS, (352) 294-3584.

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

DEC. 9-12 – Conference: National Ground Water Association's Ground Water Expo & Annual Meeting, Las Vegas, NV. Visit groundwaterexpo.com.

DEC. 10-12 – Conference: Florida Stormwater Association Winter Conference, Orlando, FL. Call 1-888-221-3124 or visit www.florida-stormwater.org/conference.

DEC. 10-12 – Course: 24-hour OSHA HAZWOPER Training Course, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

DEC. 11 – Course: Backflow Prevention Recertification Review, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

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

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DEC. 18 – Course: Backflow Prevention Recertification Review, West Palm Beach, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

DEC. 20 – Course: Backflow Prevention Recertification Exam, W. Palm Beach, FL. Presented by the University of Florida TREEO Center. Call (352) 392-

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January 2015

JAN. 5-9 – Course: Backflow Prevention Assembly Tester 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.

JAN. 7-9 – Symposium: Association of Climate Change Officers' 4th Annual Defense, National Security & Climate Change Symposium, Washington, DC. Visit www.climatesecurity.us.

JAN. 9 – Course: Backflow Prevention Recertification Review, Fort Myers, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

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JAN. 11 – Course: Backflow Prevention Recertification Exam, Jacksonville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

JAN. 12-14 – 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.

JAN. 12-15 – 8th International Conference on Remediation and Management of Contaminated Sediments, New Orleans, LA. Presented by Battelle. Visit battelle.org/media/conferences/sedimentscon.

JAN. 13-14 – Conference: P2: Increase Profits Reduce Pollution Conference, Cincinnati, OH. Presented by the Air & Waste Management Association. Call 1-800-270-3444 or visit www.awma.org.

JAN. 13-16 – Course: Wastewater Class C Certification Review, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

JAN. 14 – Course: Understanding Hazardous Waste Regulations in Solid Waste Operations and Recycling, Lake Buena Vista, FL. Presented by the Uni-

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

JAN. 16-24 – 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.

JAN. 19-21 – Conference: International Low Impact Development Conference 2015, Houston, TX. Presented by the American Society of Civil Engineers. Call 1-800-548-2772 or visit www.asce.org.

JAN. 20-22 – Course: Managing Collection Systems Training Course, Washington, DC. Presented by the Solid Waste Association of North America. Call 1-800-467-9262 or visit www.swana.org.

JAN. 27 – Course: Initial Training Course for Spotters at Landfills, C&D Sites and Transfer Stations - 8 Hour, Jacksonville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

JAN. 27 – Course: Refresher Training Course for Experienced Solid Waste Operators – 8 Hour, Jacksonville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

JAN. 27 – Course: Refresher Training Course for Experienced Solid Waste Operators – 4 Hour, Jacksonville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

JAN. 27- 28 – Course: Initial Training Course for Transfer Station Operators and Material Recovery Facilities – 16 Hour, Jacksonville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

JAN. 27-28 – Course: Refresher Training Course for Experienced Solid Waste Operators – 16 Hour – Jacksonville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

JAN. 27-29 – Course: Initial Training Course for Landfill Operators and C&D Sites – 24 Hour, Jacksonville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

JAN. 27-29 – Course: Initial Training for Operators of Landfills and Waste Processing Facilities, Jacksonville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

JAN. 27-29 – Course: Chlorine First Responder Technician Level 24 Hour Introduction, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

JAN. 30-FEB. 7 – Course: Backflow Prevention Assembly Tester Training and Certification, Fort Myers, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

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Waste Management settles with residents on Monarch Hill Landfill lawsuit

By BLANCHE HARDY, PG

Waste Management, operator of the 500-acre Monarch Hill Renewable Energy Park's Monarch Hill Landfill, recently reached a settlement with surrounding landowners addressing a class action lawsuit filed in June 2013 to address odors emanating beyond the facility's boundary.

Monarch Hill, formerly known as the North Broward County Resource Recovery and Central Disposal Sanitary Land-

fill or "Mount Trashmore" to the locals, has been a feature of unincorporated Broward County's landscape since 1965.

Located next to the Florida Turnpike between Coconut Creek and Deerfield Beach, its massive hill and accompanying 11-megawatt methane gas-fueled electricity and waste-to-energy plants are a visual indicator that metropolitan Southeast Florida shortly follows for those headed south.

The landfill was a stand-alone remote feature adjacent to the turnpike for quite some time. But as Florida's population blossomed, so did the development of residential tracts in increasingly close proximity to the facility.

Today, approximately 250,000 people live within a five-mile radius of the Monarch Hill Energy Park.

It's a landfill, after all, and in the early days distinctly smelled like one, especially during warm weather. The odor of operations at Monarch Hill became a problem that grew proportionally with the increasing number of local residents.

By the 1990s, complaints from residents in the Coconut Creek area resulted in the issuance of air quality fines and the implementation of an increasing number of odor management practices and systems at the landfill.

In 2010, Waste Management entered into an agreement with the city of Coconut Creek to divert all plant-processable waste entering the landfill to the site's waste-to-energy plant.

Additional fines followed in 2012 after odor complaints were recorded as a result of a short term increase in the import of sewage sludge coupled with an uncharacteristically heavy spring rainfall resulting in accelerated decomposition of waste and increased emissions of landfill gas.

Waste Management subsequently spent more than \$1.5 million on remedial actions and systems upgrades.

"We have a multi-faceted approach to controlling odors at Monarch Hill Landfill including more than 350 gas collection wells, a LO-CAT system that scrubs out the hydrogen sulfide from the gas and a landfill-gas-to-energy-plant," said Jeff Roccapiore, senior district manager of Monarch Hill Landfill.

"In addition, we utilize six inches of daily cover and another 12 inches of intermediate cover earlier in the process than many landfills," he said. "This year, we also introduced a new technology of temporary odor control gas wells we call 'pin wells' that draw out odorless gas directly from newly deposited waste."

But that is just the beginning of the company's efforts to control the odors.

"We are utilizing an extensive misting system including stationary and mobile systems, and temporary geo-membrane cover earlier in the process as well," he said. "We also have installed a variable frequency drive to adjust gas flow rates at the flare to balance the vacuum performance on the landfill gas collection system to automatically compensate for fluctuations in gas generation day to day."

Although Waste Management does not accept liability and has offered defenses to the current lawsuit, the final settlement requires Waste Management to install additional emissions control equipment; dispose of sewage sludge at a monthly average no greater than 10 percent of the inbound waste streams unless as part of a response to an emergency situation; maintain an existing temporary geo-membrane cover in place in an active, but dormant, area of the landfill until operations are resumed in that area; and leave in place 10 acres of existing final cover over two landfill cells to be incorporated into the final cover that will be installed at landfill closure.

Residents within a two-mile radius who made a recorded complaint about landfill odors to Broward County between July 1, 2009, and June 30, 2014, are also eligible to seek a one per household compensation of \$500.00.

Final determination on the settlement agreement is scheduled to take place on Jan. 16, 2015.

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Cleanup work begins at Sanford Dry Cleaners Superfund site

Staff report

The U.S. Environmental Protection Agency announced that cleanup work has begun at the Sanford Dry Cleaners Superfund site.

The remedial action at the site will be conducted in five phases: site preparation, contaminated soil excavation, in-situ enhanced bioremediation injection, soil vapor extraction treatment system installation and site restoration.

The work includes excavating, backfilling and restoring the areas not covered by site buildings that contain soils with concentrations of contaminants of concern above soil cleanup target levels.

Excavated soil will be transported to an appropriate landfill for disposal. Excavated areas will be backfilled with clean soil and restored to match pre-excavation conditions.

During the bioremediation phase,

chemical compounds will be injected into the groundwater to increase the number and vitality of native microorganisms to treat the contaminated plume.

The SVE phase includes the installation of six vapor extraction wells inside the site building. This process is expected to clean up contaminated soils beneath the building and mitigate contamination in indoor air.

The SVE system will be equipped with off-gas treatment to protect the surrounding community from exposure to the extracted vapors.

After RA completion, several long-term operation and maintenance tasks will be implemented to ensure the effectiveness of the remedy, including O&M of the SVE system, sampling and analysis of the groundwater and indoor air, and performing five-year reviews to ensure that the cleanup efforts fully protect human health and the environment.

ALBERGO From Page 10

mat not adequately address human exposures, for example, the continuing obligations are not met and therefore there is no LLP to CERCLA.

5) Is the "control" applicable to the site where the self-directed cleanup was implemented? And are there other potential issues, such as vapor migration, and whether they are under "control?"

To be clear, I am not suggesting that all of this additional information is always required or that the gathering of such information should be included as part of the standard Phase I scope. In fact, it's not required by the standard. But depending on the User's risk tolerance, future intended use of the property and interest in securing one or more of the landowner liability protections to CERCLA, this additional information may prove critical to the process of properly understanding one's environmental liabilities. For example, a CREC may apply to regulatory controls—institutional and engineering controls—but

Hopefully, with this background and clarification of the use of the term "CREC," those practicing professionals in the Phase I world and their clients will be more equipped to recognize the nuances of the REC, HREC, CREC and de minimis definitions, and when and how they should be incorporated into reports that follow the ASTM standard.

Nick Albergo, PE, DEE, is a professional engineer with Conestoga-Rovers & Associates in Tampa, and was one of the authors of the ASTM E 1527, 1528 and E 1903 Standard Practice for Environmental Site Assessments Phase I and II.

Currently, he serves as the ASTM E50.02 Vice Chair on Environmental Assessment, Risk Management and Corrective Action.

HILFIKER

From Page 8

follow through and perform, in any appropriate manner that works, on this critical FRFC topic.

PRP has also increased the dollar amount for specific authorizations by designated PRP leaders, which is speeding up the process.

DEP has acknowledged the backlog at the gate of MyFloridaMarketPlace and has engaged additional resources to assist with this final step to a Purchase Order or Change Order.

Based on DEP interviews, ten new administrators are directly engaged in procurement from all three private contractors—WRS Inc., Ecology & Environment, and York Risk Services Group Inc. The purchase requisition (PR) and task assignment procedures are becoming more efficient, but through September, there was only one gatekeeper—the final reviewer who converts the PR to a PO—to process hundreds of requisitions.

A second gatekeeper has been hired and is now proficient. DEP is in the process of hiring a third gatekeeper.

With the additional staff, PRP officials believe they will soon achieve their goal of having POs out within 15 business days of an accepted offer.

Can the new staff assist experienced DEP veterans to generate the number of POs and COs that are needed to sustain our industry? DEP says yes, and that is their goal.

But the cleanup industry remains critical of and frustrated by MFMP.

As mentioned above, the MFMP procurement system requires precise information to populate new electronic forms and procedures that take time to learn. Documents are rejected if they are not accurate down to the penny and letter, and if rejected, the process must begin again from the start.

It is apparently designed this way using very sensitive Ariba software for cost control and accountability. DEP is asking industry to accept the use of this system and learn it because it has been implemented as the operational platform.

In the survey, MFMP is broadly referenced by ATCs, typically in a general context, to express frustration over the new processing requirements. The new program no longer uses a simple template with verbal change orders where minor errors could be corrected immediately and initiated by site managers.

It seems that ATCs will need to understand how this works and then double check their documents to be sure they meet the precision standard. MFMP leaves no room for error and, as with any new system, it takes time for users to become proficient.

Time is money, especially in the professional services industry, and ATCs need to be paid. This summarizes most of the comments associated with the new process.

Many survey respondents encouraged moving away from MFMP. But according to DEP officials, this would be a mistake that would stop all progress. Too many people now understand it and the recent changes should improve project time requirements.

DEP understands that the optimal PR review process is for work to flow from site manager and PG/PE, proceeding to the team lead, then to the contracts office, and finally to the gatekeeper for issuance of a PO through MFMP.

Hopefully enough trust has been re-

stored to reduce the need for so many QA reviews. After gatekeeper approval, the PO is submitted to the Florida Accounting Information Resource, FLAIR, an automated system that immediately produces a PO e-mailed to the ATC.

Through a combination of additional staff, more gatekeepers and increased efficiency gained from trial and error experience on both sides of the program, DEP is optimistic that the processing speed will significantly improve.

Hopefully, now that more second-event phases of work are underway and more boots are on the ground, the dust will settle and 2015 will be more productive for all involved.

There were many strong and similar responses regarding access agreements and the time required to obtain these agreements without compensation. Industry requests compensation for these services, which are excluded from the general project management time that ATCs are expected to absorb according to the ITN scope documents.

This difficult process has been a major source of delay and unexpected project management time, and has caused multiple change orders for time extensions, according to survey responses. DEP is aware of these concerns and considers resolution of this matter a priority item.

The foregoing information covers the issues associated with only the first four of ten questions on the survey. These were the primary concerns expressed and it is encouraging to know that PRP has already been working on many of these issues.

Question #5 on the survey addressed contractor performance. At the time of this writing, PRP has scheduled a webinar to address this matter. The survey responses have been submitted for DEP consideration prior to the webinar.

Question #6 on the survey addressed discrepancies between the scope of work in a PO and the SPI items listed in the offer. Question #7 asked about tasks for which significant time and expense are incurred on SPI items that are being applied differently than what was understood at the time of the ITN submittal. There were seven pages of responses on these important subjects.

As described above, it is not the intent of this column to address pricing issues. However, based on the number of similar responses in the survey, these issues should be considered carefully by DEP for the sake of a healthy industry. Industry needs to cover its costs. "The SOW must match the SPI" was a common response.

Similarly, questions #8 and #9 addressed subcontractor issues. Five pages of responses on matters such as using direct push technology over split spoon samples and the time/cost/benefit of ADaPT are worthy of PRP consideration. The PRP needs healthy subcontractors. Many subs have been impacted financially and need relief. Industry asks in the survey for DEP to consider their needs.

In summary, after almost two years in which many careers and companies were impacted, things seem to be improving. Recent strategic decisions made by DEP should accelerate operations. The backlog should ease up and processing of POs and COs should speed up.

Communications between DEP staff and industry professionals at events like the Florida Remediation Conference, in DEP webinars, industry association meetings, industry surveys and day-to-day interactions have clearly identified the prob-

lematic issues.

The issues are on the table and the PRP is committed to resolving them in order to achieve the common goal of a successful cleanup program.

In closing, according to DEP, 160 purchase orders were processed and issued during the period of Nov. 13, 2014 to Nov. 19, 2014.

At the time of this writing, DEP expects to issue—and is processing—POs worth roughly \$2.2 million during the period of Nov. 20, 2014 to Nov. 26, 2014.

How quickly will they be processed?

According to PRP officials, much faster now that they have more resources and experience.

Steve Hilfiker is president of Environmental Risk Management Inc. in Fort Myers. He can be reached at shilfiker@erminet.net.

Editor's note: These personal observations were prepared by Steve and are based on interviews and communications with both DEP and industry peers. The above statements are not intended to represent the views of any association or corporation.

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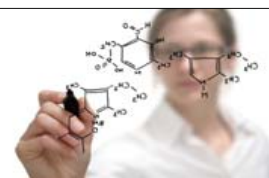
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Lake County approves peat mining operation next to Pine Meadows Conservation Area

By PRAKASH GANDHI

Commissioners in Lake County approved a controversial request for a peat mining operation despite opposition from local residents and activist groups.

Homeowners are concerned about the environmental impacts of the application by Reliable Peat Co. to mine peat in a rural residential area near the protected Wekiva River Area east of Eustis.

Critics worry that a peat mining operation will affect both water levels and water quality in the area.

Jack Reiner Jr., manager of Reliable Peat Co., has been seeking approval for several years to mine peat on the 133-acre site next to the Pine Meadows Conservation Area.

In 2012, the company withdrew its request because of the permit's inconsistency

with the county's comprehensive plan that prohibited all new mines in the Wekiva Study Area.

But now, officials said the newly proposed site is no longer within the Wekiva Study Area and approved the permit application.

The area surrounding the proposed mining site is characterized by agricultural, conservation and rural residential uses, said Lake County staff members.

The proposed mining site is located in a portion of 219.40 acres of wetlands that were historically ditched to support agricultural uses, wrote Lake County officials in an e-mail sent to the *Florida Specifier* by Lake County Spokesperson Elisha Pappacoda.

"The applicant proposes to impact about 120 acres of wetlands within the

133-acre mining site," according to the staff recommendation to approve the application. "When the mining and reclamation is completed, the mitigation proposed will result in about 42 acres of restored, high quality wetlands and around 78 acres of open water."

Pappacoda said that Lake County officials believe the application is consistent with their comp plan.

The proposed mining activity is no longer within a protected recharge area.

The application also received the support of the St. Johns River Water Management District.

The 133-acre peat mine has drawn opposition from nearby residents since it was first proposed in 2012.

Reliable Peat Co. in Okahumpka originally requested a 231-acre site but withdrew the proposal in November 2012 due to an inconsistency with Lake County's comprehensive plan.

The company has eliminated the portion of the proposed mining site within the study area that was found to be inconsistent with the plan.

The firm plans to harvest the peat over

ten years and then restore the area.

Reiner said the company will build dikes three feet above the 100-year flood plain as a precaution.

The area of the peat mine is polluted with phosphates and nitrates. A 2008 study by the Florida Department of Environmental Protection estimated it would cost \$1.3 million to cleanup pollutants in the Pine Meadows Restoration Area.

Company officials said there are provisions included in the permit to monitor for contaminants.

County officials said that mining, excavation and related operations activities will contribute substantially to the economic stability of Lake County. There are also conditions to mitigate any possible impacts.

"All reasonable steps have been taken to minimize any adverse effects of the proposed conditional use on the nearby vicinity," said Lake County staff members in their recommendation to approve the application.

This is the second peat mine to be approved by commissioners recently.

In June, commissioners voted 4-1 to approve a peat mining operation application in the northwestern part of the county.

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Plasma-assisted destruction of wastes now available as turnkey technology

By ROY LAUGHLIN

Paragon Waste Solutions LLC recently introduced a small scale plasma-assisted pyrolytic waste destruction process, CoronaLux™, that can be installed on site to destroy hazardous and regulated wastes.

The waste destruction device completely oxidizes organic materials, leaving only a small amount of mineral dust that can be disposed of as nonhazardous waste without special handling.

The CoronaLux system consists of two modules.

The first component combusts the organic wastes. The intermediate products of the combustion process are volatile organic compounds.

Combustion gases from the pyrolytic unit flow into a second module that produces low-energy plasma, completely de-

grading all of the VOCs to carbon dioxide, water and other simple inorganic compounds.

The machinery requires both electricity and natural gas or propane to operate.

The cycle time for a destruction run is four hours and the machine can be turned off between runs, so it is suitable for intermittent use, unlike a traditional incinerator, according to Fortunato Villamagna, PhD, president and CEO of Paragon Waste Solutions.

The Colorado-based company recently received several patents for their CoronaLux technology. The firm has offered their incineration equipment for about 18 months.

Medical waste destruction, because of its high value, was an initial focus of the

PARAGON
Continued on Page 16

SUGAR HILL

From Page 1
as 18,000 residential units and 25 million square feet of manufacturing, warehousing, transportation services and other commercial endeavors.

Some of the proposed development, approximately 13,000 acres, is located on the currently reserved district option land.

To put the physical area of the proposed development in perspective, The Villages retirement community in Sumter County covers 32 square miles, the city of San Francisco is 40 square miles and Washington DC is 68 square miles.

So essentially, completing the Sugar Hill development is like dropping the nation's capitol into the middle of the Everglades.

Needless to say, the project is opposed by a long list of government agencies, environmental advocacy groups and potentially impacted communities.

The Sugar Hill environmental and conservation proposal was presented to the Hendry County Commission in August. The plan included a statement indicating that there are no regionally significant natural resources within the sector plan that warrant the designation of a conservation land use category.

The applicant's environmental analysis summary also said that the lands are agricultural in nature and therefore, as such, have limited value for listed wildlife species and are not regionally significant.

No mention was made of the land's inclusion in the district's original Everglades Restoration Phase One planning area, the 2008 contract with U.S. Sugar,

the 2010 \$194 million payment for related land or the subsequent currently active exclusive option to purchase land included in Sugar Hill.

Nor was the impact of converting remote agricultural land into urban development considered.

In addition, the plan did not include a definitive layout of the proposed city-sized development, an executable plan for building the infrastructure to service the site, or any explicit schedule for development.

At this point, it appears the proposed Sugar Hill development will be built when and if the market warrants sometime between now and 2060.

County staff recommended approval of the Sugar Hill sector plan and forwarded the county's associated Comprehensive Plan Amendment to the state Department of Economic Opportunity for review.

DEO received Hendry County's proposed Sugar Hill Comprehensive Amendment in September and issued their comments in early November.

Their finding stated that "no assurance of natural resource protection, infrastructure provision, or intergovernmental coordination" are provided, the data and analysis provided does not represent current and future conditions and is "not sufficient," and the plan's policies do not create a measurable and meaningful framework for the Detailed Specific Area Plan development order to be reviewed for consistency at the time of adoption.

Hendry County is now required to hold a second public hearing and move forward by adopting, modifying or rejecting the submitted amendment.

New hypothesis explains growth of fibropapilloma tumors on sea turtles

By ROY LAUGHLIN

Nutrient pollution and invasive algae species—and the modified diets that result—may interactively play a role in the growth of fibropapilloma tumors, FP, on sea turtles.

This hypothesis was recently proposed by Kyle Van Houtan, PhD, a research scientist with the National Oceanic and Atmospheric Administration's Protected Species Division.

The hypothesis, supported by recently obtained data, is that nutrient pollution spurs the growth of some algae species over others. Those with the fastest growth rate store nitrogen as an amino acid, arginine.

Sea turtles that eat the algae acquire too much of this specific amino acid and the excess triggers growth of fibropapilloma

tumors.

The growth of large tumors or the presence of numerous tumors is called fibropapillomatosis. The tumors may cover the turtle's eyes, face or occur on other parts of the turtle.

They are not life threatening, but when they are large or affect vision, movement or other vital functions, they cause significant problems for sea turtles.

Research results to support this hypothesis come from a complex set of experiments conducted on green sea turtles and the algae they consume.

Van Houtan and his colleagues focused their efforts on the green sea turtle in Hawaii, a sea turtle species that is completely herbivorous.

In Hawaii, the prevalence of FP is the greatest in juvenile turtles, although juveniles and adults of any age may have FP.

FP is caused by a herpes virus believed to have been in existence for millions of years. It is not of recent origin or exposure to turtles.

Many more turtles test positive for the herpes virus than actually have FP. Th

at lead researchers to look more closely at the makeup of the tumors.

As a percent of total protein, FP tumors have higher contents of serine, arginine, alanine and much higher concentrations, at least twice as large, of proline and glycine.

The investigators looked to diet as one possible source of the additional amino acids found in the tumors. They found a notable dietary difference between areas where sea turtles had high tumor incidence and areas where tumors were less abundant.

High-tumor turtle populations were found in locations that had fast growing, invasive macroalgae due to eutrophication. The researchers identified four algal species that in eutrophic waters engaged in "luxury consumption" of nitrogen, and stored it as amino acids.

Native Hawaiian species also store extra nitrogen under eutrophic conditions, but the increase in arginine content was less than one percent dry weight.

For the invasive species *Acanthophora specifera*, *Ulva lactuca* and *Hypnea musci-*

formis, the average arginine content was about 0.8, 0.8 and 1.9 percent dry weight, respectively. This corresponds to an arginine elevation of two to three times the algae content of plants in noneutrophic waters.

The researchers further noted that at eutrophic sites where the three invasive species outgrow indigenous algae, the invasive species constituted a larger percentage of green sea turtle diets.

Sea turtles had to eat more invasive algae each day, perhaps twice as much, to achieve the same calorie consumption as they would on an indigenous algae diet.

Increasing invasive algal consumption to obtain sufficient calories translated into green sea turtles increasing arginine consumption from about 1.2 grams arginine per day at oligotrophic sites to about 11 grams per day at eutrophic sites where the invasive species were dominant.

The researchers proposed that this arginine overload is a key dietary factor that

AAF

From Page 1

AAF will have minimal environmental impacts. The project is anticipated to improve air quality by reducing the number of vehicles on the highway as riders move to the passenger rail.

AAF has proposed a number of measures to reduce its environmental impacts in areas where some potential for degradation was identified.

"All Aboard Florida will have beneficial environmental effects, such as traffic diversion from I-95 and other highways, economic growth, air quality improvements and energy consumption improvements during operations," said Reich.

According to the draft Environmental Impact Statement, "This transportation service would offer a safe and efficient alternative to automobile travel on congested highway corridors, add transportation capacity within those corridors (particularly Interstate 95) and encourage connectivity with other modes of transportation such as light rail, commuter rail and air transportation."

"AAF's passenger trains will be significantly lighter, faster and shorter than the freight trains that currently operate in the corridor," said Reich. "These passenger trains will clear crossings in less than 50 seconds, which means if you are traversing the FEC, you have less than a 97 percent chance of ever encountering a passenger train."

AAF is also undertaking crossing infrastructure and signalization improvements allowing Broward and Palm Beach counties to create quiet zones between the counties.

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PARAGON
From Page 14

company's marketing efforts. A Florida company, Sterall, located in the Ft. Lauderdale area, collects medical wastes from area hospitals and destroys them at their local facility. Fortunado said that effective local medical waste destruction capability lowers transportation costs, lowers other risks associated with medical waste transport and is cost effective. A medical waste destruction run costs just a few dollars for gas and electricity. Larger hospitals are likely to find that buying their own machine will be economical, Villamagna suggested. The Florida Department of Health has validated the company's equipment for destroying medical waste. This new technology is intended for small scale, on-site use. Paragon Waste is currently marketing two turnkey thermal destruction models with capacities of up to about 3000 pounds. Fortunato touts the benefits—both economic and risk-reducing—of han-

dling wastes locally. But in addition, with low operating costs and a 20-year useful life for the equipment, it is a technology that offers more benefits over current incineration practices. The CoronaLux process effectively handles other classes of organic wastes including pharmaceutical wastes, chemical wastes, solid refinery and tank bottom wastes, and emission and odor control wastes. Fortunado said that the CoronaLux process is now operating in two refineries in Colorado and Wyoming to destroy VOCs, preventing them from becoming air emissions. He said that the process is not suitable for municipal solid waste because the complexity of the waste produces so many different volatiles that meeting emission regulations may be difficult. To date, about a dozen CoronaLux units are in use. The market for waste is much larger so the use of this new technology has the potential to ramp up considerably—if the technology can live up to its promise.

TURTLES
From Page 15

occurs in a nutrient-enriched environment. It explains the extreme FP in green sea turtles in some Hawaiian Island sites and especially the spatial patterns of increased occurrence in turtles in eutrophic sites. FP is less common in oligotrophic Hawaiian sites than in eutrophic areas. The researchers encourage investigation of sea turtle populations across a much wider area to determine if the findings they reported for Hawaiian turtles show similar patterns in other areas.

DIRTY
From Page 1

toring more than 2,700 industrial sites. State spending to expand Georgia's water supplies has aggravated a two-decade-long water war with Alabama and Florida. Since taking office, Gov. Deal has directed \$196.3 million to construct dams and reservoirs in an attempt to store and divert water from downstream neighbors. Yet, from 2010 to early 2013, the state spent just \$10.7 million to help communities use their existing water supplies more efficiently. "The Georgia Water Coalition is a coalition of about 200 organizations within

The Florida Keys would be a prime candidate for further studies. It once had a large green sea turtle population that is now decimated by over-hunting. The Keys turtle population is recovering, but FP has become increasingly common over the last 30 years. This research links FP in green sea turtles to a chain of circumstances that starts with eutrophication of coastal waters. It's a complex scenario, and one that needs corroboration. But if it holds up, it will be a landmark study linking the environment to tumor incidence and growth.

Georgia," said Jennette Gayer, director of Environment Georgia, an advocacy group that deals with water and air quality issues in Georgia. "Every year we look around the state and find the 12 most egregious examples of water pollution in the state. It's a very important overview and we can see a lot of trends in public policy." Coalition members said the report is not meant to be a list of the most polluted water bodies in the state. Rather, the organization publishes the list as a call to action for state leaders and to restore streams, rivers, lakes and wetlands. "This report is an educational tool to let decision-makers come together and solve problems" Gayer said.

The study has in the past been instrumental in shaping public policy, Gayer said. "There are some examples of measures that have been taken in response to this report."

NOTES
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Palm Beach adds an additional 10 employees to SWS' current roster of 709. The new facility is dedicated to the recycling of concrete aggregate and is designed to complement a nearby facility dedicated to recycling mixed C&D material and yard waste. The company has two other facilities in the county in West Palm Beach and Lantana. SWS is a full-service waste and recycling company with more than 50 years' experience in the solid waste collection, disposal and recycling business.

People news. Air quality expert Scott McCann, PE, joined Geosyntec Consultants Inc., an international geoenvironmental consulting firm headquartered in South Florida. His practice will focus on the needs of manufacturing, chemical plants, electric utilities and other clients in meeting local, state and federal air regulations.

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