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February 2013

Volume 35, Number 2

## Impact of pollution 5

According to a new Stockholm Environmental Institute report, algae blooms and red tide outbreaks caused by water pollution financially impact Floridians to the tune of between \$1.3 billion and \$10 billion every year.

## Keeping up with coal ash 6

The Southern Alliance for Clean Energy, Appalachian Voices, the Southern Environmental Law Center and the NC Conservation Network created an on-line tool that allows citizens in the Southeast U.S. to determine the locations of potentially dangerous coal ash impoundments in their areas.

## Aquifer replenishment 7

Officials with the St. Johns River and Suwannee River water management districts acknowledge that sustainable water use is—in at least some areas—over the boundary line of sustainability. They are now working in partnership to recharge the drinking water aquifer.

## Hilfiker: On petroleum 9

DEP officials and industry professionals have worked well together for years on the state's petroleum cleanup program. Recent initiatives have been successfully implemented to enhance the program but the fundamental basis for the program—remediation and environmental protection—must remain the priority. Steve Hilfiker provides his perspective on keeping the state's cleanup program on track.

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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 us at info@enviro-net.com.

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Photo courtesy of BlueChip Energy LLC

BlueChip Energy technicians install the first photovoltaic panels at the company's Sorrento Energy Farm in Lake County. BlueChip expects to build out the 500-acre energy farm over the next several years. When complete, it would be Florida's largest and among the top ranks globally. See story on Page 15.

### State of the Environmental Industry:

## Business climate expected to be challenging again for environmental industry in 2013

By PRAKASH GANDHI

Florida's environmental industry is heading into 2013 with a mixture of cautious optimism and continued concerns about the future.

Many industry insiders interviewed in January said that 2012 was hardly a banner year. And while the economy is slowly coming out of its devastating recession, and the real estate and job markets seem to be showing some signs of life, those who make their living cleaning up pollution and protecting the state's fragile environment said the new year will be another challenging one.

"I believe that 2013 will be a crossroads year for the industry," said John Fumero, PA, an attorney with Sundstrom, Friedman & Fumero LLP in Boca Raton. "On the one hand, we have some of the fundamentals in the market trending in a positive direction, such as housing as well as market-makers like new regulations and new regulatory programs," he said.

"We are in a new era of environmental regulations," he said. "Fifteen years ago, it was all about wetlands and wetlands mitigation. The new era is about water quality, water quality and water quality."

New programs at the federal and state levels should stimulate business, Fumero said. The U.S. Environmental Protection Agency has announced a slew of nationwide initiatives related to enhanced water quality. "This all bodes well for the industry," he said.

But on the other hand, the state of Florida has undertaken initiatives to either streamline, eliminate or simplify regulations.

One big opportunity for growth is in infrastructure improvements, Fumero

noted.

The American Society of Civil Engineers issued a report in 2011 that noted a backlog of almost a trillion dollars of work nationwide and billions of dollars in Florida because local governments and agencies have not had enough money to build the necessary roads and bridges, and make other infrastructure improvements.

"Many in the industry are hopeful that, in 2013, we can begin to address that infrastructure backlog," Fumero said. "When you build roads, that helps create jobs and promote economic development," he said.

Many people are talking about forg-

ing public-private partnerships to get these infrastructure projects off the ground. Fumero said that over the past two decades, more than 1,300 public-private partnerships valued at over \$250 billion were signed around the world. But the U.S. lags behind other countries, he added.

Over 30 major investment funds with more than \$180 billion in capital are seeking to invest in long-term public infrastructure project, Fumero said.

The U.S. Department of Transportation estimates that every \$1 billion in

**THE BIZ**  
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## Jackson resigns as EPA chief

By ROY LAUGHLIN

After four full years of duty as administrator of the U.S. Environmental Protection Agency, Lisa P. Jackson resigned her post as the country's top federal regulator.

She leaves behind a remarkable record of accomplishments in spite of the divisive political climate during her term. She also leaves some initiatives to be completed by her successor.

Jackson came into office with a set of environmental issues for which she was recognized as being "outspoken," and which she pursued during her four-year tenure. These included climate change, environmental justice issues, and the dumping of mine wastes.

As she leaves office, EPA has passed rigorous vehicle mileage standards that

will significantly reduce carbon dioxide emissions from transportation fuel use.

In the last month, EPA finalized Clean Air Act rules for soot and other fine combustion particulates from both stationary sources and transportation vehicles, particularly those that burn diesel fuel.

For the first time, EPA developed emission standards for ships that focus particularly on reducing SO<sub>x</sub>. Many of the newer CAA rules include specific provisions to prevent poor communities from experiencing disproportionate health and economic costs of pollution.

New rules to ensure mercury emission reductions are another important



Jackson

**JACKSON**  
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# EPA updates rule for drinking water pathogens, sets new limits for E. coli

Staff report

The U.S. Environmental Protection Agency revised its total coliform rule that sets standards for coliform bacteria contamination of drinking water produced by water treatment plants. The core of the new rule is that the standard based on total coliform is being abandoned.

The rule's new provisions apply specifically to E. coli, a common human enteric bacteria with multiple strains, about 10 percent of which are associated with gastrointestinal illness.

The new rule sets a maximum contami-

nant level goal of zero for E. coli. It also establishes a maximum contaminant level for E. coli when that specific bacterium is found in sampling under four specified sampling protocols.

The new rule prescribes specific steps that water treatment plant operators must take if sampling indicates the presence of E. coli. Water treatment plant operators must now notify the public about the presence of E. coli in their drinking water.

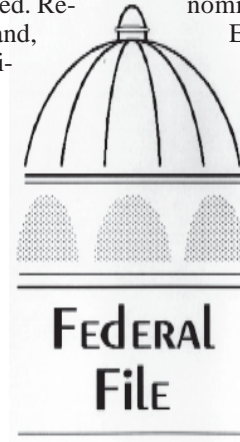
When routine testing fails too frequently, the drinking water utility will be required to do a sanitary assessment to determine if physical barriers to protect the

quality of drinking water have failed, or are in imminent risk of failure. Breaches found must be repaired.

The new rule applies to both year-round and seasonal water treatment plants and includes a system for rewarding treatment plants with a consistent record of meeting standards—their monitoring and reporting requirements will be lessened. Repeat violators, on the other hand, will be required to do more monitoring and take more corrective action.

EPA noted that the total coliform rule is the only one that applies to every one of the nation's 155,000 public drinking water systems. It has been in effect since 1989.

EPA Administrator Lisa P. Jackson signed the new rule on Dec. 20. It will become effective in 2013, after publication in the Federal Register.



buildings. That left three major use categories: big industrial boilers such as those at refineries; area source boilers, such as those operated by hospitals, universities and commercial buildings; and commercial and industrial solid waste incinerators.

Opponents of the rule broadly panned it as one of the most expensive and economically counterproductive of any

EPA rule ever passed. In its December announcement, the EPA noted that rule adjustments maintain public health benefits, retain important emission reductions and continue to be cost-effective.

In raw numbers, the 2011 rule and this new one with its adjustments mean that about 1.5 million boilers in the country are not covered by the new rules or are required to do only periodic routine maintenance to be in compliance.

Of the major source boilers, 12,300 will be required to follow work practice standards such as annual tune-ups. 1,700 boilers, or only about one percent of the total in the U.S., will need to meet numerical emission limits.

## Nalco off the hook for Corexit claims.

Nalco, the Illinois company that manufactures the oil dispersant Corexit, will not face liability lawsuits for the dispersant's use in the Deepwater Horizon oil spill.

U.S. District Judge Carl Barbier ruled late last year that federal laws shielded the company from legal liability when the government used or directed the use of the more than 1.8 million gallons of Corexit during the 2010 oil spill in the Gulf of Mexico.

Explaining his decision, Judge Barbier said Nalco didn't exercise a direct role in determining Corexit's use. He declined to take a role in reviewing federal overseer's actions during the spill.

Lawyers for cleanup workers and coastal residents brought suit based on claims that Corexit was a defective product, unsafe for use on the oil spill. In making his summary judgment, Judge Barbier criticized the plaintiff's lawyers for failure to obtain witness interviews, and obtain and present documents and other information to challenge Nalco's defense and U.S. government stipulations.

The plaintiff's lawyers intended to ask for economic and medical liability payments from Nalco.

Even though Nalco will not have to make liability payments, BP has agreed to pay \$7.8 billion dollars in economic and medical damage claims.

## API files suit to lower biodiesel targets.

In September 2012, the EPA mandated that 1.28 billion gallons of blended biodiesel fuel be produced in 2013, an almost 30 percent increase over the 2012 requirement.

The American Petroleum Institute, a trade group representing oil producers and refiners, filed suit against the agency to reduce or completely eliminate the biodiesel mandate.

In addition, API also filed a petition directly with the agency, asking it to reconsider the 2013 biodiesel mandate. And as part of a public relations campaign, the American Petroleum Institute strongly endorsed a repeal of biodiesel and biofuel gasoline mandates.

API listed two primary reasons for requesting a reduction in the biodiesel target for 2013. It said that shortages of biofuel feedstock, primarily due to a continuing drought, may lead to an increase in biodiesel fuel cost. The group also criticized the system of biofuel credits in place to encourage refiners and producers of biodiesel. They complain of excessive fraud cases in the biodiesel credit market.

API is not the first group to ask the agency to go easy on increasing biofuel mandates. Late last fall, several governors

**FEDFILES**

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**New soot standard.** The EPA set 12 micrograms per cubic meter as an update to its National Air Quality Standards for fine particle pollution, PM2.5, under the Clean Air Act. Particles in this size class include soot in diesel emissions and smoke.

The new rule does not change standards for coarse particles, PM 10. Particles in this size class arise from tilling soil on farms, among other sources.

The EPA said the new rule will affect only about 10 of the nation's 3000 counties required to comply with PM2.5 standards by 2020. Seven of those are in Southern and Central California. The others can rely on air quality improvements from federal rules already on the books to meet the new standard

Under this new rule, EPA claims that by 2030, reductions attributable to diesel exhaust alone may prevent up to 40,000 premature deaths, 32,000 hospital admissions and 4.7 million days of work lost due to illness with an economic benefit in the range of \$4 billion to \$9 billion per year.

Rule implementation costs range from \$53 million to \$350 million.

The agency was required to update the rule under a consent agreement. A federal court judge found that the EPA did not meet the legal deadline for its mandated five-year review, and required a Dec. 14, 2012, deadline for a decision about the standard, which this update fulfills.

The new rule will be in effect after publication in the Federal Register.

**Industrial emission standards.** In December, EPA announced new Clean Air Act standards for boilers and certain large incinerators that will reduce mercury and particulates in air emissions. In its announcement, the agency called the new standards "adjustments" to the March 2011 rules the agency proposed.

The adjustments fall into four categories: adjusting emission limits; modifying the subcategory list of boilers to which specific standards apply; increasing the compliance time, usually three years with an option to allow for four years; and maintaining numerical emission limits for the highest 0.4 percent of all boilers.

The changes in air emissions due to this rule and several others passed recently by the EPA are expected to produce significant air emission reductions.

The 2011 rule would have reduced mercury by 1.6 tons per year and the 2012 final standards are expected to reduce mercury by between two and three tons per year. Hydrogen chloride will be reduced from 30,500 - 40,500 tons per year. Non-mercury metals and particulate matter emissions will also decline, ranging from a few tons per year to about ten tons per year.

Sulfur dioxide reduction is the greatest, from a range of 450,000 to 580,000 tons per year

The rulemaking process has been ongoing for several years. When first proposed in 2011, EPA excluded small boilers, such as those used for heating single

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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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## Lockheed Martin ordered to compensate FOCUS in Tallevast lawsuit

### Staff report

A jury has ruled that defense contractor Lockheed Martin should pay \$3 million to a community organization for breaching an environmental agreement stemming from contamination at its beryllium plant in Tallevast.

The firm had been ordered to pay the organization directly for required monitoring work but stopped doing so after a 2009 audit showed discrepancies in the use of the funds by FOCUS.

After initially learning that the site had been contaminated, Lockheed notified Manatee County and the Florida Department of Environmental Protection in January 2000 that the spill had affected adjacent properties.

DEP required the firm to investigate the level of contamination and submit a cleanup plan. But it was another three years before nearby residents discovered the contamination.

Testing by local government officials found that the groundwater contained chemicals including chromium and other harmful compounds in concentrations exceeding state guidelines.

The contamination extended for more than 200 acres in a town of 1.5 square miles including property owned by Family Oriented Community United Strong, FOCUS, a community organization.

Lockheed Martin spokesman Gary Cambre said his firm is disappointed by the jury's ruling.

"Lockheed Martin has always funded a third-party, independent environmental consultant to provide services to FOCUS (instead of funding the organization directly)," Cambre said. "We are considering our legal options."

He said the case did not in any way concern the DEP-approved remedial action plan for the Tallevast site.

"The court case specifically addressed whether Lockheed Martin had agreed to pay money directly to FOCUS for environmental testing by a third-party consultant," he said.

**Adena Springs update.** Officials with the St. Johns River Water Management District asked for more information from Adena Springs Ranch officials regarding their request to withdraw an annual average of 5.3 million gallons of water per day in the Fort McCoy area.

The project has come under fire from environmental activists concerned about the effect of the large water withdrawal on the aquifer and nearby Silver Springs.

The cattle ranch is being developed by former Canadian-based car parts billionaire Frank Stronach, who owns about 30,000 acres in Marion County and more than 30,000 acres in Levy County.

His goal is to build the cattle ranch along with a plant to process the meat in northeast Marion County.

The ranch's average water use is proposed at 5.3 million gallons per day, but St. Johns officials want to know more about potential daily peak usage.

In its 16-page request for more information, the district also focused on how the ranch planned to treat the waste from so many cattle.

**Glades project.** South Florida Water Management District officials and their federal and state partners have dedicated completion of the C-111 Spreader Canal Western Project.

The project will help restore freshwater flows to Florida Bay, preserve clean water in Everglades National Park and maintain flood control for communities east of the River of Grass.

District officials say the system performed well during 2012 wet season testing and reported that all components of the project are operating as designed.

Scientists will start compiling data to evaluate the project's performance and environmental impacts.

The project features a series of pump stations and canals that raise groundwater

levels directly outside the eastern boundary of Everglades National Park.

The higher water table creates a hydraulic barrier between the park and the urban areas of Miami-Dade County to retain fresh water in the park.

It will also help Florida Bay by restoring the quantity, timing and distribution of freshwater flows via Taylor Slough to the bay ecosystem.

The district is moving forward in 2013 with other projects for improving water quality in the Everglades.

These include completing six projects that will create more than 6,500 acres of new stormwater treatment areas, implement a science-based technical plan, and create 110,000 acre-feet of additional water storage.

**Water conservation on the farm.** The governing board of the Suwannee River Water Management District has approved an agreement with the Florida Department of Agriculture and Consumer Services to expand the partnership-based Mobile Irriga-

tion Lab Services program.

The MIL is part of the ongoing efforts between the Suwannee River Partnership and the agricultural community to help farmers improve irrigation efficiencies.

The MIL provides free water conservation evaluations to farmers.

The district program is being expanded to address enhanced water conservation and water quality improvement efforts within the Suwannee River and Santa Fe River basins.

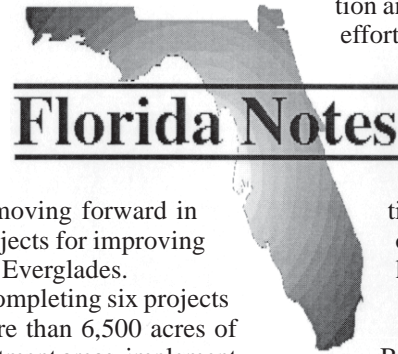
During 2012, the MIL conducted 171 site-specific evaluations covering more than 16,000 acres that identified a potential water savings of more than 900 million gallons within the district.

### Brevard beach project.

Brevard County obtained bids for an estimated \$12.4 million project to rebuild dunes impacted by Hurricane Sandy along Satellite Beach, Indian Harbor Beach and south of Spessard Holland Park.

Brevard is seeking federal funding for the work. The Federal Emergency Manage-

**NOTES**  
Continued on Page 12



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# Five JEA executives depart in a move to increase operational efficiencies

## Staff report

Five Jacksonville-based JEA executives left the city-owned utility in early December in what was described as a move to improve efficiency and customer attitudes.

"Now JEA is set to move forward to accomplish our goal of improving customer satisfaction," wrote JEA CEO Paul McElroy in a prepared statement.

Gone are Scott Kelly, vice president of water and wastewater; Marlene Murphy-Roach, vice president of customer relationships; Greg Perrine, vice president of shared services; Athena Mann, vice president of environmental services and Susan Hughes, chief human resources officer.

Hughes is a former chairman of the St. Johns River Water Management District and earlier had announced plans to retire.

The other four had expected to depart over the course of the next couple of years, but that plan was accelerated by the December announcement.

JEA officials said the December departures took place in an attempt to streamline JEA without the long transition period originally planned.

This latest personnel shakeup followed the departure of former Chief Operating Officer James Chansler. He had been named vice president and general manager of water and wastewater systems, a post that reported to Kelly. That move followed McElroy's decision to eliminate the COO job.

The utility is in the process of filling the posts of chief financial officer, McElroy's old post, and a new job, chief customer officer. Brian Roche was promoted to fill Chansler's job.

**Sanibel master plan.** The city of Sanibel Island's Public Works Department presented a master plan study at a city council workshop in early December, spelling out goals including capital improvement projects involving flood control and surface water quality improvement.

The study concentrated on the underdeveloped northwest side of the island. The goal is to identify system improvements and foresee future impacts as the city develops to the north.

The city has identified flooding concerns based on staff observations and input from the community. They are considering a variety of issues ranging from handling offsite flows to the maintenance of failing undersized pipes.

The study also identified projects for removing pollutants from water flowing through the system. Those projects should be completed soon to comply with regulatory requirements.

The plan also listed projects that will improve water quality including nutrient removal that would lower pollutant concentrations before stormwater is discharged.

The development of a capital improvement plan will allow the city to pursue several funding options including federal and state sources.

**Water company sold.** One of Lake County's largest non-municipal water companies serving nearly two dozen residential developments has been sold.

The Florida Governmental Utility Authority will acquire the company, Aqua Utilities.

AU has been the subject of numerous customer complaints concerning water quality, poor customer service, billing issues, slow response to emergency calls, insufficient line flushing and the lack of timely water boil notices.

FGUA currently serves 90,000 customers in seven other Florida counties.

Honey Rand, a spokesperson for FGUA, said the sale was not the result of these customer complaints.

AU is seeking \$95 million for their water and wastewater systems in 19 Florida counties, but the Lake County operation is larger than those in 13 other counties combined.

FGUA was formed in 1999 when an agreement was signed between Brevard, Polk, Lee and Sarasota counties. The four counties set out to acquire, own, improve, operate and maintain water and wastewater facilities. The goal was centered on improvement of water services within their jurisdictions.

In recent years, FGUA had added more systems in Lee, Collier and Pasco counties. The Lake County acquisition is one of the largest acquisitions by FGUA.

**St. Pete project bonds.** The city of St. Petersburg issued \$77.6 million in bonds to fund two city water projects.

Part of the proceeds will fund a \$38.1 million project to decommission the Albert Whited Water Reclamation Facility as well as other improvement projects at their northwest and northeast reclamation facilities.

The remainder of the bond financing will be used to refund bonds issued in 2003. That will save an estimated \$2.4 million based on present value.

The bonds are secured by the combined revenue of the city's water, wastewater, reclaimed water and stormwater systems.

**Tampa port pipeline.** The Port of Tampa awarded a contract worth up to \$2.6 million to TB Landmark Construction Inc. of Jacksonville to build a 2.5-mile reclaimed water pipeline to the port.

The project is tied to development of the \$80 million Nexlube LLC used oil reprocessing and blending plant on a 12-acre site at Pendola Point.

Landmark's winning bid was \$500,000 lower than the closest competitive bid.

Tampa Mayor Bob Buckhorn, who sits on the Port board, expressed concern that Landmark's bid contained less than 3 percent small and minority business participation.

Port staff told the mayor that they will work with the company to improve minority participation. Staff said currently minority participation averages 20-25 percent over all port projects.

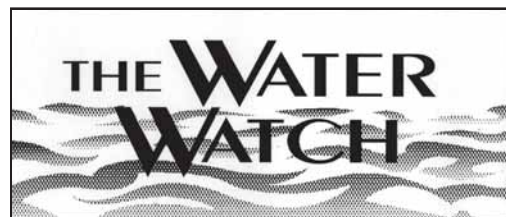
The reclaimed water pipeline is due to be completed by Sept. 30, 2013.

**Marion utility award.** Marion County Utilities received a national environmental achievement award for its contributions to environmental stewardship through sound wastewater practices.

The award was announced by the National Association of Clean Water Agencies, a nationwide organization of publicly-owned water treatment agencies.

The department will be recognized and receive the award at the 2013 NACWA Winter Conference early this month in Miami.

The honor went to the department for its Wastewater Regionalization in Support of Silver Springs projects, a series of recent efforts to reduce pollution of local wa-



The St. Johns Riverkeeper  
Lisa Rinaman

"Clean water is the lifeblood of Florida's economy and essential to our health and quality of life. We cannot afford to sacrifice our valuable water resources for the politics of the moment and the fortunes of a few."



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**WATCH**  
Continued on Page 5

# New SEI report reveals EPA, DEP should apply stronger water quality rules

By SUSAN TELFORD

Concerned activists protested outside a Tampa Hotel last month chanting “EPA yes! DEP No!,” while representatives of the U.S. Environmental Protection Agency sat inside deciding whether they should withdraw their proposed water quality rules and transfer Clean Water Act authority to the Florida Department of Environmental Protection.

“EPA officials said they are prepared to withdraw their proposed strong rules and transfer Clean Water Act authority to DEP. That would be disastrous,” said Frank Jackalone, Sierra Club’s Florida staff director.

“Gov. Scott and DEP Secretary Vinyard are neither willing nor able to stop the flow of manure, sewage and fertilizer into Florida’s springs, lakes, rivers and bays,” said Jackalone. “They are crippling clean water enforcement and doing the dirty work of polluters. There is the reign of red tides and green slime.”

According to a report published by the Stockholm Environmental Institute, an international nonprofit research organization based at Tufts University, algae blooms and red tide outbreaks caused by water pollution financially impact Floridians to the tune of between \$1.3 billion and \$10 billion annually.

“The scientific community is now clear that pollution is a primary cause of harmful algae outbreaks,” stated the SEI white paper entitled Valuing Florida’s Clean Waters. “What remains is for federal and state agencies to set, and fund, an agenda for gathering the underlying data needed to comprehensively assess the value of Florida’s clean water.”

Assigning values to Florida’s clean waters based on data compiled from numerous scientific studies and assessments, SEI researchers determined that water consumed by humans, wildlife and agricultural operation helps to generate more than \$7 billion annually.

Freshwater and marine ecosystems bring in more than \$67 billion in tourist dollars and recreational spending each year. Clean marine and coastal waters provide habitat and support the fishing industry for an added \$4.3 billion annually. So why are Floridians losing billions?

Of the 20 percent of the river miles assessed by DEP, 53 percent had pollution-related impairment. And of the 54 percent of lake and reservoir acres assessed, 82 percent had pollution-related impairments.

The news gets worse for the state’s springs. Silver Springs, a state landmark and prime tourist destination, has reached a nitrate level 1,000 times its normal level and rising.

The EPA began working to set pollution limits for Florida in 2009 as part of the settlement of a 2008 Clean Water Act lawsuit filed by Earthjustice on behalf of the Florida Wild-

life Federation, the Conservancy of Southwest Florida, the Environmental Confederation of Southwest Florida, St. John’s Riverkeeper and the Sierra Club.

The suit challenged the decade-long delay in setting limits for pollution. Meanwhile, pollution in Florida continues to worsen.

“Sarasota County had to remove 4.5 tons of rotting fish from its public beaches due to red tide, which is worsened by pollution,” said Andrew McElwaine, president of the Conservancy of Southwest Florida. “In addition, Sanibel Island had to cancel a youth fishing tournament, green slimy algae keeps shutting down a drinking water plant for 30,000 people, and the state has banned shell fishing in some areas.”

The SEI report said that algal outbreaks due to pollution have real costs to Floridians and the current polluted conditions of the state’s waters have seriously reduced the value of our ecosystems.

Pollution has economically impacted tourism, commercial fishing, recreation, hunting, real estate and water treatment, all of which depend on clean water. The SEI report puts a dollar amount on the high price Floridians are paying for not having numeric nutrient criteria—set by either the

EPA or the DEP—that holds polluters accountable.

“We were encouraged in November when the EPA announced it was setting enforceable, numeric limits on the amount of pollutants allowed in our waters,” said McElwaine. “The EPA’s number limits apply to about 85 percent of Florida waters. Unfortunately, the EPA allowed Florida to impose ineffective state rules for 15 percent of streams, canals and estuaries.

“Now EPA is signaling that it may withdraw its proposed rules for 85 percent of Florida’s waters and transfer that authority to DEP. That’s the wrong way to go.”

“We need EPA’s enforceable numbers for 100 percent of the state’s waters,” said David Guest, managing attorney of Earthjustice’s Tallahassee office. “We’ve seen that the Scott administration is far more interested about coddling polluter lobbyists than it is about cleaning up our public waters.”

“We know that polluted water is a job killer for everyone who relies on the tourism industry here in Florida—and that’s pretty much all of us,” he said.

In response to a call for action, more than 40,000 citizens wrote the White House

in 2012, urging the Obama administration to stand firm on imposing effective federal standards for Florida waters.

“This is a critical time for us to get a handle on the sewage, manure and fertilizer pollution that’s causing these repeated algae outbreaks that devastate rivers like the St. Johns,” said St. Johns Riverkeeper Lisa Rinaman. “The St. Johns is at the center of the Northeast Florida economy. Green slime and massive piles of dead fish along the banks hurt us all. We want EPA to stand strong and do its job enforcing the Clean Water Act.”

Currently, DEP has its own set of criteria for water pollution, which drew support from the Florida Pulp and Paper Association, Associated Industries of Florida, and phosphate miners.

DEP Sec. Herschel Vinyard called the state’s criteria “the most comprehensive nutrient pollution limitations in the nation.”

To date, EPA has not accepted the state’s criteria, nor are they comfortable with the fact that DEP’s rules don’t cover all of the estuaries or other waterways that EPA’s rules cover.

Then there’s the issue of enforcement. Even if EPA disregarded the state’s objections and imposed its own rules, it must still rely on DEP to enforce them.

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### WATCH From Page 4

ter bodies. The agency was lauded for implementing springs protection policies and constructing utility and wastewater treatment facilities that meet advanced standards that dramatically reduce levels of nitrate.

**Progressions.** Tara Poulton has joined the Southwest Florida Water Management District as a government affairs program manager.

Poulton will serve as a liaison between the district and its constituents of Sarasota, Manatee, Charlotte and DeSoto counties. She will work closely with county governments, municipalities and utilities staff.

Prior to joining the district, she was the communications manager at the Bradenton Area Convention and Visitors Bureau, a department of Manatee County Government. She also spent several years at the United Way of Manatee County.

Poulton will work from the district’s Sarasota service office and can be reached at (941) 377-3722, ext. 6530.

# Environment groups launch tool to monitor SE coal ash impoundments

By DAN MILLOTT

**F**our environmental groups have launched a comprehensive on-line tool allowing citizens in the Southeast to determine the locations of coal ash impoundments in their areas.

The Southern Alliance for Clean Energy, Appalachian Voices, the Southern Environmental Law Center and the North Carolina Conservation Network have created the site so the public can get information on potential health threats associated with toxic wastes from coal-fired power plants.

The site, [www.southeastcoalash.org](http://www.southeastcoalash.org), rates conditions at coal-fired power plants in a nine-state area including Florida.

Ten Florida coal-fired plants are included on the site, but nine are not rated because too little data is available. The one Florida power plant that was rated was TECO's Big Bend Plant at Apollo Beach. It was given a low danger rating.

Ulla Reeves, regional project director for the Southern Alliance for Clean Energy coordinated the creation of the on-line tool. She cautioned that just because most of the Florida plants were not rated, people should not be lulled into ignoring the potential risks.

If a plant was not rated, it does not necessarily mean there's no problem, she explained. It means that the U.S. Environmental Protection Agency did not have enough information to determine whether or not there is a problem.

Reeves said concerns about coal ash spiked after the recent disaster in Kingston, TN, at a TVA coal-fired plant. A coal ash impoundment dam failed, releasing a billion-gallon flood of coal ash slurry that poisoned 300 acres, destroyed two-dozen homes and filled the Emory River with toxic sludge.

The tool was developed by the coalition to pinpoint potential dangers of coal ash in the South. They said there are 450 impoundments in the region containing about 118 billion gallons of toxic waste.

Reeves said in Florida alone there are 78 coal ash impoundments that are a threat to waterways in the state.

The potential threat of damage caused by the failure of a dam containing coal ash slurry is emphasized by the tool. But there are other considerations as well.

"There is constant seepage of toxic materials in the coal ash waste that bleed into the soils and nearby groundwater," she said.

That's compounded by the fact that most of the power plants are on waterways

with no barrier between the plant and the soil.

Reeves said that the EPA has not established any coal ash rules. And on the state level, rules are spotty at best.

"In Alabama, for example, they don't require groundwater monitoring," she said. With this lack of federal or state oversight on coal ash impoundments, Reeves said most of the information the environmental groups have obtained has come via legal challenges.

The site features an interactive map and database of 100 coal-fired power plants in nine Southeastern states. They are color-coded by the amount of damage each would inflict if the coal ash dams were to fail. That estimate was provided by the EPA.

TECO's Big Bend Power Plant was given a low danger rating with evaluations coming from EPA, the Southern Alliance for Clean Energy and the Energy Information Administration. The report said a failure of a coal-ash impoundment dam there would result in a low level of economic loss or environmental damage.

The nine other Florida power plants shown on the site are three Gulf Power

plants: Crist Electric Generating Plant in Pensacola; Lansing Smith Power Station in Southport and the Scholz Electric Generating Plant in Sneads; JEA's St. Johns River Power Park in Jacksonville; Gainesville Regional Utility's Deerhaven Plant; Seminole Electric Cooperative's Seminole Generating Station in Palatka; Progress Energy's Crystal River Plant; Orlando Utilities Stanton Energy Center and Lakeland Electric's C.D. McIntosh Jr. Plant.

While these nine plants were not rated, the Southern Alliance points out that both the low danger Big Bend Power Plant and the unrated Seminole plant at Palatka have impoundments with high levels of contaminants such as arsenic, fluoride, thallium, chloride, magnesium and other elements.

"Coal ash ponds pose a serious threat to Florida's waterways and communities, but they are largely invisible to the public," said Angeliq Giraud, energy community organizer for the Florida Clean Water Action and Clean Water Fund.

"Florida's high water table and porous soil makes our water especially vulnerable to pollution," she said

## Pilot test of road-building power plant ash now underway in South Georgia

By PRAKASH GANDHI

**O**fficials with JEA are hoping to repeat what they did in Florida by using power plant ash from a Jacksonville power plant as road paving material in Georgia.

A test project is taking place this year in Charlton County, GA, where five miles of private dirt road has been laid near the St. Mary's River.

JEA markets the product under the brand name EZBase. It is made from ash from their Northside Generating Station, which burns coal and petroleum coke. Limestone is mixed in a chamber where the fuel is burned and becomes the main ingredient in the product.

Scott Schultz, who directs JEA's by-products services group, said the pilot project will measure environmental conditions around the road to check for pollutants before and after EZBase is used.

"It is duplicating what we did in Florida several years ago," Schultz said.

The test project has already received the backing of Georgia's Environmental Protection Division, which signed off on the pilot in May. The agency agreed to let JEA show whether its ash can be recycled for a beneficial use.

"We have partnered with the Georgia Environmental Protection Division to run

a full-scale test on this material," Schultz said.

He said officials hope to use the material in Georgia for limited access, non-residential roads, such as forest roads. "The roads need constant maintenance and when they get heavy rains, they wash out."

He said there are several benefits to using the material.

"It's an excellent way to minimize waste and it provides value to the utility," he said. "You are using a material that otherwise will be disposed of in a landfill. Most environmental stakeholders don't believe that building landfills is good, so this use is helping the environment."

Two years ago, JEA had to spend about \$3 million to haul away EZBase material that sat too long at a Charlton County public works site and became unusable. State environmental officials would not approve wider use of the material without more additional study.

Florida environmental agencies have told JEA that EZBase must not be used in creeks or standing water. Schultz said the same rules are being followed in Georgia.

The test road passes several creeks that feed the river. Where the test road crosses through wetlands and a creek, paving crews were told to use gravel instead and were told to stop using EZBase well before the road reaches the water.

To check groundwater quality, 20 monitoring wells have been installed a quarter of a mile apart.

"We are doing sampling on groundwater, surface water and soils," Schultz said. "This is the most comprehensive real-world application test of a material of this type."

JEA spent about \$60,000 installing the wells and completing baseline requirements, and expects to spend another \$50,000 checking the results.

"We will do quarterly evaluations. The project will last about a year," he said.

## Opportunities for ag assistance extended

The 2008 Farm Bill was recently extended by Congress until September, allowing the USDA Natural Resources Conservation Service in Florida to add an additional chance for farmers to improve water and air quality, build healthier soil, improve forest lands, conserve energy, enhance organic operations and achieve other environmental benefits.

Local NRCS service centers can provide additional information on the organic initiative, the seasonal high tunnel initiative, the on-farm energy initiative and the longleaf pine initiative. Applications must be filed no later than March 15, 2013, to be eligible for this year's funding.

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# St. Johns River, Suwannee River WMDs partner on aquifer replenishment

By ROY LAUGHLIN

**A**quifer replenishment is the focus of a new joint effort of the St. Johns River and Suwannee River water management districts.

"We know we are reaching or have reached the sustainable limit of groundwater withdrawals in North Florida," said Al Canepa, PG, assistant director of the Water Resources Division at the St. Johns River district. "We cannot issue consumptive use permits (in some cases)."

Replenishing the aquifer is seen as the most effective way to augment the natural resource, said Canepa.

In 2010, the two districts acknowledged that sustainable water use was, in at least some parts of the districts, over the boundary line of sustainability.

For example, in the St. Johns district there are two lakes that are either currently not meeting, or are projected to fall short of, their minimum flow levels in the next 10-20 years, said Canepa.

In the Suwannee district, the upper and lower Santa Fe basins are being evaluated currently, and it is possible that the lower Santa Fe basin may require a prevention or recovery strategy that includes aquifer replenishment. The need to address aquifer water supplies is urgent.

The response plan, dubbed the North Florida Aquifer Replenishment Initiative, is just completing its preliminary stages. The plan centers on conceptual strategies and possible projects that might be undertaken in the future.

Recently, consulting firm Adkins NA prepared a technical memorandum that outlined the following recharge concepts and

components: treatment of reclaimed water; capture and storage of surface waters from the Suwannee River followed by direct injection; capture of floodwaters along the flood plain for storage and natural recharge; and capture and storage of surface water for treatment and recharge.

Canepa said that in terms of broader categories away from specific locations, the SJRWMD is looking at utilizing natural sinks, rapid infiltration basins that direct water into the aquifer and direct injection.

Aquifer replenishment is a new initiative for the districts, but it draws on existing technologies and regulations. New aspects for the effort involve identifying natural sink areas that might be utilized and characterizing where surface water can be obtained for aquifer replenishment.

Canepa used the example of Black Creek within his district. "We will need an analysis of flow to identify where a good withdrawal point might be, how much water is available and how much is needed to protect the resource," he said.

If that determination shows that there is flow not needed by existing resources and ecosystems, then it could be taken to a surface storage area, purified if necessary, and injected directly into the aquifer or released to a sink for flow into the aquifer.

The SJRWMD is also studying the Alligator Creek area to determine if it is a suitable natural sink. Its connections with the Upper Floridan Aquifer, if any, are poorly characterized. If connections exist and can convey sufficient water, this could become a recharge point.

Canepa noted that although no particular technology is being pushed by this initiative, the use of natural sinks and rapid

infiltration basins, with or without surface storage, appear to be the preferred methods.

Direct injection, because it is feasible, is included in the list. He noted that in the conceptual analyses, both districts are evaluating proposals in terms of effectiveness and cost-benefit ratios.

No new regulatory framework is anticipated as a result of this effort. If water is moved from one surface water source to another for replenishing purposes, Florida's surface water rules apply.

NPDES permits may be required for other sources, such as redirecting stormwater runoff.

Canepa said that their goal is to identify cost-effective replenishment strategies that can provide sufficient water—not to develop new regulations.

The effort to evaluate possible aquifer recharge projects is still in its early stages. For any major project, the decision window would be in the next year or two. It would take five to ten years between detailed project design, permitting and beginning construction, Canepa said.

The area where aquifer recharge is currently most necessary begins north of the Ocala National Forest and runs northwest through the center of the peninsula to the

Florida-Georgia state line. Most of the water is being used in the SJRWMD, and that is also the region where the greatest prospects for ample recharge waters occur.

Ironically, it is water withdrawal in the lower St. Johns River region that is depleting the aquifer upstream in the Suwannee River district. That is why both districts are equally involved with addressing the problem.

The aquifer recovery efforts are only part of a larger initiative the two districts have initiated to "push back the line" on the limit of sustainable water supplies.

During the past couple of years, a stakeholder group considered 40 options. A successor work group is now going through those recommendations. They cover a much broader spectrum of measures that include conservation and demand reduction, among others.

To be successful, the current initiative will have to replenish a far larger source of water than is currently used, and replenish a far larger area of North Florida. Projects selected need to be both sustainable and affordable.

At least some new projects are likely to be feasible, but it will be about a decade before they are completed and making a contribution.

## Blind Creek project improves water quality, provides habitat

By DAN MILLOTT

**T**he Blind Creek nature preserves in St. Lucie County near Ft. Pierce have undergone a \$100,000 water quality improvement project designed to create better habitat for mangroves and fish in the riverside salt marshes.

The area was scheduled to be reopened in mid-January. The north and south preserves on South Hutchinson Island have been closed since October. Crews have installed 18 new culverts through the surrounding earthen dike tying in to the 20 existing culverts.

The dikes separate the salt marshes from the Indian River Lagoon, but needed repair due to heavy erosion created by Hurricane Sandy.

Jim David, St. Lucie County Mosquito Control and Coastal Management Services director, said the installation of the culverts into dikes was an effort to create a hydrologic connection needed to provide a natural water flow.

"We tried to put in as many culverts as we thought necessary to meet the tidal range replication rate," he said.

But at Blind Creek Park, David said they were falling short on their goal of tidal replication.

"I thought there was something wrong with the equipment we were using to record the water levels," he said.

He discovered that the Blind Creek impoundment area required much more water due to its low elevation level, which meant additional water was needed to achieve tidal replication.

"We ended up doubling the number of 30-inch diameter culverts in the system," he said. With that change, the project achieved 96 percent of replication. "That condition in the impoundment makes it about equal to conditions outside the estuary," he said.

David noted that the overall goal of the project was to provide sufficient tidal exchange to obtain full functionality of the wetlands inside the 352-acre marsh impoundment area.

Even before completion of the project,

he observed that the water quality was much better than anticipated.

The project was funded with \$50,000 from FishAmerica, a Fish America Foundation grant of \$28,650 and \$21,350 from the Mosquito Control District.

Sport fishermen are lured to the flooded marshes in hopes of hooking snook, redfish, black drum or sheepshead.

Bird lovers also have their day by spotting cormorants, anhingas, a variety of herons including tricolors, little greens and great blues.

Blind Creek also serves as a mosquito impoundment area. The area was created by the district's construction of a dike around the marsh, which is periodically flooded to prevent mosquitoes from laying their eggs on wet leaves.

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## Petroleum program should focus on cleanup as first priority

By STEVE HILFIKER

The average baby boomer is 65 years old. Many recently moved to Florida. They hired contractors, who then needed more office space. I extend my gratitude, because the inventory of existing residential and commercial units has finally been reduced to the point where both new construction and the sale of land are back. Banks are lending and properties are moving. It is happening and we have cause for optimism.

It is reasonable to expect this trend to continue. Commercial sales will coincide with residential growth and we should prepare for an increase in the Phase I environmental site assessment market because lenders, property owners and purchasers need professional strategies and solutions to manage environmental risk.

The foundation of Florida's petroleum cleanup regulations, including liability defenses and the petroleum industry-funded remedial program, has been well-established since the 1980s. Thousands of substantial financial decisions have been made based on the longstanding provisions of Florida Statutes 376.3071 and 376.308(5).

As our economy recovers, we need to be smart. Over 90 percent of Florida's drinking water supply comes from groundwater. We have shallow aquifers, sandy soils and contaminated property. No other state has such a unique and tenuous set of circumstances.

The Florida Department of Environmental Protection and the cleanup industry need to maintain the common goals of remediation, environmental protection and risk management. We need to protect our water. We need secure loans and willing purchasers. We need geologists and engineers. To achieve all of this, we need a fully funded petroleum cleanup program, with emphasis on the word "cleanup."

DEP officials and industry professionals have worked well together for years. Recent initiatives that have been successfully implemented through solid teamwork provide a good track record heading into the 2013 legislative session. These initiatives, such as LSSI, RBCA, SCS, PBC, PAC and the FPRI enhance the program and provide owners with options that can lead to closure for sites that fall below funding range. But the cleanups as well as stewardship of the trust fund must take priority.

Property owners and lenders embrace risk-based closure on some sites, particularly when remediation may disrupt their operations or wallets, but they should never be forced to accept it—particularly when

ongoing, dedicated industry taxes fund a program designed for complete site rehabilitation.

Similarly, if monitoring of natural attenuation is not cost effective at a site, our statutes say it should not continue. We need to monitor the money we are spending on monitoring. The lithology and chemicals discharged at some sites are not conducive to natural attenuation. Property owners should not be forced to accept or continue a monitoring program if the contaminants are not attenuating.

We are not good stewards of the trust fund if money is spent on something that is not working. Remediation is required to comply with the rules and the banking industry's expectations on such sites.

There is optimism for an increased petroleum cleanup budget because revenues for the Inland Protection Trust Fund, which are generated from taxes paid by the petroleum industry on petroleum products imported into Florida, are on the rise.

This tax on the oil industry has been in place since 1986. The oil industry, through the IPTF, is taking responsibility to cleanup the sites that were contaminated through 1998 during a time when pollution prevention laws did not exist or were developing as we learned about the impact of contamination on our environment and economy.

The program is a logical and responsible commitment by industry to complete remediation and protect our unique environment.

The IPTF is a dedicated fund—the petroleum industry's fund—and both the DEP and Florida Legislature are directed by statute to administer it responsibly. Over \$200 million will be generated this year and all of it should go to its intended purpose. But the dedicated funds have been raided over the years and that is wrong.

The number of site rehabilitation completion orders was at its highest when funding levels were at their highest, which is somewhat obvious but implies that remediation is effective when funded. All of the initiatives can be implemented, the site score can come down and cleanup target levels can be achieved if the funds are allocated for their intended use.

Thousands of sites that were contaminated over the last century as a result of customary gas station operations are still impacting our drinking water reserves today. If a discharge occurred prior to 1999 and assessment results reveal that a property is still impacted, then attenuation is apparently not working well for that site.

**HILFIKER**

Continued on Page 9

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## HILFIKER

From Page 8

A program focused on remediation, with risk-based options for owners to voluntarily close sites, will get the job done.

Banks, property owners and buyers must continue to be protected. The thousands of financing and purchasing decisions that have been made with reliance on the program were done with the understanding that remediation would be completed when sites move into the funding range. Property owners must maintain their rights to the full site remediation afforded to them by the program.

This issue is not as critical in other states because they don't have our geology and their petroleum industry has not been taxed the same way ours has for decades. Enhancing the program is good but changing the regulatory structure that has formed the basis for economic decisions is not good.

In other words, the trend toward increased closure options is good but the fundamental basis for the program, remediation and environmental protection, must remain the priority. So we need to be sure the remedial portion of the cleanup program is appropriately funded and maintained.

We are working from the bottom-up through the Low-Scored Site Initiative and from the top down with efficient remedial technologies funded in priority order. Sites are rehabilitated and cleanup target levels are being achieved. The Site Screening Initiative is assessing the impacts at the remaining sites in the petroleum cleanup program. It will be good to characterize and properly address all sites in the program. That will enable industry and the DEP to continue to develop ideas for the protection of our drinking water supply and the stimulation of our economy.

The new initiatives are good for the economy and the environment, provided sufficient funding is available to complete remediation. But achieving cleanup target levels is and must remain the top priority. Screening to characterize sites should not be funded at high levels unless remedial funding is also provided at substantially higher levels that can sustain the industry that delivers on the promise made by the Florida Legislature to impacted property owners and their lenders.

The program has not been funded well enough over the last few years for the most vital aspect of the fund—remediation—to be fully implemented. There is a current imbalance between the percentage of funds going to remediation compared to site characterization, and to the monitoring of sites that are not naturally attenuating. Long-term NAM is not cost effective if the "NA" part is not working.

Industry and government, when working together, are good stewards of the trust fund. Proper funding enables us to make good risk management decisions, to clean sites that require remediation, to bring remedial costs down, to allow owners to voluntarily close sites with low risks, to protect our drinking water resources, to create more jobs, to stimulate transactions, to increase property values and to achieve the balance necessary to promote economic recovery and environmental protection.

It is the time of year to spread the news. Progress is being made. If you rely on the program for your livelihood, you have a duty to educate your legislators. The representatives from your district will listen to you. Time is of the essence. Budgets are being prepared.

The banking, real estate, construction, environmental and service industries, and all of the businesses that support them, have great cause for optimism. The economy that was so devastated in the state when the bubble burst is now recovering.

Please join the committed professionals starting now, so the appropriations committee can understand why it is so important to maximize the funding for continued and future success of our industry, our economy and our environment.

Steve Hilfiker is president of Environmental Risk Management Inc., an assessment, remediation & forensic firm based in Ft. Myers.



May 9-10, 2013  
Ft. Lauderdale

Last year's first-ever FRC-South (the Florida Remediation Conference's kid brother) was a big success. So we're taking FRC on the road again in 2013—this time to the Embassy Suites Hotel in Ft. Lauderdale.

We plan to serve up a day and a half of technical sessions on soil and groundwater cleanup, with emphasis on the unique geology and regulatory framework of South Florida.

We are still accepting 250-word abstracts on the subjects listed to the right. E-mail abstracts to Mike Eastman, FRC-South conference manager, at [mreast@enviro-net.com](mailto:mreast@enviro-net.com).

Questions about the technical agenda? E-mail the above address or call us at (407) 671-7777.



Embassy Suites Hotel, Ft. Lauderdale

## Call for Papers

Anticipated technical sessions include:

- Sustainable/Green Cleanups
- Brownfield Redevelopment in South Florida
- Emerging Cleanup Techniques and Technologies
- Petroleum Cleanups
- Regulatory Policy and Initiatives
- Others

**Deadline for abstracts extended to Feb. 15, 2013**

## Booths Now Available



You're invited to join us as an exhibitor or sponsor at the 2013 FRC-South conference and take advantage of a number of opportunities to promote your technologies and services to professionals working in the soil and groundwater cleanup industry in South Florida.

### Exhibit Space: \$395

Exhibit space is available in hotel's exhibits room and adjacent hallway. Specific booth locations are reserved on a first-come, first-served basis, pending receipt of deposit. Each exhibitor will be provided with an approx. 8' x 10' space (hallway space is a bit tighter), one draped table and chair, a company description in the conference manual, one full conference registration and a final list of participants. *Discount registrations for additional booth personnel are available for \$150 each.*

Exhibitors that reserve space early will be included in exhibitor lists in the *Specifier* and online at [www.enviro-net.com](http://www.enviro-net.com).

### Luncheon Sponsorship: \$500

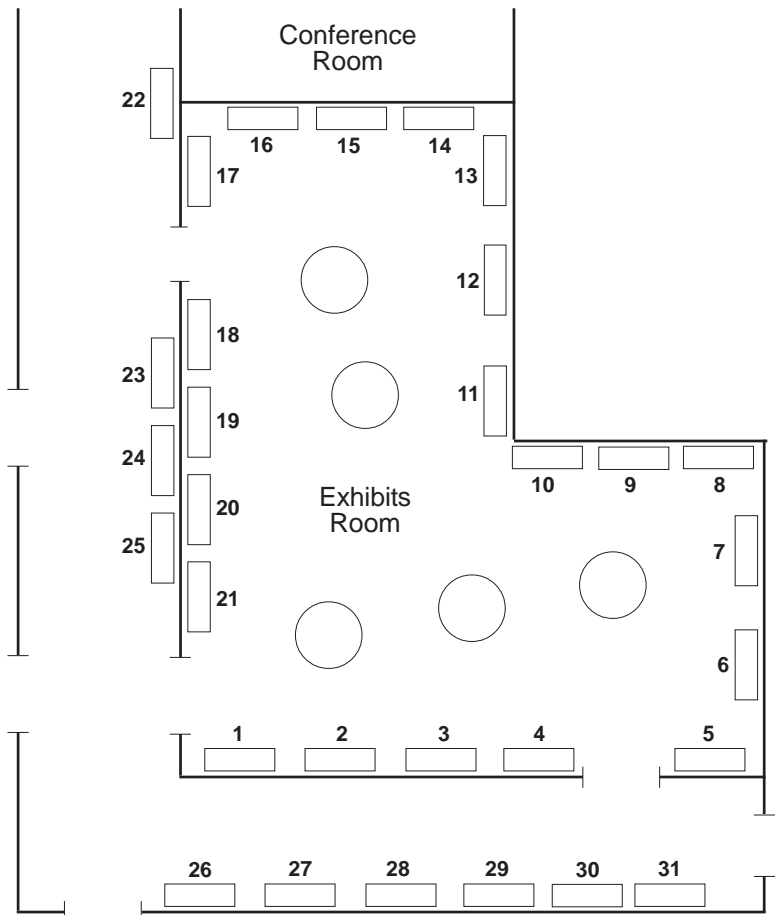
Our two FRC-South Luncheon Sponsors will receive recognition during the conference through prominently displayed signage and literature, acknowledgment in the conference manual and on its cover, one full conference registration and a final list of FRC participants. More importantly, a representative from each of the two Luncheon Sponsors will have an opportunity to briefly introduce their firm and discuss their capabilities for a few minutes before the luncheon.

### Reception Sponsorships: \$400

Reception Sponsors will receive recognition through signage, acknowledgment in the conference manual, one full conference registration and a list of participants. In addition, a representative from each Reception Sponsor will have an opportunity to briefly introduce their firm and discuss their capabilities at some point during the conference.

Other 2013 FRC-South sponsorships are available. Contact us for complete information.

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# Florida Cabinet approves plan for state purchase of conservation lands

By **BLANCHE HARDY, PG**

In December, the Florida Cabinet approved this fiscal year's allocation of funds for 21 projects within the Florida Forever Work Plan. The plan provides guidance for the state Department of Environmental Protection's purchase of conservation lands.

"This fiscal year, \$8.3 million was allocated to DEP by the Florida Legislature for Florida Forever funding," said DEP Spokesman Patrick Gillespie.

Although the work plan is approved, the approval does not mean that full funding is allocated for all of the projects in the plan. DEP is in the negotiation process on many of them.

Roughly \$27 million was spent on land acquisition in 2011-12. With this year's allocation, the work plan contains approximately \$66 million for the upcoming year, much of which is already committed to acquiring grant-funded parcels and parcels already under negotiation, litigation settlements and set asides for capital projects as mandated by statute.

Work plan projects are proposed in six categories, then ranked according to criteria specific to each category. Substantially

complete projects constitute one of the categories along with critical natural lands, partnerships and regional lands, climate change lands, less-than-fee lands and critical historical resources.

This year a number of component projects not previously in the plan are proposed for existing regional multi-county land acquisitions, including additions to Florida's first magnitude springs, the Apalachicola River, the Camp Blanding-Railford Greenway and the Wekiva-Ocala Greenway programs.

"DEP is committed to purchasing the right conservation land throughout Florida focusing on springs protection, water quality, water quantity and military buffering," Gillespie said. "The department seeks the most critical conservation land for purchase to accomplish these priorities."

"Florida is fortunate to have purchased more than 682,000 acres of conservation land since 2001 and the department continues to seek out appropriate land purchases and partners in order to protect sensitive lands statewide."

As a result of the economic downturn, spending on conservation lands has been dramatically reduced over the past five years. The current conservation lands ac-

quisition budget is less than one tenth of the \$300 million previously authorized for annual state allocation.

According to the Florida Forever Coalition, a powerhouse of the state's most dedicated conservation organizations, additional funding may soon be available.

In 2014, the bonds that funded Florida Forever's predecessor, Preservation 2000, will be paid off providing \$250 million in recurring state revenues which could be re-allocated to the Florida Forever Work Plan.

The Cabinet approved the Florida For-

ever priority list on the same day the work plan was approved. The approved priority list contains over a hundred projects representing close to two million acres of conservation candidate parcels and sites proposed for future work plan consideration. Many of the projects are critical to the preservation of drinking water supplies.

In a peninsular state surrounded by salt water, economic and ecological investment can't be viewed as mutually exclusive entities. Without potable water, the state's economic investments are at risk.

## Researchers helps to determine plant diversity from space

By **ROY LAUGHLIN**

Satellite imagery provides a huge data set for environmental analysis. Built during the last 30-40 years, available imagery contains a record for assessing environmental changes, particularly those in plant communities over a broad area.

But analyzing those images poses a huge challenge. The human eye may not be able to discriminate how patterns relate

to plants on the ground, or may not do that consistently from one patch to another. Computers, properly programmed, are the tools that make quantitative image analysis possible as well as accurate.

A group of researchers led by Professor Matteo Convertino, a research scientist at the University of Florida, have employed an "old" algorithm to garner quantitative data from satellite images of Everglades' plant communities. The group recently described their progress using the Kullback-Liebler divergence function to assess plant diversity in the Everglades' Water Control Area 1.

The analysis identified about 40 different species of plants in the Everglades and followed changes in species diversity through both wet and dry seasons from 1984 through 2011.

The math used by these researchers may seem daunting to anyone but those with a special love of differential equations. In the simplest terms, the Kullback-Liebler divergence is a probabilistic algorithm that compares frequency distribution obtained by pairwise comparison of pixels in a digital image. The result is a description of image "textures."

Each texture corresponds, in theory, to a specific plant or group of plants.

The data set used was pixel characteristics of the green portion of multi-spectrum Land Sat images of WCA 1 spanning 1984-2011, and were further divided between images taken during the wet period of May-October, or during the dry period of December-April.

In the Everglades study, the KL algorithm identified approximately 40 species. The observed numbers of species collected by ecologists in this area is 46. At a minimum, this method produced results consistent with human observation.

Convertino's team extended the mathematical analysis by comparing the diversity of pixel plants using the Shannon entropy index for WCA 1 to characterize diversity trends over time. Both the KL and the Shannon algorithms produced a similar pattern of temporal changes in the 28-year data set.

This technique has been shown to work with older satellite images of lower resolution that are commonly available today. But sometimes older and newer digital data are not comparable, a condition that dogs many long term remote sensing analyses.

Convertino said that sensors in newer satellites should not introduce a bias that would prevent comparison with older images. "The accuracy can be better with higher resolution (of more recent satellite data)," he added.

This study intended to look at variation over time, in this case changes in plant diversity over 28-year period in both wet and dry seasons. This analysis divided the images into about 40 components that were sufficiently different from one another to indicate different plants or clumps of plants. It did not otherwise identify them or indicate the location of those textures in the image. Convertino said that two additional ecological parameters might be estimated using this approach.

"We showed a very initial application here," he said. "It is also interesting to de-

**Florida Specifier**

## Environmental & Geotechnical Drillers Directory - 2013

If your firm provides environmental/geotechnical drilling or direct push services, you're invited to complete the form below, providing details about your firm and its capabilities. The directory will appear in our May 2013 issue. **There is a fee of \$100 to list your firm.** (The fee is waived for current Florida Specifier display and business card advertisers.)

Please type or **LEGIBLY** print the information requested and return as soon as possible to Mike Eastman via fax at (407) 671-7757, e-mail [mreast@enviro-net.com](mailto:mreast@enviro-net.com) or mail to P.O. Box 2175, Goldenrod, FL 32733. You can reach us by phone at (407) 671-7777.

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**IMAGERY**  
 Continued on Page 11

# Calendar

## February

FEB. 7-8 – Workshop: The Complete Environmental Regulations Workshop. Orlando, FL. Presented by Lion Technology. Call (973) 383-0800 or visit [www.lion.com](http://www.lion.com).

FEB. 8 – 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](http://www.treeo.ufl.edu).

FEB. 8 – Course: Backflow Prevention Recertification Review, Lake Buena Vista, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

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

FEB. 9 – Course: Backflow Prevention Recertification Review, Bradenton, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

FEB. 11-15 – Course: Backflow Prevention Assembly Tester Training and Certification, Destin, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

FEB. 11-13 – Course: Backflow Prevention Assembly Repair and Maintenance, Lake Buena Vista, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

FEB. 12 – Course: Lead: Renovation, Repair & Painting, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

FEB. 12-13 – Course: Water Reclamation & Treatment Processes, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

FEB. 14 – 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](http://www.treeo.ufl.edu).

FEB. 15 – Course: Backflow Prevention Recertification Exam, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

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

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

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

FEB. 19-22 – Course: Water Class C Certification Review, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

FEB. 20-22 – Course: Initial Training Course for Landfill Operators and C&D Sites-24 Hour, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

FEB. 20 – Course: 4-Hour Refresher Course For Spotters at Landfills, C&D sites and Transfer Stations, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

FEB. 20 – Course: 8-Hour Training Course For Spotters at Landfills, C&D sites and Transfer Stations, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

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

FEB. 21-22 – Course: Green Building Fundamentals for the LEED Green Associate, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

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

FEB. 22-23 – Course: Backflow Prevention Assembly Repair and Maintenance Training and Certification, Venice, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

FEB. 23 – Banquet: Central Florida Engineer's Week Banquet, Orlando, FL. Contact Sarah Matin at [slmatin@horizontalcivil.com](mailto:slmatin@horizontalcivil.com).

FEB. 26-28 – Symposium: 17<sup>th</sup> Annual Landfill Symposium: Optimizing Waste Reduction, Recycling and Recovery Activities at Landfills, Atlanta GA. Presented by the Solid Waste Association of North America's Landfill Management Technical Division. Call 1-800-467-9262 or visit [www.swana.org](http://www.swana.org).

## March

MAR. 1 – 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](http://www.treeo.ufl.edu).

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

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

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

MAR. 4-5 – Workshop: Advanced Hazardous Waste Management, Orlando, FL. Presented by Lion Technology. Call (973) 383-0800 or visit [www.lion.com](http://www.lion.com).

MAR. 5 – Course: 4-Hour Refresher Course For Spotters at Landfills, C&D sites and Transfer Stations, Daytona Beach, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

MAR. 5 – Course: 8-Hour Training Course For Spotters at Landfills, C&D sites and Transfer Stations, Daytona Beach, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

MAR. 5-6 – Course: Initial Training Course for Transfer Station Operators and Material Recovery Facilities -16 Hour, Daytona Beach, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

MAR. 5 – Course: Hazardous Waste Regulations for Generators, Daytona Beach, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

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

MAR. 5-6 – Course: Pumping Systems Operation and Maintenance, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

MAR. 5-6 – Course: Introduction to Building Energy Modeling, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

MAR. 5 – Course: Asbestos Refresher: Inspector, Tampa, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570.

MAR. 5 – Course: Asbestos Refresher Management Planner, Tampa, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

MAR. 6 – Course: Asbestos Refresher Contractor/Supervisor, Tampa, FL. Presented by the University

of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

MAR. 6 – Course: Understanding Hazardous Waste Regulations in Solid Waste Operations and Recycling, Daytona Beach, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570.

MAR. 6 – Course: U.S. DOT Hazardous Materials/Waste Transportation, Daytona Beach, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

MAR. 6-7 – Course: 23<sup>rd</sup> Annual Cross-Connection Control Conference, Daytona Beach, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

MAR. 6-8 – Summit: Environmental Industry Summit XI, San Diego, CA. Presented by Environmental Business International. Call (619) 295-7685 or visit [www.ebionline.org](http://www.ebionline.org).

MAR. 7 – Course: Unidirectional Flushing Workshop, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

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

MAR. 11-15 – 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](http://www.treeo.ufl.edu).

MAR. 13-14 – Course: Microbiology of Activated Sludge, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

MAR. 22 – Meeting: Urban Stormwater Issues and Wetlands Restoration in Florida, Gainesville, FL. Presented by the Florida Chapter of the American Water Resources Association. Contact Mark Doblin at (352) 332-3318 or visit [www.awraflorida.org](http://www.awraflorida.org).

## POTABLE REUSE FOR FLORIDA

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## IMAGERY

### From Page 10

tect abundance and location. We want to identify species that contribute to diversity and indicate their density.”

Convertino said that so far, peer-reviewed comments and interest have been positive. “Most of the comments we got were about the next steps of development,” he said.

What it does do nicely is show that a novel probabilistic mathematical analysis of remote sensing data yields conclusions consistent in many ways with familiar ecological quantification methods. Possibly, it is the way of the future.

## Florida Specifier

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Goldenrod, FL 32733

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

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# NASA launches major water, sewer upgrades at Kennedy Space Center

By DAN MILLOTT

Work is underway at Kennedy Space Center on a major project to replace 22 miles of water distribution pipelines, almost five miles of sewer pipelines and more than 30 lift stations.

Since there are no major space operations currently ongoing at KSC, the infrastructure project will cause little disruption.

The \$22.3 million project is expected to take two years to complete. That time

frame will mean completion by late 2016 in advance of the next major space project set for 2017 when NASA plans to launch its heavy lift launch system rocket on its first test flight.

The current water and sewer line replacement is the largest of five planned revitalization phases at KSC. The \$50 million project will cover more than half of the center's distribution system from the headquarters area to the former launch pads and runway.

Replacing a 50-year old system, while

costly, will improve reliability, reduce water consumption and increase the amount of water pressure available for fire protection. In time, it will pay for itself by cutting annual operations and maintenance costs by \$450,000.

The ductile iron pipe that will be used to replace the aging pipes now in use should last 100 to 150 years. Those pipes will replace asbestos cement pipes installed in the 1960s.

Ninety percent of the ductile iron pipe

will be made from recycled material from the same foundry that received the dismantled steel from the KSC launch pad 39B in 2010. While it can't be confirmed, it is possible that some of the recycled materials from launch pad 39B might return to the space center, albeit underground.

Because of the gap in launch activity at KSC, NASA was able to reprioritize the water/sewer pipe replacement work, thus shortening the length of time for completing the project.

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## NOTES

From Page 3

ment Agency rejected a request to declare Broward County and six other Florida counties disaster areas.

That would have made the counties eligible for federal money to help cover the dune project and other damages caused by Hurricane Sandy.

Brevard likely would have been eligible for about \$9.3 million in aid or about 75 percent of the \$12.4 million project cost. The rest of the cost would have been shared by the county and the Florida Department of Environmental Management.

The county estimates the storm caused more than \$27 million in damage to local beaches.

**Landfill odor issues.** Waste Management Inc. has agreed to pay \$1.6 million in fines, administrative charges and improvement costs to reduce odor near a landfill in northern Brevard County.

The company has been issued repeated citations for odor violations at the Monarch Hill landfill, known locally as "Mount Trashmore."

Improvements include more water pumps and gas collection wells, and wider use of odor-neutralizing chemicals.

**Milton landfill project.** Santa Rosa County has submitted plan for a methane gas collection system at its landfill in Milton. Officials expect to receive a permit by the spring.

The collection system, which includes a network of wells, pipes and conduits in the 40-acre landfill to collect the gas, is estimated to cost about \$1 billion to build.

Potential uses for the gas include generating electricity to power county facilities at the landfill and generating electricity to sell to the power grid.

**Names in the news.** Kirby Green III, former executive director of the St. Johns River Water Management District, has been named president of Winter Park-based AquaFiber Technologies Corp. Green, who retired from the district in 2011, formerly served as secretary of the Florida Department of Environmental Protection.

John Slesinski has joined ESD Waste-2Water in their remediation equipment group as a project manager. He will be working primarily in an inside sales and project management capacity. Prior to joining ESD, he was a project manager at BISCO Environmental and worked for Enviro-Supply in Southern California.

**Company news.** Environmental consulting and engineering firm Apex Companies has acquired Thonotosassa-based A2L Technologies Inc., an environmental consulting, engineering and remediation firm that serves the real estate and financial industries, and Fortune 500 companies.

A2L has branch offices in Georgia and South Dakota and has done projects in 27 states.

GAI Consultants Inc. of Homestead, PA, has acquired Lotspeich and Associates Inc., an eight-person environmental consulting firm in Winter Park.

Karl Lotspeich and Renee Thomas have taken an ownership stake in GAI and will serve as senior directors while managing and developing GAI's environmental services business in the Southeast U.S.

**Excellence award.** The Tampa Bay Association of Environmental Professionals recognized the Pinellas County Department of Environment and Infrastructure Watershed Management Section with an environmental excellence award.

The association recognized the section's outstanding teamwork in implementing the county's fertilizer ordinance.



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# Occurrence of algal mats in state springs may result from flow levels, not nutrient loading

By ROY LAUGHLIN

Silver Glen Springs, a first magnitude spring located in the Ocala National Forest along the western shores of Lake George, seems at first glance to be pristine. Yet, over the past few decades, the spring and its run have seen an aquatic vegetation shift from a submerged macrophyte-dominated assemblage growing on the bottom to one dominated by macroalgae, primarily cyanobacteria algal mats.

Some of Florida's formerly pristine springs are experiencing a similar shift from macroalgae to filamentous algal mats. Silver Glen is one example that has received plenty of scrutiny over the last few years.

"The conundrum for Silver Glen is that its water quality is considered to be close to natural background condition with respect to the levels of nitrate," said Robert Mattson, CEP, CSE, an environmental scientist with the St. Johns River Water Management District. "Nitrate levels are, in fact, very low in the spring."

According to Mattson, Lyngbya wollei, a cyanobacteria characteristically black or

blue-black, is the most common species forming macroalgae mats. Some populations of Lyngbya, according to Mattson, can fix their own nitrogen, so they're not dependent entirely on dissolve nitrates or ammonia. However, the nitrogen-fixing ability of the algal species in Silver Glen has not been determined, according to Mattson.

He suggested two other factors that can influence algal mat growth. The first is the high salt and dissolved solids characteristics of some of Florida's springs—optimal conditions for algal mat-forming cyanobacteria to grow.

He also noted that last year, flow rates from the spring into Lake George were higher than in prior years. Those higher flow rates swept the algal mats from the spring basin and many parts of the spring run.

It may be that water flow rather than nutrients play a predominant role in the balance between submerged macroalgae that are attached by roots in sediments and macroalgae that are not anchored strongly.

will receive an Environmental Small Justice Grant from EPA to support its proposed Florida Farmworkers Learn to Reduce Exposure to Pesticides project.

With the grant money, the organization will fund a special initiative of its Pesticide Safety and Environmental Health Project. The goal is to reduce farm worker pesticide exposure and improve the health of workers.

In addition, Miami's Museum of Science received grant funding for its proposed Hydroponic Urban Garden project. The museum's goal is to raise awareness regarding healthy eating in Miami's ethnically-diverse Coconut Grove/Coral Way community.

The project is designed to highlight the broad environmental benefits of urban hydroponic systems as well as the nutritional benefits derived from incorporating more fresh produce in urban diets.

The project intends to establish hydroponic gardens at five local elementary schools that will show local residents alternatives to potentially harmful fertilizer and pesticide use.

Florida received two of seven environmental justice grants awarded in EPA Region 4.

Nationwide, the agency awarded 50 competitive grants worth a total of \$1.2 million. Each of the Florida grants provided about \$25,000 to its recipients.

**Hydraulic fracturing study.** In December, EPA provided a status report on its broad study of the environmental effects of hydraulic fracturing. The report primarily describes the scale and components of the study that are now underway, or expected to begin shortly.

The 18 components described in the report will closely examine specific aspects of the effect of hydraulic fracking on surface and drinking water supplies. Other study components will examine the handling, containment characteristics and disposal of frack water.

With industry participation, EPA now has at least a partial list of the additives and components that drillers add to water to produce fracking fluids.

Chemical identification protocols and toxicity studies are another component of this broad study. EPA noted that the study is in its initial phase. It has limited data from the research components to report.

"It does not draw conclusions about the potential impacts of hydraulic fracturing on drinking water resources, which will be made in the final study," the agency said in its announcement.

EPA intends to include a collaborative case study of an active production drilling site to determine whether fracking wells contaminate shallow aquifers that supply drinking water.

The agency expects to release a draft report of research results late next year.

are more likely to compare species richness in submerged macrophytes versus that in algal mats. Mattson has done that and has found that, once again, results are equivocal.

When looking at invertebrates, some samples showed higher species richness. Sometimes it was lower.

"My conclusion was that there were more detrimental effects than positive effects and that overall a proliferation or dominance of macroalgae is not favorable for macroinvertebrate communities," he said.

Mattson also noted that Dr. Tom Fraser at the University of Florida has characterized notable changes in the fish community in the Homosassa River as there has been a dominance change from submerged macrophyte to macroalgae.

Florida's springs are among the most notable and popular landscape treasures. They may still have many secrets to yield before we accurately understand their ecology.

## FEDFILES

From Page 2

made similar requests. Environmental groups, restaurant trade groups and livestock producers joined forces to request that the agency at least scale back the increase, if not temporarily suspend the bio-fuel mandate.

The two-year drought has significantly reduced crop production in the U.S., especially corn crops. That grain is both a source of ethanol for blending in fuels as well as a primary livestock food.

EPA declined to make any changes in the schedule to gradually increase the proportion of biofuels sold for transportation fuels. They said that increasing biofuel mandates is essential to make significant reduction in U.S. greenhouse gas emissions.

For gasoline engines, biofuels contain 15 percent or less ethanol. The 10 percent blend is far more commonly available.

Last fall, the EPA approved E-15, a 15 percent ethanol mixture to fuel cars built after 2001.

**CWA lawsuit in Miami-Dade.** In mid-December, EPA filed a lawsuit against Miami-Dade County, demanding that the county take measures to repair sewer lines, pumps and force mains. By doing that, the county will prevent blockages and overflows of pollutant-laden effluents that are in violation of the Clean Water Act.

The lawsuit also seeks significant damages: \$32,500 for each day the county violated the act prior to Jan. 12, 2009, and \$37,500 for each day since that date.

Since May, 2012, EPA and Miami-Dade have been negotiating a consent decree to address the shortcomings of the county's water and sewer systems. A consent decree can occur only when a lawsuit has been filed, making the recent filing by the EPA a procedural detail.

Prior to the filing of the lawsuit, Miami-Dade proposed a \$1.5 billion, 15-year plan that included replacement of leaking pipes at a cost of \$408 million and replacement of over 1000 pump stations and their failing equipment.

In addition, new treatment plants will be built throughout the county as needed, including a \$555 million reconstruction of the Virginia Key Wastewater Treatment Plant. Elsewhere, \$394 million would be spent to upgrade wastewater treatment plants in Goulds and North Miami.

The \$1.5 billion price tag would be paid with a combination of new revenue bonds and an increase in water fees to the consumer.

Miami-Dade's water rates are among the lowest in the country, making rate increases of viable financial source for the necessary work.

**Environmental justice grants.** The Farmworker Association of Florida Inc.

Lack of extensive characterization of algal mats in historical accounts of the springs limits the characterization of long term trends today. In the last half century, they have been described as occurring in springs but were never characterized as dominant components of the plant community.

"There is very little historic data to enable us to make definitive predictions about trends in macroalgal mat coverage in Florida springs over the past 50 years or so," wrote Mattson in an e-mail. "My feeling is that it may have been a slow, gradual process over the past 30-50 years and that at some point algal coverage reached a 'threshold' where it was noticeable. As with many processes that build slowly, perception threshold is a significant factor in defining it as a problem."

Most human users of the spring have an aversion to the appearance of the algal mats and to swimming in them. Ecologists

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## THE BIZ

From Page 1

infrastructure spending creates some 25,000 jobs.

"It is clear that—at least at the federal level—we are going to see more regulatory initiatives," Fumero said.

One area of environmental work that is always watched closely in Florida is the cleanup of contaminated petroleum storage tank sites. Industry veteran Glenn MacGraw, PG, northwest Florida regional manager for The FGS Group in Tallahassee, said 2013 will be a significant year for the program.

"We've got new leadership at the Florida Department of Environmental Protection and they are directing the cleanup program more into a risk-based corrective action program rather than a cleanup program," said MacGraw. "We will have to see how that works out."

As always, those involved in the cleanup industry will have to pitch for more funding from the Florida Legislature this spring, MacGraw said, to ensure more sites

get cleaned up. "The industry has been hit by budget shortfalls," he said. "If we get a decent budget, it could help a lot."

Those involved with petroleum cleanup work are hoping for a \$150 million allocation this year for the program, which, if approved, would be about \$25 million more than last year.

The prospects are good for additional funding because the economy is in better shape and tax revenues collected by the state have increased, MacGraw said.

"The extra money will allow DEP to drop the score for cleaning up sites and allow more remediation work to take place," he added.

If that extra funding is not approved, it could have a serious impact on some businesses.

"Some of the smaller firms are just holding on and may go out of business if we don't get the extra money," MacGraw said.

Another challenge facing the industry is the loss of experienced staff. "We are losing our institutional knowledge because

people are quitting or retiring," MacGraw said. "There have been lots of retirements at DEP and, in general, those positions have not been filled."

Mike Ashey, former head of the petroleum cleanup program at DEP and now director of business development for ESD Waste2Water in Ocala, said he is concerned about what 2013 will bring for the program.

"It is open to question what the department is thinking. A lot of companies feel that way," Ashey said. "We're not sure what the department's intentions are with respect to the pre-approval program for 2013 and beyond. We're not sure how the department intends to run the program."

He said there are some companies that have diversified and are doing well. But others have not been so fortunate. "I think a lot of them believe that the economy will get better in 2013," Ashey said. "But I think it is going to be another year of economic challenges."

Ashey said that his company has worked hard to "keep work coming in the door and keep our employees busy."

"But there doesn't seem to be a lot of work out there under the pre-approval program," he added.

He is, however, encouraged by the desire of both the state and private companies to get contaminated sites cleaned up.

"In the environmental world for remediation and contamination cleanup, the regulatory climate has always been favor-

able," he said. "It has always been a team effort to get these sites cleaned up."

Ashey said that in the future, companies will have to take important steps to maintain growth. "They will have to work smarter, be more diligent about lowering overhead costs, diversify and retain their best employees."

"Environmental companies will also need to look at other industries for work, like the mining industry. Getting into federal work and cleaning up federal sites has always been good for business."

Concerns about the petroleum storage tank program were echoed by Tim Harman, general manager for Handex Consulting & Remediation SE LLC.

"I have talked to a lot of colleagues and everybody had a pretty bad year in 2012," Harman said.

He said many people in the industry are waiting to see how much funding will be allocated from both the state's petroleum cleanup trust fund and the transportation trust fund, which provides money for many infrastructure-related projects.

"These are two important trust funds for the environmental industry," Harman said. "We are hoping that the IPTF can be fully funded based on the revenues collected."

Other environmental issues that will continue to be addressed in 2013 include

## THE BIZ

Continued on Page 15

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## JACKSON

From Page 1

accomplishment of Jackson's EPA.

It is likely that no single rule will be cited in the future as defining her legacy at the EPA, but the entirety of progressive rule changes will stand among her record of accomplishments contributing to public health and environmental protection.

Jackson's EPA inherited a substantial backlog of unfinished business from the Bush administration. None was more substantial than implementing the Supreme Court decision requiring the EPA to regulate carbon dioxide to avoid the adverse effects of climate change.

As of mid-January, no rules on large, stationary CO<sub>2</sub> emitters were finalized, but rule development continued throughout Jackson's tenure, leading critics to charge her with waging war on coal. As 2013 opens, U.S. coal production is in decline because abundant supplies of much cheaper natural gas from hydraulic fracking are replacing coal as fuel.

Not only is the country becoming more energy independent, it is also meeting CO<sub>2</sub> emission reduction levels that would have been in effect if the U.S. had signed the Kyoto Treaty.

Jackson inherited a number of issues from prior administrations. Climate change was only one of those. The EPA faced court action for failure to complete several periodic reviews under the Clean Air Act, Clean Water Act, and Safe Drinking Water Act.

New rules were proposed and some of them were challenged in court, but in the final months of her tenure, EPA issued final rules for nearly all of them.

Florida was the venue for one of the more contentious of inherited issues. A court decision required the agency to set numerical water quality standards for nutrients in state waters. The EPA under Jackson drew up a set of numerical standards, and gave Florida authorities the option of

accepting EPA's standards or developing their own in such a way as to meet EPA's criteria and satisfy the provisions of the court settlement.

This effort is not complete yet, particularly for rivers and streams and peninsular areas of Florida. But under Jackson's leadership, the agency stood its ground with both the Florida Legislature and its current governor to establish what many advocates hope will be a new and much more successful day for restoring water quality in Florida's surface waterbodies.

President Obama consistently backed Jackson's decisions as head of EPA, except for one. In September of 2011, the president ordered EPA to abandon its proposed rule to reduce ozone concentrations in urban air. That rule, which had strong backing from health experts and environmental advocates, was, according to the president, too big a risk to economic recovery to be imposed at the time.

There were rumors that a disappointed Jackson would resign then, but she did not— thanks in part to a grassroots effort that encouraged her to remain at the agency.

Jackson grew up in New Orleans. She graduated *summa cum laude* from Tulane University with a B.S. degree in chemical engineering in 1983 and earned a masters of science degree in chemical engineering from Princeton University.

She began working with EPA as a staff level engineer, later moving to their regional office in New York where she was part of the Superfund site remediation program. Eventually she worked her way to the post of deputy director and acting director of the region.

In 2005, Jackson left EPA and joined the New Jersey Department of Environmental Protection.

In 2008, President Obama nominated Jackson to head EPA under his administration. She became the first person of African-American descent to lead the agency.

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# Solar farm project near Sorrento gets boost with additional acreage

By ROY LAUGHLIN

**B**lueChip Energy LLC recently passed two milestones on its long path to the construction of a solar energy farm near Sorrento in Lake County.

In late December, BlueChip received a favorable zoning change for 200 additional

acres to add to its proposed project. The addition brings to 500 acres the total area to be outfitted with solar panels. That would make the facility the largest in Florida.

Then in January, the company began installing photovoltaic panels on its original 200 acres near State Road 46.

response to these cuts, water managers are trying to achieve more with less.

The Southwest Florida Water Management District, for example, is focusing on increasing efficiency. They have reduced their work force by 19 percent and reviewed every project, program and initiative to determine if it could be done more efficiently.

Their budget for fiscal year 2012-13 reflects an \$18.3 million reduction in operating costs. More than half the budget is devoted to capital/infrastructure and other district projects.

The district is also involved in state-wide efforts for regulatory consistency. Workgroups from across the state are looking at both consumptive use permits and environmental resource permits to find op-

portunities for consistency among all regulatory agencies.

The Florida Department of Transportation is also involved in many projects, England said. "A lot of work comes from the Federal Highway Administration and that's helping the local economies."

He said he mostly handles municipal stormwater, NPDES permitting and TMDL work. "Revenues were off in 2012, and we expect much the same in 2013," England said. "Much of my work is military work and that has also been reduced. The military guys have reduced environmental and maintenance work."

In response, he said he has tried to minimize costs. "In this market, you've got to do what's necessary to reduce your expenses," he said.

BlueChip officials said the Federal Energy Regulatory Commission gave the facility a self-certification as a small power production facility. Local electrical utilities are required to buy electricity from the Sorrento Solar Farm. In this case, Progress Energy will be buying the power.

BlueChip is a vertically integrated firm focused on photovoltaic electricity generation. The Sorrento Solar Farm is its electricity-generation subsidiary. The high efficiency crystalline PV panels used will be fabricated by Advanced Solar Photonics, BlueChip's manufacturing subsidiary.

The subsidiary also fabricates the PV panel ground mounting system. ASP assembles the solar panels, including mounting hardware, in its fabrication plant in Lake Mary. Control systems are procured from strategic partners.

The Sorrento project is not the first of BlueChip's forays into photovoltaic energy production. The company is now operating its Rhinehart Solar Farm.

This 10-MW solar power project is on

**SOLAR**  
Continued on Page 16

## THE BIZ From Page 14

numeric nutrient criteria and brownfields redevelopment, Harman said. "Brownfields are certainly an under-utilized mechanism for site redevelopment," he added.

Many federal and state programs are still struggling with funding issues, said Susan Bostian, PE, principal of Innovea Technologies LLC in Raleigh, NC, who formerly worked for DEP and the Northwest Florida Water Management District.

"Florida is unique because there are so many federal facilities," Bostian said. "And DEP still has properties that can't be cleaned up due to the lack of funding. I think the real estate market in Florida is lagging behind other areas of the country, but it is recovering. The real estate market is a driver for cleaning up properties quicker."

Some companies have already had a strong start to 2013. "We started out busy," said Mike Johnson, drilling services manager for Custom Drilling Services Inc. in Mulberry, which specializes in environmental drilling, mine support, geotechnical, construction and industrial drilling. "And last year was not bad. It was a decent year. I know things could have been a lot worse."

Todd Hodgson, director of business development at FECC in Orlando, added that they are "pretty busy right now. This year has started out really good."

The company is closely involved with hazardous waste removal. "We did a little bit over \$10 million in business last year," said Hodgson. "We were up about 20 percent from the previous year."

"We had a couple of big jobs, but otherwise, business was fairly flat. There's definitely a lot more competition out there and you need to work harder to get the work. But I am optimistic for the rest of the year. I think we're moving in the right direction."

Bob Scotese, account manager with Waste Management in Port. St Lucie, said he believes business will pick up during the course of the year.

"We had a good year last year," he said. "But we think things will be better this year."

He said the company's business that focuses on hazardous waste disposal, enjoyed a seven percent increase last year compared with the previous year. "What drives our business more than anything is funding for the drycleaning and underground storage tank programs," Scotese said.

"Business is real slow when it comes to remediation projects that are driven by development. But housing starts are up and the real estate market is showing signs of life. What drives our business more is redevelopment of contaminated sites."

Ernie Mott-Smith, PE, senior technology consultant with the Federal Services Division at Black & Veatch Special Projects Corp. in Tampa, said he doesn't expect business to be much different from last year.

"All our work is federal," he said. "We handle all the Superfund sites where there are no potentially responsible parties and where the federal government pays the cost."

On the stormwater front, things are pretty tough for most consulting firms, said Gordon England, president of Stormwater Solutions Inc. in Cocoa Beach. That's largely because cities and counties don't have sufficient funds to pay for many stormwater projects, England said.

"We do mainly municipal work and we are seeing that the cities don't have any money," he said. "They are being crushed by (property) tax shortfalls and their budgets are down."

Water management districts are in the same boat. They have had to reduce spending because of huge cuts in funding. In re-

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# Central Everglades Planning Project to accelerate progress with restoration

By SUSAN TELFORD

Plans are on the table to restore valuable sawgrass sloughs and tree islands within the heart of the Everglades—the only problem is deciphering the best way to increase the natural flow of water needed to restore the wildlife habitats.

Opinions are varied regarding the best way to move water across the state from Lake Okeechobee through the sawgrass in the Everglades and on to Florida Bay.

“Decomartmentalization is an important component of restoring the Everglades,” said Manley Fuller, president of

the Florida Wildlife Federation. “We need to get the waters throughout the Everglades region cleaner through a variety of means and to move these cleaner waters south. The proper sequencing of these projects is critical.”

Based on “Progress Toward Restoring the Everglades Biennial Review, 2012,” a report by the National Research Council stating that not enough work has been done to date to help restore the heart of the Everglades, a new goal was set by the U.S. Army Corps of Engineers and South Florida Water Management District.

To speed up restoration, the Central Everglades Planning Project was deemed

a pilot project by USACE’s National Pilot Program for Feasibility. As such, acceleration of the restoration process takes advantage of “clearly defined decision points to make the process more efficient while reducing the current planning study process timeline.” It focuses on restoring more natural quantity, quality, timing and distribution of water to the remaining portions of the natural areas of the Everglades.

“We are, of course, very supportive of doing what is necessary to improve water quality across Florida, and to move Everglades restoration forward,” said Fuller. “We believe that clean water is a key to Florida’s natural resources.”

All four alternatives proposed for the “decomartmentalizing” of Water Conservation Area 3 and the Sheetflow Enhancement Physical Model, demonstrate increased storage, treatment and conveyance of water south of Lake Okeechobee, removing and plugging canals and levees within the central Everglades.

According to the corps’ website, “CEPP will identify and plan for projects on land already in public ownership” using a combination of some of the original Comprehensive Everglades Restoration Plan and new research and scientific data discovered since CERP slowed to a halt in 2008-09.

It involves input from several public and private organizations involved with the restoration process, as well as the general public.

The success of CEPP is integral because

it is the combination of its many Everglades restoration strategies that provide the framework of a two-year plan called the Project Implementation Report. When finalized, that report is the final one to be submitted for congressional authorization as part of the CERP.

Acceptance of the PIR ensures continued funding for Everglades restoration and will also give an economic boost to the construction, engineering, scientific, consulting and geotechnical industries. Many restoration projects are ready to move forward to implement the next generation of CERP projects.

The corps received its final permit for construction last month from the Florida Department of Environmental Protection and anticipate contract award in April 2013, with work tentatively scheduled to occur from May to October, 2013.

## SOLAR From Page 15

the rooftops and grounds of BlueChip Energy’s engineering and manufacturing plant in Lake Mary. PV panels that generate up to two megawatts occupy 380,000 square feet on the roofs of two buildings.

An additional 24 acres on the ground surrounding the buildings are slated to produce eight more megawatts once PV panels are installed. This facility, while producing electricity, is also a demonstration project for installations the company offers to its customers.

## DEP shifts district office boundary lines to level workload

### Staff report

The Florida Department of Environmental Protection shifted the boundaries of many of its seven district offices, a move designed to level out the workload around the state.

The shift of district lines became effective Jan. 1, 2013.

In a statement, DEP said the goal of the change is to help the department become more efficient and allow for better environmental protection and customer service.

The changes are expected to benefit taxpayers due to a decrease in drive-times between district offices and the public, according to the agency.

The changes are as follows:

- Sarasota and Desoto counties will now be served by the South District instead of the Southwest District.
- Sumter County and all of Marion County will now be served by the Central District.

• Indian River County is now part of the Southeast District instead of the Central District.

• Jefferson County is now part of the Northwest District instead of the Northeast District.

The agency said that any pending permit applications, compliance assistance matters and enforcement issues in process before Jan. 1 will be handled by the previous district office.

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