Florida Specifier

Practical Information For Environmental Professionals

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Photo by Shane Billings

EnviroTek drilling crew conducts direct push soil sampling at a job site in Gainesville using a Geoprobe direct push technology drill rig. The *Specifier's* 2013 Drillers Directory begins on Page 5.

UF survey indicates more concern with water quality than water quantity

By PRAKASH GANDHI

Water quality is a bigger concern for Florida residents than water quantity, according to a major new study conducted by the University of Florida.

The results surprised researchers who said the public has been deluged with reports about the pressures of providing enough water to sustain a large and growing population in Florida.

Those interviewed in this survey said they were more worried about the water that they used than how much is available.

"It was an interesting finding because there is a lot of news coverage of water quantity efforts especially things like water conservation and watering your lawn only on certain days, "said Alexa J. Lamm, PhD, assistant professor in the Department of Agricultural Education and Communication at the University of Florida, who led the survey. "So you'd think the public would be more concerned about water quantity."

Lamm led the survey on behalf of the UF/IFAS Center for Public Issues Education. Almost 500 Floridians were asked to assign levels of importance to 16 water-related topics, such as clean groundwater.

The center collected data from Florida residents aged 18 and older in December to gauge public opinion on the issue of water in Florida.

Residents in the Sunshine State placed the most importance on clean drinking water. They said they are also concerned about clean beaches, oceans, lakes and rivers, plentiful water for agriculture and clean groundwater.

The study also found that 40 percent of Florida residents have experienced some kind of negative impact due to water quality issues including poor quality drinking water, closed beaches, closed springs, rivers or lakes and prohibitions on eating fish they have caught.

There are more Florida residents that believe water quality is getting worse than those that believe it is getting better, according to the survey.

The study also found that 65.3 percent of Florida residents are willing to

SURVEY
Continued on Page 16

FRC-South emphasizes unique South Florida conditions

By ROY LAUGHLIN

A promotional theme for tourism in the mid-1980s, "Florida. The Rules Are Different Here," could easily be rewritten "South Florida. The Rules Are Different Here" when it comes to soil and groundwater cleanup.

Effective remediation methodologies useful elsewhere in the country can be put to the test by South Florida's high water table and porous soils.

In addition, South Florida soils can possess extreme physical and chemical characteristics, even within a single contaminated site. Pockets of acidic, organic muck and peat may overlay alkaline carbonate sands and rock. And often, oxygen in the soil is in short supply.

"Different rules" is the subtext for a majority of the technical sessions at this year's FRC-South conference in Ft. Lauderdale, reflecting the common experience of environmental professionals and regulators active in South Florida.

Conference Keynoter Doug Halsey, a partner with White & Case LLP in Miami, will kick off the conference with an overview of the two major drivers for Florida's remediation industry—the continuing economic recession and the evolving regulatory climate.

According to Halsey, the first affects practitioners in particular. Their clients demand remediation efforts that are "less expensive, quicker and more effective."

Further, at the state level, the regulatory environment is a moving target, changing substantially in response to the current political climate in Tallahassee.

Halsey's keynote talk may not predict the future, but it will characterize the circumstances that mark either improvement or continued adversity.

Additional talks will address South Florida's unique geological characteristics. FMC Environmental Solutions' Patrick Hicks will provide an example of how using two methods that work under "opposite" conditions may be useful for South Florida remediation professionals in his presentation *Oxidation or Reduction: Not Mutually Exclusive Options*.

CL Solutions' Michael Saul's presentation, *Pesticide Bioremediation: Cost-Effective Source Treatment and Plume Reduction by Leveraging Groundwater Conditions in the Beneficial Microbial Population*, is another that discusses strategies where biological and physicochemical characteristics don't fall neatly into a category calling for a particular method or practice.

Drew Baird, PG, east region manager with Regenesis, will discuss chal-

FRC-SOUTH
Continued on Page 3

New EPA report characterizes water quality of U.S. streams, rivers as poor

Staff report

According to the U.S. Environmental Protection Agency, 55 percent of our country's river miles have water quality conditions characterized as "poor for aquatic life." Just 21 percent are considered to have good water quality.

Slightly more than a quarter of the streams and rivers sampled have excessive nitrogen levels. But that statistic rises to 40 percent for those that also have high phosphorus levels.

These conclusions are based on data collected in 2008 and 2009, and included as part of the agency's draft *National Rivers and Stream Assessment* report.

Nutrient pollution from nitrogen and phosphorus can lead to eutrophication, low oxygen levels and loss of plant and animal life. Nutrient pollution is considered the most significant cause of poor water quality in U.S. streams and rivers.

Loss of vegetation cover along the sides of creeks and rivers is a contributing cause of poor water quality because in its absence, water moving over the land unimpeded by trees and plants can promote floods, increase erosion and carry excessive amounts of nutrients and other contaminants.

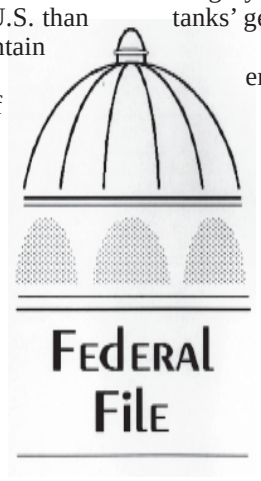
Also, loss of shade increases water temperatures to levels that can affect the health of aquatic organisms. The EPA estimated that 24 percent of streams and rivers are compromised as healthy habitats by vegetation loss.

More than 13,000 miles of streams and rivers were found to have to have high mercury levels that make fish taken from them unsafe for human consumption, while only nine percent of streams and rivers were found to have high bacteria levels.

Poor water quality in streams and rivers was higher in the eastern U.S. than in the west and western mountain states.

In the west, 26 percent of streams and river were rated as poor, and 42 percent were rated as good.

In the coastal plain, including Florida, the ratings were far less favorable: 71 percent of streams and rivers were rated as poor.



Mercury, air toxics standards. Future coal- and oil-burning power plants are now bound by updated emission standards for air contaminants regulated by the Mercury and Air Toxics Standards rule.

EPA characterized the new standards as updates to the broader MATS rule that went into effect in December, 2011. That rule affected operating coal- and oil-burning power plants, and those permitted or now under construction.

Updated rules are applicable to coal- and oil-burning plants to be permitted and built in the future. Updated standards address mercury, particulate matter, sulfur dioxide acid gases and specified metals.

The agency said that the new standards are achievable and new plants will be able to use the same state-of-the-art control technologies approved to meet current MATC emissions standards.

EPA said the updates do not change compliance cost calculations or cost-to-benefit estimates.

Proposed VOC rules for oil, gas. EPA is proposing updates to volatile organic compound rules passed a year ago for oil and gas production storage tanks. The updates designate two tank categories and coordinate their compliance dates.

A modification of last year's rule is needed because oil and gas production has increased so dramatically that manufacturers cannot supply equipment to reduce the VOC emissions.

Recent data evaluated by the agency showed that new wells are responsible for high VOC releases that decline substantially as the wells age, and petroleum and gas yields decline.

The updated regulatory proposal places a priority on VOC control of storage tanks for new wells. The update also includes provisions to decrease testing of VOC reduction equipment so that it can be installed more quickly.

Tanks in the first group are those constructed between August 29, 2011, and March 28, 2013. Owners of tanks in this category will be required to provide the tanks' geographic coordinates.

These are assumed to be low emitting tanks unless new wells have been connected to them. Owners or operators of these tanks will have 60 days to install VOC emission controls, or until April 15, 2014, whichever is later.

Tanks that came into use after March 28, 2013, must have VOC emission control equipment within 60 days of first use, or by April 15, 2014, whichever is later.

The EPA also updated compliance criteria. Tanks will be in compliance if VOC emissions are reduced by 95 percent, as required by the original rule, or if the tank owner/operator demonstrates that tank emissions have dropped to less than four tons per year in the absence of emission controls.

To meet this alternate compliance characterization, 12 monthly emission measurements must be submitted and demonstrate the four-ton annual quota.

Combustors are the standard technology used for VOC reduction. The original rule required field testing to ensure compliance. Proposed modified rules allow tank operators to use combustors designed by their manufacturers to achieve a 95 percent reduction level. The tank operators will not be responsible for field testing of such units.

Last year's rule required storage tank operators to conduct performance tests and use a continuous emission monitoring system. The EPA is streamlining this rule for tanks that are already in compliance with VOC emission rules so that they need only conduct monthly inspections of covers and closed vents to ensure they are working properly.

Energy Star. The city of Miami ranked 18th among the 25 top U.S. cities for its number of Energy Star buildings. This is same position Miami held in 2011, but still

FEDFILE

Continued on Page 13

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Scott looks for $288 million budget for seaport improvements

Staff report

Florida Gov. Rick Scott recommended $288 million in seaport improvements including more than $35 million for Port Everglades in the state's 2013-2014 budget.

The strategic seaport investments include improving connectivity for enhanced freight movement, enhancing existing berths and terminals, strategic dredging of channels and increasing capacity for large ships both for cargo and cruise.

Port Everglades is the gateway for international trade and cruise vacations. It is one of the busiest cruise ports in the world and South Florida's main seaport for receiving petroleum products including gasoline, jet fuel and alternative fuels.

Florida Notes

Citrus County arsenic. Nearly 200 homes with private wells in Citrus County have levels of arsenic in the drinking water that exceed the federal standard.

EPA has set the arsenic standard for drinking water at 10 parts per billion to protect consumers from the effects of long-term, chronic exposure.

County officials are looking for grant funding to extend the current water distribution system to serve residents and future businesses in the affected quadrant of the county.

The Florida Department of Environmental Petroleum is suppling filters to these properties. The grant would require no matching funds from the county.

Largo brownfield. City leaders in Largo have approved designating a site as a brownfield, clearing the way for at least $300,000 in possible tax incentives for the latest Walmart Supercenter.

The designation allows Walmart to request financial and regulatory incentives including site assessment and technical assistance, tax incentives and a $2,500 side tax credit for each job created.

The Supercenter would create about 150 new full-time positions.

Walmart has applied for and received nearly $18 million in tax incentives from the state since 2000. This is the third store the company is planning for Largo.

Recyling rates. Alachua County leads the state with a recycling rate of 50 percent, followed by Lee , Brevard and Marion counties at 45 percent.

Rounding out the top ten were Escambia County at 43 percent, Martin County at 42 percent, Sarasota County at 42 percent, Leon County at 41 percent, Collier County at 40 percent and Madison County at 39 percent.

Gas-to-energy. RenuEn Corp. is building a landfill gas-to-energy plant in St. Cloud.

The energy development company has selected ERC General Contracting Services Inc. of Winter Garden to build the system. ERC specializes in landfill construction closure and wastewater treatment plants.

RenuEn has received approval of the project permit from the Florida Department of Environmental Protection.

FRC-SOUTH

From Page 1

lenges that extreme soil and groundwater conditions present to remediation professionals in Florida in *Can We PARM Yet? Groundwater Quality after Remediation at Multiple Sites in Florida.*

Baird will discuss the timing for switching from active to "post-active remediation monitoring."

Florida's extreme physicochemical conditions sometimes make regulatory approval difficult. Baird attributes some of the confusion to Florida Department of Environmental Protection guidance that does not differentiate between remediation performance parameters and groundwater quality parameters.

High water tables in South Florida are typically a controlling factor for vapor extraction remediation processes. Vapor extraction methods are preferred for sites with structures that can't be disturbed by remediation activities.

Gary Birk, managing partner with Tersus Environmental, will describe a new soil vapor extraction apparatus—the Microblower sustainable soil vapor extraction system—that can run on solar power, making it suitable for remote sites off the power grid.

In his talk, Grant Geckeler, with TPS Tech America, will characterize a relatively new hybrid strategy using horizontally drilled wells and thermal treatment useful at larger projects or sites. *Use of Horizontal In-Situ Thermal Remediation Wells for Remediation Hydrocarbons and Urban Environs*, will focus on C10 - C40 range hydrocarbons. This method, according to Geckeler, is effective in shallow soil volumes and difficult to access regions, such as near or under structures, routine conditions in South Florida.

Craig Hurst with GES will discuss broader aspects of the technical changes in the environmental remediation practice.

Environmental practitioners rely heavily on software for everything from monitoring, risk screening and a host of statistical evaluation methods. Hurst notes that free software is available from such sources as the U.S. Environmental Protection Agency and the American Petroleum Institute.

Use of competent software increases practitioner proficiency, acts as quality control for the analyses and presents the results in a consistent format familiar to practitioners and regulators alike.

Glenn MacGraw from the FGS Group in Tallahassee returns this year to moderate the regulatory panel discussion. He will be joined by three South Florida county regulators: Wilbur Mayorga, Miami-Dade County; David Vanlandingham, Broward County; and Dave Gibson, Palm Beach County.

This discussion will focus on soil and groundwater cleanup in these three populous counties in South Florida.

In addition to the technical sessions, the conference offers many opportunities for attendees to interact before and after the sessions, and meet with over 30 product and service providers.

Monroe commissioners approve millions to begin canal restoration in the Keys

Staff report

Monroe County Commissioners will spend $5 million in county funds to restore five canals and pursue $30 million in BP and Transocean fine money to cover the cost of the work.

Most of the residential canals in the Keys were built prior to the 1960s, before strict water quality standards by the state and federal governments, and before environmental resource and fishery managers understood the broader impact to water quality and the coastal ecosystem.

Many of the canals were excavated to depths of 15 feet or more for fill, and provide little or no tidal flushing of accumulated nutrients and decomposing material.

The cost to clean up all 502 canals in the Keys could well exceed $300 million. Commissioners proposed that investing the $5 million for healthy waterways would give them the best chance of obtaining the $30 million in fine money, also known as Restore Act funds.

The funds would come from Clean Water Act fines levied against BP and Transocean for the Deepwater Horizon oil spill in 2010.

Monroe County voters passed a referendum to extend a one-cent sales tax for 15 years, adding $15 million a year for wastewater and water quality projects to the county's coffers.

To date, the county has received $300,000 in grants from the state Department of Environmental Protection to study the canals.

FGUA acquires water, wastewater systems. In March, the Florida Governmental Utility Authority closed on an agreement approved in December to acquire 71 water and wastewater systems in 12 counties from Aqua Utilities Florida, a division of Aqua America Inc.

The agreement with Aqua, approved by the FGUA board, will add 22,270 new connections to the existing FGUA system, totaling more than 112,000 connections within the state.

Customer benefits in Alachua, Citrus, Hardee, Lake, Lee, Marion, Orange, Pasco, Polk, Putnam, Seminole and Volusia counties will include improved water and wastewater operations and reliability, and enhanced customer service.

FGUA said that there would be no rate increases to customers upon acquisition, unless unexpected circumstances arise, and any subsequent changes in cost will be attributed to inflation adjustments over the next five years.

FGUA also owns and operates the water and wastewater services at MacDill Air Force Base in Tampa.

Beach renourishment. Captiva Island will receive close to $8 million from the U.S. Army Corps of Engineers to renourish 4.8 miles of shoreline starting this August with anticipated completion by year's end.

Captiva's beaches took a hit from powerful tropical storms last year and lost many of the dunes and sandbars that help protect the island from storm surges. Damage was so severe that the beaches were added to the corps' list of emergency beach projects.

The Captiva Erosion Prevention District, a non-profit taxing district that supports the renourishment of the island's coast, will also fund a portion of the beach erosion project, said CEPD Chair Jim Boyle.

Another beach renourishment and dredging project is currently under construction at the south end of Captiva at Blind Pass.

Over 150,000 cubic feet of sand was removed during 2009 at the cost of $2.17 million to restore the connection between the Gulf of Mexico and Pine Island South.

The connection of bayside waters will allow the ocean to merge with the fresh water in Pine Island South, providing the basis for coastal estuaries and favorable habitat for fish, crustaceans, wading birds and pelicans.

Funded by Lee County tax dollars and the DEP's beach erosion control division, the total cost for the dredging of the pass is estimated at close to $900,000.

SRWMD funds projects. The Suwannee River Water Management District will distribute nearly $1.5 million in cost-share funds to 14 local governments for conservation, alternative water supply projects, flood protection, ecosystem restoration and water quality improvements as part of their Regional Initiative Valuing Environmental Resources program.

THE WATER WATCH

Cost-share funds will be used to reduce groundwater pumping and the conservation of approximately 160 million gallons of water per year. Approximately 123.4 million gallons of the water conserved is located in water resource caution areas.

Funds will also be used to remove 15 tons of nutrients from natural resources; provide flood protection for 60 homes and numerous public facilities; make available 130 acre-feet of floodplain storage; and reduce over 400 cubic feet of sediment from entering the Suwannee River.

Plans to construct a regional water supply interconnect that will provide clean drinking water to residents and businesses, and enhanced water supply services to over 10,000 customers are also included in the cost-share program.

Port Richey system upgrade. Port Richey officials are taking the necessary steps to upgrade the city's antiquated utility network after a series of pipeline breaks over the last few months left many residents high and dry.

The work calls for the replacement of 5,320 feet of new pipe to replace the existing pipe in the ground that has been fixed so many times that there are "patches on its patches," according to Councilman Terrence Rowe.

Augustine Construction, a Tarpon Springs-based company, submitted the lowest bid of $359,497.50 to install the new water mains and piping.

Numerous interruptions in water service and frequent boil water notices forced the city to take action and move forward with the system work.

According to City Manager Tom O'Neill, the city has set aside enough money in its current budget to pay for the improvements.

The project will encompass most of the city west of U.S. 19, plus Washington Street, Siesta Lane and Sun-Glo Avenue.

Sections of the existing system date back to the 1920s.

Environmental education awards. The World Water Monitoring Challenge, an international program aimed at increasing awareness and activism for protecting water sources, awarded DEP employee Jackie Turner and the agency's Office of Environmental Education with awards for environmental awareness.

Turner received the Champion Award for North America for community awareness and activism in protecting water resources. She launched an educational program designed to get the community involved in exploring the Wakulla Springs State Park's river system.

SRWMD appointments. Virginia M. Sanchez of Old Town was appointed to the governing board of the Suwannee River Water Management District last month.

Virginia H. Johns of Alachua was re-

WATCH

Continued on Page 12

State of the ecosystem focus of 2013 South Florida Environmental Report

By SUSAN TELFORD

The South Florida Water Management District and Florida Department of Environmental Protection recently released their 2013 South Florida Environmental Report highlighting progress in restoration and water quality improvements.

Spanning three volumes, the 2013 report detailed a year of environmental restoration, scientific studies and engineering development to improve areas including the Everglades, Lake Okeechobee, the Kissimmee Basin and South Florida coastal regions.

"Each year, considerable science, research and project status updates are compiled to provide the public with a comprehensive picture of South Florida's ecosystems," said SFWMD Executive Director Melissa Meeker. "The 2013 South Florida Environmental Report details our continued progress in improving water quality and constructing projects to benefit the Everglades and the entire South Florida environment."

Marking its 15th year, the report unified more than 75 individual documents that make up volumes of pertinent information, including extensive research summaries, data analyses, financial expenditures and budgets, and a searchable database of environmental projects.

The report details environmental information for Water Year 2012 and project/budgetary information for fiscal year 2012.

A major restoration strategy emphasized in the report is an agreement between the state of Florida and the U.S. Environmental Protection Agency regarding further efforts to achieve state water quality standards for the Everglades. Under the science-based Restoration Strategies plan, SFWMD has agreed to create over 6,500 acre-feet of new stormwater treatment areas and 110,000 acre-feet of additional water storage via construction of upstream reservoirs.

Water quality improvements in the existing network of STAs south of Lake Okeechobee are also emphasized in the document. Recording the best performance to date for phosphorous retention, approximately 81 metric tons of phosphorous—83 percent of the load—was received in the existing network of STAs treating more than 700,000 acre-feet of water.

Recently completed construction on 12,000 acres of additional catchment area will augment the STA treatment capacity by 25 percent, boosting the total treatment area to 57,000 acres. The increased treatment capacity will allow greater volumes of water to be routed through the constructed wetlands for filtration and nutrient removal.

Collaborative restoration projects that had been on hold are now compete, or moving forward, including: the completion of the C-111 Spreader Canal Western Project to benefit the Everglades National Park and Florida Bay; the completion of the construction of Phase I of the Lakeside Ranch Stormwater Treatment Area, a 2,000-acre wetland northeast of Lake Okeechobee; the Dispersed Water Management Program that increases water storage on public and private lands; current watershed protection plans for the St. Lucie and Caloosahatchee rivers and estuaries; and on-going construction of the Deering Estate Flow-way, part of the Biscayne Bay Coastal Wetlands Phase 1 project.

Integral to the clean up of the Everglades is reducing the level of nutrients through best management practices. Compared to a pre-BMP baseline time period, the STAs combined with the Everglades Agricultural Area exceeded their 25 percent phosphorous reduction requirement by 71 percent.

To date, this combination of source controls including improved farming practices and wetland treatment marshes prevented approximately 4,100 metric tons of phosphorous from entering Everglades waters.

"The South Florida Water Management District and other vested stakeholders continue to focus on creative solutions to water quality challenges throughout the regions," said DEP Secretary Herschel Vinyard Jr. "Gov. Scott has made Everglades restoration a priority and the department remains focused on cleaning up the state's waters with our partners."

Environmental & Geotechnical Drillers serving Florida

Company name / Contact information	EMR rate	Years in biz	Total staff / Staff in FL	Services / Capabilities	Equipment / Tools: Hollow stem auger	Air/mud rotary	Dual rotary	Sonic	Direct push	Diamond coring	Cone penetration testing	1) Other services 2) Firm's specialty 3) Specialty business designations 4) Other equipment/tools 5) Areas served in Florida
AMEC Environment & Infrastructure Inc. 3901 Carmichael Ave. Jacksonville, FL 32207 (904) 396-5173 Fax: (904) 396-5703 Jason Goldstein, Drilling Dept. Manager jason.goldstein@amec.com www.amec.com	0.84	56	3000/ 390	Drilling and push probe, geophysics, testing of soil and rock, geo-hydrology	■	■			■	■		1) Comprehensive, innovative solutions for environmental compliance, management and remediation. Our architectural, engineering and facilities management expertise enables us to excel at defining and designing A/E projects. 2) Environmental and geotechnical services 3) NA 4) Dilatometer testing 5) Serves entire state
ATI Companies LLC 4610 Central Ave. St. Petersburg, FL 33711 (727) 328-0268 Fax: (727) 328-2477 Carlos Lemos, President info@ambienttech.com www.ambienttech.com	1.0	20	40/27	Environmental & geotechnical drilling, (Florida and Central America); rock coring (Central America); concrete coring and drilling. Instrumentation Installation in borehole.	■	■			■	■		1) Central America office in Panama 2) NA 3) MBE, SDB, DBE 4) Utility locate capabilities 5) Serves Central Florida
AWK Consulting Engineers Inc. 6457 Hazeltine National Drive, Suite 150 Orlando, FL 32822 (407) 666-8098 Fax: (412) 823-3390 Rachel Andre, Manager andrer@awkengineers.com www.awkengineers.com	0.827	30	67/4	Geotechnical & environmental engineering & drilling, monitoring well installation, SPT, auger borings, permeability testing, truck rig (CME-45), ATV rig (CME-550)	■	■						1) NA 2) Geotechnical and environmental drilling 3) DBE, MBE, FDOT prequalified 4) NA 5) Serves entire state
Boart Longyear Drilling Services 5785 SW 6th Pl. Ocala, FL 34474 (954) 347-1266 Fax: (352) 237-6551 Randy Conrad, Zone Mgr., Drilling Services rconrad@boartlongyear.com www.boartlongyear.com	0.57	130	11,431/ 24	The world's largest contract drilling company, specializing in sonic drilling	■	■	■	■	■	■		1) NA 2) Sonic drilling 3) NA 4) NA 5) Serves entire state
Custom Drilling Services Inc. 100 Kid Ellis Rd. Mulberry, FL 33860 (863) 425-9600 Fax: (863) 425-9620 Michael Johnson, Drilling Services Mgr. mdjohnson@customdrilling.net www.customdrilling.net	0.91	23	41/41	Environmental drilling: DPT services	■	■			■			1) NA 2) NA 3) NA 4) NA 5) Serves entire state
Earth Tech Drilling 2703 NW 19th St. Pompano Beach, FL 33069 (954) 974-2424 Fax: (954) 974-2423 Bob Orlando, President borlando@earthtechdrilling.com www.earthtechdrilling.com	0.93	10	9/9	Environmental and geotechnical drilling	■	■	■	■	■	■		1) NA 2) Quality, safe environmental drilling 3) SBE 4) NA 5) Serves entire state

NavyJax renews environmental partnership effort with city of Jacksonville

By ROY LAUGHLIN

The city of Jacksonville's ongoing efforts to improve its environmental quality got another boost this year when representatives of four naval groups signed the Northeast Florida Environmental Compliance Partnering Team Charter.

City of Jacksonville and state officials signed the charter in a ceremony at Jacksonville City Hall. Rear Admiral Jack Scorby Jr. characterized the Navy's interest in and benefit from the partnership as "enhancing environmental compliance, promoting natural resource management and protecting public health."

Representatives from the city, Navy Region Southeast, Naval Station Mayport and the Navy's Fleet Readiness Center Southeast were joined by their counterparts from the Florida Department of Environmental Protection, St. Johns River Water Management District and hosts of the charter signing ceremony from the city of Jacksonville, headed by Mayor Alvin Brown.

"The charter is a document that we all take seriously and continuously work to ensure our mutual partnership is one of a solid commitment to implementation and understanding of federal, state and local policies and regulations," said Kevin Gartner, environmental director at NAS Jacksonville.

The charter process has been renewed every three years, since the first cooperative agreement in 2002.

The partnership's accomplishments include a long list of cooperative efforts. Among them, NAS Jacksonville spent $4.4 million to expand wastewater reuse on the base. Florida, through grant funding, contributed about $2 million to the project.

All wastewater discharge to the St. Johns River ended and reduced groundwater withdrawals resulted.

"When completed in 2014, the plant will be the first major utility in Northeast Florida to be zero discharge of its treated effluent to the St. Johns River," said Gartner.

In related work, the Navy's Fleet Readiness Center substituted non-chromate primer used on airplanes to reduce corrosion. That reduced worker exposure to hexavalent chromium and the ensuing disposal of hazardous wastes.

With respect to hazardous wastes in general, NAS Jacksonville and Naval Station Mayport have had no significant hazardous waste, solid waste, storage tank or stormwater violation in the past three years.

Even NAS Jax's recreational marina has been part of the effort to improve environmental conditions in the St. Johns River. The marina received DEP's Clean Marina designation. The number of marina moorings in the St. Johns River has been reduced to meet environmental management criteria.

Staff and personnel based at the two Jacksonville Navy stations have joined voluntary efforts to clean up and improve quality of life conditions in the urban setting, from trash clean up to debris removal on beaches.

"NAS Jacksonville is proud to be the first military activity in the world to be recognized by the United Nations NGO Earth Society Foundation for environmental stewardship," Gartner wrote in an e-mail.

He also noted recognition from the U.S. Department of Energy, which gave the base their top award for energy conservation initiatives.

In addition, the city of Jacksonville has acknowledged the base's contribution to local beautification projects with a Keep Jacksonville Beautiful annual award presented by Mayor Brown for beautification and conservation projects.

For the environmental partnership between the city of Jacksonville and NAS, the charter signing is news, but the progressive environmental improvement is part of a continuing trend.

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Company name / Contact information	EMR rate	Years in biz	Total staff / Staff in FL	Services / Capabilities	Equipment / Tools: Hollow stem auger	Air/mud rotary	Dual rotary	Sonic	Direct push	Diamond coring	Cone penetration testing	1) Other services 2) Firm's specialty 3) Specialty business designations 4) Other equipment/tools 5) Areas served in Florida
Ellis & Associates Inc. 7064 Davis Creek Road Jacksonville, FL 32256 (904) 880-0960 Fax: (904) 880-0970 Michael Lithman, PE, Executive VP m.lithman@ellisassoc.com www.ellisassoc.com	NA	43	58/54	Geotechnical and environmental drilling services, consulting engineers and scientists (EB998; GB 265)	■	■				■	■	1) Falling head permeability test, double ring infiltrometer test, drawdown modeling, ADD - dilatometer soundings 2) Geotechnical engineering, construction materials testing & inspection, and environmental engineering 3) NA 4) Large diameter hollow stem auger 5) Serves Central, NE and NW FL; SE GA
Environmental Drilling Service Inc. 4712 Old Winter Garden Rd. Orlando, FL 32811 (407) 295-3532 Fax: (407) 296-3957 Doug Leonhardt, President doug@edsenvironmental.com www.edsenvironmental.com	0.99	20+	10/10	Direct push, hollow stem auger, air and mud rotary drilling and sampling, and now providing sonic with our new Geoprobe 8140 sonic machine	■	■		■	■	■		1) Well abandonment, retrofit, redevelopment pump testing 2) NA 3) NA 4) Difficult access/ATV,indoor probe 5) Serves entire state
Enviroprobe Service Inc. 3809 E. Main St., Unit C Lakeland, FL 33801 1-800-596-7472 Tim Gallagher, President info@enviroprobe.com www.enviroprobe.com	0.923	17	20/3	Drilling, monitoring wells, ground penetrating radar, EM surveys and geophysical services	■	■		■	■			1) NA 2) Private utility locating; remote access/ tight access drill rigs 3) NA 4) NA 5) Serves entire state
EnviroTek 3007 N. 50th St. Tampa, FL 33619 (813) 909-0040 Fax: (813) 909-0042 Shane Billings, Business Development sbillings@envirotek.com www.envirotek.com	0.92	21	26/26	Geoprobe and drilling services including small diameter wells (1/2" - 1 1/2" dia.), conventional wells (2" and 4" dia.), injection wells, dewatering wells and dewatering system installation, directional borings, air sparge wells, SVE wells and well abandonment. Now providing LDA source removals.	■				■			1) Remediation product injections, soil stabilization 2) Direct push technology and injection services 3) NA 4) Geotech SPTs, large diameter auger deep source removals 5) Serves entire state
Groundwater Protection 2300 Silver Star Rd. Orlando, FL 32804 (407) 426-7885 Fax: (407) 206-0856 Charles Bucher, General Manager charles@drillprollc.com www.groundwaterprotection.com	0.80	27	32/32	Monitoring and remediation well installation; injection and well abandonment services; horizontal well installation. Auger, DPT, sonic horizontal directional angle drilling	■	■		■	■			1) Remediation systems, injection 2) Sonic, difficult access/low clearance angled wells 3) Certified small business, FL Water Well Contractor, NC/SC Water Well Contractor, Underground Utility Contractor, Bonded in GA 4) Well abandonment 5) Serves entire state and Southeast U.S.
HSA Engineers & Scientists 4019 E. Fowler Ave. Tampa, FL 33617 (813) 971-3882 Fax: (813) 971-1862 Andy Alberdi, PE, Geotechnical Dept. Manager aalberdi@hsa-env.com www.hsa-env.com	0.96	24	200/ 250	HSA's array of consulting services include environmental, geotechnical and structural engineering; contruction services; demolition; solid waste management; stormwater management; materials testing; drilling; and geophysics	■	■			■	■	■	1) A variety of forensic engineering and scientific support services including indoor air quality, toxic tort, large loss and natural disaster assessment, construction estimation, fire investigations, structural evaluations, and ground subsidence investigations 2) NA 3) HSA's dedicated drilling personnel use their combined experience and knowledge of soil conditions to devise appropriate method and scope of exploration for your site investigation 4) NA 5) Serves entire state

Palm Beach County to restore Grassy Flats estuary habitat in Lake Worth

By DAN MILLOTT

Kent Smith, biological administrator for the Florida Fish and Wildlife Conservation Commission, praises Palm Beach County as pioneers when it comes to the development of wildlife resources in estuary waters.

The county will begin work by early 2014 to create two below surface "islands" on the eastern shore of Lake Worth Lagoon. Islands of sand material will be pumped into holes now filled with muck.

It will be third project that Palm Beach County has pursued in Lake Worth. The other two, Ibis Island and Snook Island, were completed in recent years or are now under construction.

The new $2.6 million venture, called the Grassy Flats project, will require the infusion of 48,000 cubic yards of sand to create two islands over the muck depressions, encompassing about 12 acres of lake bottom.

FWCC received a U.S Fish and Wildlife Service grant to kickoff the project. The grant was originally for $1 million but Smith said that federal sequester budget cuts reduced it to $777,142.

"We had to fill in the gaps from other sources," Smith said. "If we can get materials fairly close by, that will help us cut the costs since we didn't get the funding we asked for."

The Florida Department of Environmental Protection has chipped in with a $110,000 grant and Palm Beach County is contributing $400,000 via matching money from the county's manatee protection plan and boat registration funds.

The county has also applied for funds from the U.S Army Corps of Engineers and the Florida Inland Navigation District to round out funding, according to Smith.

Once started, the Grassy Flats project will take 18 months to complete.

Smith and county officials acknowledge that there are many bridges to cross before work can begin. Originally projected to start sometime this year, the project will likely kick-off in early 2014, according to Julie Mitchell, project manager for Palm Beach County. She noted that several contracts have to be let by the county and several additional agreements with agencies have to be drawn up and approved.

"We have to work with federal programs to work out the agreement and we have to go through Section 7 of the Endangered Species Act," she said. "Plus we have to go through a review process to make sure the project doesn't create a problem for historical resources on the site."

Erin McDevitt, marine habitat manager for FWCC, said the accumulation of muck has come from silt-like material. "It moves through canals and settles in Lake Worth. What's there now will not support seagrass."

Part of the project calls for bringing in materials capable of supporting mangroves. McDevitt said they will also install rip-rap to encourage the creation of oyster beds.

The methodology of placing the sand at the site has been employed before at both the Ibis Island and Snook Island projects using a machine called a sand shooter. Mitchell said the machine can be compared to a snow blower in that it spreads the material evenly.

Smith said the method of dropping materials in the spot where the muck depression is located using a backhoe is often counterproductive. Mitchell said the sand shooter is preferable "because other methods weren't capping the muck hole, they were just displacing it."

As to the source of the muck in Lake Worth, Mitchell said some years ago Palm Beach County did a sediment study of materials in the Lake Worth lagoon. They traced the sediment to sod farms in the western part of the county.

McDevitt noted that Palm Beach County has undertaken programs to clean up their canals, reducing the amount of silt coming into the lagoon area.

She said the main reason for projects like Grassy Flats is to bury the existing muck holes under layers of sand. "Muck in dredge holes will move with the tides and become resuspended. When the water moves, the muck moves into the water column and contributes to poor water quality."

Since other projects already undertaken in Lake Worth have been successful, McDevitt feels Grassy Flats will be too.

"Snook Island across the Intracoastal from this one was similar," she said. "They created some mangrove islands and marsh areas. They have 35 acres of seagrass where there was none before."

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Huss Drilling Inc. 35920 State Road 52 Dade City, FL 33525 (352) 567-9500 Fax: (352) 567-6646 Stephanie Stallsmith, Office Manager stephanie@hussdrilling.com www.hussdrilling.com	0.89	22	30/30	Environmental, geotechnical, exploration and sonic drilling	■	■		■	■	■		1) Barge services, difficult site access equipment, wireline coring 2) Sonic drilling 3) NA 4) NA 5) Serves entire state
JAEE Environmental Services Inc. 3010 Peachtree Cir. Davie, FL 33328 (954) 476-8333 Fax: (954) 476-8347 Willie Smitherman, President jaee@bellsouth.net www.jaeeenv.com	0.96	22	11/11	Soil and groundwater sampling, installation of monitoring wells, well abandonment, bioremediation injection	■			■				1) Bio-injecting, well abandonment 2) Sampling using Geoprobe equipment 3) Water well contractor 4) NA 5) Serves entire state
Preferred Drilling Solutions Inc. 11747 87th St. N. Largo, FL 33773 (727) 561-7477 Fax: (727) 561-9028 Chad Campbell, President chad@pdsflorida.com www.pdsflorida.com	0.85	11	36/36	Environmental drilling, direct push, remediation services and geotech/sinkhole drilling, statewide service with three locations in Florida	■	■		■				1) Remediation services, geotech/sinkhole drilling 2) Environmental services provider with focus on safety, quality and service 3) NA 4) NA 5) Serves entire state
Southern Sonic Solutions 8530 Contoura Drive Orlando, FL 32810 (407) 493-9673 Fax: (407) 540-9332 David Boggs, Manager dab@southernsonicsolutions.com www.southernsonicsolutions.com	<1	1	10/10	Sonic drilling in all applications				■				1) Remedial injections, well abandonments, tech work 2) Sonic drilling 3) SBE 4) NA 5) Serves entire state
ZEBRA Environmental Corp. 1020 S. 82nd St. Tampa, FL 36619 (813) 626-1717 Fax: (813) 626-1718 Mike Early, Branch Manager mikee@zebraenv.com www.teamzebra.com	0.96	21	45/8	All aspects of DPT drilling and sampling, injections, well installations and direct sensing data collection. Fleet of over 27 DPT units including the newest Geoprobe(R) 7822 and 8040 models.	■	■		■	■	■		1) UVOST/LIF technology 2) DPT: Soil sampling; groundwater sampling; in-situ injections and installations; direct sensing: MIP, HPT, MiHPT, HPT-GW, CPT, EC; well installation services including prepacked screens, soil vapor implants; conventional drilling services 3) NAICS 562910 & WOSB 4) Chem-Ox and bioremediation injections; site conceptual modeling-2D and 3D visualizations; triads-direct sampling ion mass spectrometer (DSITMS) 5) Serves entire state and Southeast U.S.

Center for Sustainable Shale releases new guidelines for environmentally friendly hydraulic fracturing

BY ROY LAUGHLIN

Fracking for natural gas and oil may become much more environmentally safer, at least in the Appalachian shale basins, as a result of a cooperative effort to establish standards and practices.

A public-private partnership, the Center for Sustainable Shale, recently released its standards and practices to protect water and air in the northeastern U.S. during fracking operations.

During the past two years, Sustainable Shale established itself by creating a 12-member board with members representing the petroleum industry, environmental organizations and other non-government organizations, and nonaligned members of significant national stature.

It also obtained financial backing, half from industry participants and the other half from philanthropic organizations, notably the Heinz Foundation and the William Penn Foundation.

In March, after nearly two years of negotiations and technical planning, Sustainable Shale released a set of standards and practices to which its oil-producing members will adhere.

The voluntary membership organization is the first to have made appreciable progress in an attempt to protect water and air resources while providing the gas and petroleum production benefits that fracturing provides.

The document is succinct. Portions that stipulate engineering practices are relatively specific. They deal with limits on emissions of methane, reductions in diesel particulate emissions from machinery and vehicles, groundwater monitoring and protection, improved well designs, a requirement to use less toxic fracking fluids and stricter standards for wastewater disposal, and a requirement for seismic monitoring before drilling.

The center lacks one additional document, the evaluation protocol, which is still in the works. It is expected to be finished and available this summer, according to Andrew Place, executive director of the center.

Sustainable Shale's standards are applicable only to Appalachian basin shale exploitation. Place explained that different geographical basins would likely require different standards.

For example, fracking in the western U.S. occurs where water is not readily available A set of standards for that area would include more requirements for water conservation and appropriate water use.

Some other parts of the U.S. where fracking occurs have much less pipeline infrastructure so that a set of guidelines for green completion could be very different from that developed by Sustainable Shale.

In developing standards, Place said that members of the board spent almost two years looking "at what was cutting edge and selected a narrowed suite of engineering practices that became the guidelines that were released a month ago."

He noted that nothing that they accepted was from "left field." And, they were "agnostic as to the source of the practice," he said.

Technical expertise responsible for vetting proposals considered by the board was primarily supplied by oil industry professionals and their counterparts in the Heinz Foundation and the Environmental Defense Fund.

Sustainable Shale's guidelines proposed in March, according Place, are not set in stone. He noted that rotation in the board may be a motivating factor for a change in guidelines.

Sustainable Shale uses a certification process for drillers to give the organization some authority. Certification lasts for a period of two years. It requires drillers to document circumstances when they do not follow the standards.

Sustainable Shale also requires third-party verification. If a drilling company abandons certification requirements, or alternate documentation requirements, its certification will lapse in two years.

Sustainable Shale's guidelines are not intended as a model for state or EPA standards, according to Place. As discussed above, other geological basins will likely require a different set of standards.

But he noted that "the collaboration work is the model. The process pieces, the third-party verification, selection of best practices, are all the result of the model."

"We have found common ground without compromise," he said. "These are all standards we can live with. The result is protection of the environment while realizing the benefits of extracting natural gas."

The center's efforts are likely to either succeed in a big way or fail in a big way.

"We are significant operators in the basin," referring to the drillers and gas producers in the Northeastern U.S. "Holding to the standards has the very real benefits of reducing groundwater contamination and air emissions," he said.

The nation as a whole is already reaping the benefits of substantially increased energy production in North America. The risk is that some areas may pay the price in environmental contamination.

The center's procedures are among the first technical regulatory and procedural guidelines imposed broadly on the fracturing industry, but in this case, by consent. Sustainable Shale intends those standards and engineering practices to give the best possible environmental protection.

ASCE gives failing grade to U.S. water infrastructure

Staff report

The American Society of Civil Engineers dealt another blow to the ailing U.S. drinking water infrastructure, giving it a barely passing grade of D, while stating that over $1 trillion is needed to improve antiquated systems across the country.

Although the country's water system infrastructure improved slightly from the previous failing grade of D- in 2009, ASCE noted in its quadrennial "Report Card for America's Infrastructure" that with over 24,000 water main breaks a year, U.S. pipelines and treatment plants are nearing the end of their anticipated life spans.

The report stated the U.S. needs to spend $298 billion over the next 20 years to improve the system to a passing grade.

Investments in new and updated treatment plants could cost as much as 20 percent of the projected $298 billion; wastewater networks and expanding pipes would consume the balance.

"If I were a student, such ongoing marginal performance would not be acceptable," said Chief Executive Officer Jeff Sterba of American Water Works Co., the largest publicly traded U.S. water company.

ASCE proposed that state and local governments, who are responsible for 98 percent of capital investment in water infrastructure, could finance the necessary improvements through government-backed revolving loans, with $7.5 billion in federal funds, using tax-free private activity bonds to finance private water investment projects.

FLORIDA REMEDIATION CONFERENCE South — A South Florida Soil and Groundwater Cleanup Conference

May 9-10, 2013 • Embassy Suites Hotel • Ft. Lauderdale, Florida

Technical Session Agenda

PDHs for PEs

Day One: Thursday, May 9

8:00 **Exhibits open**

9:00 **Keynote address:**
Douglas Halsey, Partner
White & Case, Miami

Doug's practice covers all aspects of environmental and land use law including litigation, transactional advice and regulatory matters. During the last thirty years, he has tried numerous cases in state and federal court with special emphasis on cost recovery claims and land use disputes involving wetlands and endangered species. He has represent-ed manufacturers, developers and property owners in complex civil litigation and defended enforcement actions brought by the EPA and other federal, state and local government agencies under the Clean Water Act, CERCLA, RCRA, CAA, NEPA, and parallel state and local government regulatory schemes. He has also defended numerous toxic tort cases based on alleged exposure to a variety of hazardous substances, including creosote, chlorinated solvents and mercury. He is a former chairman of the Environmental and Land Use Law Section of the Florida Bar.

Session 1

9:30 **Complying with Continuing Obligations on Real Property**
Nick Albergo, President & CEO
HSA Engineers & Scientists, Tampa, FL

The Small Business Liability Relief and Brownfields Revitalization Act, enacted Jan. 11, 2002, amended the Comprehensive Environmental Response, Compensation and Liability Act to provide important liability limitations for landowners that qualify as: 1) bona fide prospective purchasers, 2) contiguous property owners, or 3) innocent landowners, referred to as landowner liability protection or LLP. To maintain the LLP to CERCLA, users must satisfy certain continuing obligations. These obligations include, among others, taking "reasonable steps," such as, stop any continuing release, prevent any threatened future release, and prevent or limit any human, environmental, or natural resource exposure to any previously released hazardous substance, with respect to hazardous substances affecting a landowner's property. Although the statute delegated rulemaking authority to EPA to implement the pre-acquisition "all appropriate inquiries" requirements, no rulemaking authority was delegated to EPA to define the post-acquisition continuing obligations. The proposed ASTM guidance for continuing obligations is pertinent given that it is estimated that nearly one million properties in the U.S. are either directly or indirectly impacted by contamination, and as many as fifty thousand activity and use limitations including institutional controls, land use restrictions, land use controls, and engineering controls affect many of these properties.

10:00 **2013 Florida Legislative Session: Environmental & Water Legislation**
John J. Fumero, Partner
Sundstrom, Friedman & Fumero, LLP, Boca Raton

An overview of what passed during the 2013 Florida Legislative Session and the potential impact of new laws for environmental professionals.

10:30 *Morning Break*

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Session 2: Chair -- Craig Hurst, Groundwater & Environmental Services Inc.

11:00 **Industry Trends and Implications**
Craig Hurst, Senior Project Manager
Groundwater & Environmental Services Inc., Ft. Lauderdale, Florida

As is typical with most businesses, environmental consulting and remediation work is constantly changing. While some clear trends are obvious, the implications for environmental professionals are less certain. A recent presentation by the National Research Council's Water Science and Technology Board summarized 30 years of remediation progress at federal waste sites. They identified a significant number of sites (approx. 12,600 or 10% of all sites) where complex physical or chemical issues would effectively prevent restoration to meet identified closure goals. Additional NRC findings suggest that significant technical limitations persist in the remediation industry. However, examples of progress include increased acknowledgment of the practical benefits of engineering and institutional controls. In addition, there is greater emphasis on data quantity and statistical evaluation. High resolution site characterization tools acknowledge that 90% of contaminant mass may move in 10% of the system and past experience has led to the realization that detailed features, easy to miss using conventional investigative techniques, often dictate contaminant transport. Improved data analysis using statistical methods is becoming more common. Low cost or free software applications are available from EPA, API and others for optimization of monitoring networks, risk screening, evaluation of MNA processes, groundwater concentration trend analysis, etc. Strategies combining improved contaminant delineation, conceptual site model development to incorporate reasonable exposure pathway evaluations, predictive modeling (F&T analysis) and implementation of institutional controls are becoming more acceptable to regulators. If active sources are eliminated, uncertainty in impact definition can be reduced, exposure pathways can be demonstrated to be incomplete and coupled with a responsible MNA or monitoring plan, very few projects will require large-scale or long-term remediation. Key skills for consultants to develop now include the use of ASTM and EPA monitored natural attenuation technical protocols, statistical data analysis to improve efficiency of effort, and participation in regulatory advocacy to deliver responsible, cost-effective solutions for stakeholders.

11:30 **Can we PARM Yet?**
Groundwater Quality after Remediation at Multiple Sites in Florida
Drew Baird, PG, East Region Manager
REGENESIS, Greenville, SC

In-situ chemical oxidation and enhanced aerobic bioremediation are proven, cost-effective and widely-applied methods for contaminant mass depletion, plume stabilization and site closure. Various monitoring parameters—DO, ORP, pH, among others—are important for determining the distribution and/or longevity of ISCO and EAB amendments and are therefore critical in interpreting treatment performance. Other parameters—TDS and other inorganics—may be indicators of distribution but more often measure the effects of the applied chemicals on groundwater quality, and many have state or federal limits in drinking water. There is some overlap between remediation performance parameters and groundwater quality parameters, but current Florida Department of Environmental Protection guidance does not differentiate between remediation performance parameters and groundwater quality parameters. The lack of differentiation directly affects transition from active remediation to Post-Active Remediation Monitoring, or PARM. This presentation will evaluate groundwater quality data from sites where ISCO and/or EAB have been employed to treat petroleum hydrocarbons in Florida and to clarify the role of various constituents in ISCO/EAB processes. Site examples include a former roadside spill in Broward County, where a combined ISCO/EAB treatment was employed to deplete the contaminant source area and shrink the size of the plume prior to road improvement. The treatments were implemented during three injection events from May-July 2011 and resulted in 82-95% reductions in benzene concentrations and 82-92% reductions in TRPH. The groundwater quality data show substantial increases in many indicator parameters followed by variable attenuation rates of these constituents. There is generally good correlation between the DO and sulfate concentrations and reductions in PHC constituents but poor correlation between the contaminant reductions and the concentrations of many other parameters such as iron, sodium, and TDS. Similar patterns will be presented from sites in Citrus and Miami-Dade counties. At all three sites, entry into PARM was delayed due to the presence of various parameters that have little, if any, bearing on active remediation. Many of these parameters are indicators of residual presence of injected fluids but do not indicate that the active components remained within the zone of discharge.

12:00 *Lunch*

Session 3

1:30 **Regulatory Panel Discussion**
Moderator: Glenn MacGraw, PG, Vice President
The FGS Group, Tallahassee
Panelists:
Wilbur Mayorga, PE, Chief, EM&R Division, Miami-Dade County, Miami
David Vanlandingham, PE, Engineer IV, Broward County, Plantation
Dave Gibson, Supervisor, Dept. of Env. Resource Management
Palm Beach County, West Palm Beach

3:00 *Afternoon Break*

Session 4: Chair -- Tim Harman, Handex Consulting & Remediation

3:30 **A Cost-Effective and Efficient Method for Assessment and Remediation of Former Golf Courses and Agricultural Parcels in Florida**
Jeff Flairty, President
Ayden Environmental, Smyrma, DE

With the upturn in the Florida land development industry, residential and commercial developers are increasingly forced to focus on properties previously not considered economically feasible due

Registration Information

FRC-South Conference Information

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The registration fee for the full 2013 FRC-South event is $295; Day One only is $225, and Day Two only is $125. The fee includes conference manuals and flash drive, continental breakfast(s), beverage break(s), and the luncheon and reception for all Day One attendees.

To register for FRC-South, complete and return the form on the next page with payment in full to: NTCC Inc., P.O. Box 2175, Goldenrod, FL 32733, or fax your completed registration form with credit card information to (407) 671-7757. This is a secure fax number. Purchase order numbers are accepted for government employees. We encourage you to register early. Conference registration is limited to avoid overcrowding. Note: Payment in full is required to confirm your registration. Cancellations received before April 9, 2013, will be refunded, less a $65 service charge. No refunds will be made for cancellations received after this date. However, paid no-shows will receive a copy of the presentation materials upon request. Substitutions will be accepted at any time, preferably with advance notice.

to perceived or actual environmental contamination. Former golf courses or agricultural parcels are ideal candidates for development since they are large, contiguous parcels located within existing communities. Due to widespread soil and groundwater impacts from previous applications of agri-chemicals—specifically arsenical herbicides—developers, regulators, property owners and the consulting industry have all been unwilling or unable to economically facilitate the necessary land use changes to affect any type of development. For this presentation, four examples of former golf courses in South and Central Florida will be profiled for assessment techniques, remedial approaches, cost effectiveness, regulatory acceptance and complexity of RAP imple-mentation. Traditionally, contaminated site assessment and remediation strategies have been based on a perception that contamination is primarily due to a "point source." In these case studies, we will show how a contamination source-transport-receptor site model is a simpler and more cost-effective way to evaluate existing site conditions and communicate to the regulatory community site conditions without the use of thousands of soil samples. Understanding the transport mechanisms of stormwater runoff or infiltration, and characteristics of the receptor material (silica sand or highly organic muck) can result in a better understanding of the unique contaminant distributions at each site and, therefore, site-specific remedial strategies. With volumes of impacted soil often exceeding 500,000 cubic yards, off-site disposal were cost prohibitive. RBCA-based solutions were employed for on-site soil configuring the site development plan to meet the state's soil exposure SCTL requirements. Institutional controls were approved for both soil and groundwater to reflect land use changes and long term contaminant exposure. With the benefit of hindsight, we will explore a number of lessons learned along the process including techniques to assist regulators with familiarization of site conditions as well as site assessment and remedial approaches. We will examine common pitfalls in communications with the client, the remediation contractors and the site development team during the RAP implementation. Finally, this presentation will provide consultants, regulators and property owners with a general roadmap for addressing large parcels of land contaminated by historical application of agri-chemicals.

4:00 Vapor Intrusion Mitigation by Sustainable Soil Vapor Extraction
Gary M. Birk, PE, Managing Partner
Tersus Environmental, Wake Forest, NC

A growing trend in environmental remediation is the use of natural processes. These approaches are reducing the costs of cleanup and intruding less on the environment. Sustainable soil vapor extraction is an enhanced attenuation approach that removes volatile contaminants from the vadose zone. The MicroBlower™ Sustainable Soil Vapor Extraction System (U.S. Patent No. 6,971,820) developed by the U.S. Department of Energy's Savannah River National Laboratory is an example of such an approach. Targeting the vadose zone during remediation traditionally has been difficult. The MicroBlower Soil Vapor Extraction System is a simple, cost-effective device with the potential to play a large role in the arsenal of tools for environmental remediation activities and is specifically designed for remediation of organic compounds in the vadose zone and remediation of vapor intrusion impacts. The system uses a small, low power vacuum blower to extract or inject gases into the subsurface for remediation. The system is useful for long-term cleanup operations particularly where mass transfer limits the rate of remediation. MicroBlower is effective in targeting small source zones where conventional SVE is too excessive. While similar in design to an active soil vapor extraction blower, the MicroBlower is designed to run on renewable sources of energy to treat volatile organic compound contamination in the unsaturated zone. MicroBlowers require between 20 and 40 watts and can be powered using photovoltaic panels, wind generators, 24-volt battery banks recharged by either photovoltaic panels or wind generators, or 24-volt power from a 110 to 24 volt transformer. MicroBlowers are ideal for remote locations with limited or no ancillary infrastructure. By using renewable sources of energy, the system eliminates the need for generators and fuel storage at remote locations. MicroBlowers offer the advantage of a reduced carbon footprint and very low operating and maintenance expenses. This presentation will cover results and lessons learned from remediation of vapor intrusion impacts from petroleum and chlorinated solvent sites in Alabama and a petroleum site in Colorado.

4:30 Pesticide Bioremediation: Cost-Effective Source Treatment and Plume Reduction by Leveraging Groundwater Conditions and the Beneficial Microbial Population
Michael Saul, Principal
CL Solutions, Cincinnati, OH

The extremely low remediation goals for pesticide contamination in groundwater can make pesticide remediation impractical and cost prohibitive. However, cost-effective bioremediation was used to remediate pesticides at a Pensacola site by leveraging monitoring data to adjust the microbial growth conditions for optimal results. The site was impacted by pesticides during its long-term use for commercial pesticide storage. The pesticides leached from the soil surface into the groundwater forming a plume that was approximately 1,000 feet long and 160 feet wide. During soil source removal 1,272 tons of impacted soil were excavated and disposed off-site. Further source soil excavation was impractical and cost prohibitive. Petrox® bioremediation was selected to remediate the residual impacted soil and groundwater. Following a bench-scale treatability study, a pilot study was implemented in the source area to verify successful field results. During the pilot study, the source area dieldrin concentrations were reduced by 50% to 95% and groundwater concentrations were reduced by 80% to 99%. Following the successful pilot study, three full-scale applications of bioaugmentation were completed. Petrox bioremediation was applied to the source area soil and groundwater, and groundwater at a mid-plume down gradient area. Groundwater conditions, nutrient levels and microbial plate counts were monitored before and after each application event. The monitoring information was used to adjust the treatment for optimal results. Following full-scale bioaugmentation, pesticide concentrations were reduced in soil and groundwater in the source area. Most of the post-treatment soil sample concentrations were less than 1% of the original concentrations. The source area groundwater concentrations were reduced by more than 95% in most source area wells. The combined pilot treatment and full-scale applications of bioremediation significantly reduced both the plume area and contaminant mass. This case study shows that by managing nutrient levels, groundwater conditions and the beneficial microbial population, bioremediation can effectively and economically remediate a large pesticide site.

5:00 Adjourn Day One
Reception

Day Two: Friday, May 10

Session 5: Chair -- Michael R. Goldstein Esq., Managing Partner, The Goldstein Environmental Law Firm, Miami

8:30 Brownfields Advantaged Cleanups in Florida: Policy, Practice, Metrics, Mechanics & Economics
Michael R. Goldstein Esq., Managing Partner
The Goldstein Environmental Law Firm, Miami
David Vanlandingham, PE, Engineer IV, Brownfields Coordinator
Pollution Prevention Division, Broward County Env. Protection & Growth Management Department, Plantation
David Goldman, PG, Brownfields Practice Leader
Kimley-Horn & Associates, Jacksonville

Three experienced brownfield practitioners in the state of Florida representing the public and private sector perspectives of a professional engineer, professional geologist and environmental lawyer combine efforts for this session on brownfields. The first speaker, Michael Goldstein, will present "The Financial and Liability Management Case for Redeveloping and Closing Contaminated Sites through the Florida Brownfields Program" with an emphasis on the tax credits and refunds that can help subsidize cleanup costs as well as the statutory protections against cost recovery and pollution litigation that can provide the assurances that developers, lenders and investors need to green light projects. Michael will also present a concise economic and project-based summary of the 16-year history of the Florida Brownfields Program. David Vanlandingham will present "Brownfields Practice Before the Broward County EPGMD" and share proven strategies for taking complicated remediation and redevelopment projects through the regulatory and construction process utilizing the advantages of the Florida Brownfields Program and Chapter 62-785, F.A.C., while complying with agency protocols. The final speaker, David Goldman, will present "Preparing the Technical Brownfields Redevelopment Case for Review and Expedited Approval," a discussion designed to educate environmental consultants on how to properly set expectations of utility and success with private and public sector clients, design due diligence and remedial action strategies that leverage the closure options that the Florida Brownfields Program and Chapter 62-785, F.A.C. make available, and work in harmony with environmental regulators to achieve site rehabilitation completion as quickly and cost-efficiently as possible.

10:00 Morning Break

Session 6: Chair -- Susan Bostian, Innovea Technologies

10:30 In-Situ Soil Blending
John Haselow, PhD, PE, President
Redox Tech LLC , Cary, NC

Redox Tech has been performing soil blending since 2006 and has completed numerous soil blending projects with oxidants, reductants, bioamendments and metal stabilizers. We recently unveiled a new soil blender with many improvements. The improvements include a dual motor blender so each side of the blending head works independently. Also, torque sensing was adding to both motors so that the blending speed changes automatically on each head according to the effort required to mix the soil—lower torque soil is automatically mixed at higher speeds without operator intervention. Also, the overall soil blending unit is now roughly 25% less, while the overall blending power increased nearly doubled. This saves on mobilization costs and increases productivity.

10:50 Use of Horizontal In-Situ Thermal Remediation Wells for Remediation of Hydrocarbons in Urban Environs
Grant Geckeler, Executive Vice President
TPS Tech America, Los Angeles, CA

Horizontal wells for in-situ thermal remediation are now commonly used for thermal conduction heating applications and are not limited to electrical resistance heating methods. Two recently completed projects highlight the use of horizontal heating wells to remediate both difficult-to-access areas and shallow soil volumes. The first project was an in-situ thermal remediation of C10 - C40 range hydrocarbons from a former aboveground storage tank leak. The 800-cubic-meter treatment volume could not be accessed with vertical wells, as it was recently built upon. A proximate below grade area was accessible. Both horizontal and slant wells were constructed in order to access the treatment volume without above grade equipment. This approach is now being used at several operational projects including retail gasoline stations and active commercial facilities such as dry cleaners and restaurants. Target treatment temperatures between 100°C and 200°C were attained, depending on the COC and treatment zone. The second project thermally remediated a shallow zone of soil impacted by napthalene. Trenching techniques were used to horizontally place the thermal conduction heating wells at an average depth of five feet bgs. The project was extremely sensitive in nature and was located within 200 feet of a large residential apartment unit. Continuous emissions monitoring equipment was utilized to confirm that no VOCs were mobilized to the atmosphere from the treatment zone. All remedial goals and ambient air quality requirements were met on time and on budget.

11:10 Oxidation or Reduction: Not Mutually Exclusive Options
Patrick Hicks, Technical Sales Manager
FMC Environmental Solutions, Raleigh, NC

Many compounds can be degraded via oxidative or reductive processes. The decision process used to select an option should be prefaced with the understanding that the technologies are NOT mutually exclusive or related such that each excludes or precludes the other. Instead, the selection process should include consideration of both oxidative and reductive processes, but perhaps different applications over the course of the remediation project. Various in-situ chemical oxidation technologies using oxidizing agents such as hydrogen peroxide, permanganate, ozone and activated persulfate have been used to remediate impacted environments. Each of these oxidants and their activators offer unique features and they can be very effective on a broad range of more oxidized/chlorinated hydrocarbons to more reduced/petroleum hydrocarbons. This presentation will focus on the application of activated persulfate across a spectrum of contaminants. In-situ chemical reduction approaches using a combination of zero-valent iron and controlled release carbon generate environmental conditions that can facilitate the chemical reduction of oxidized/chlorinated hydrocarbons and other contaminants such as metals. Many factors may need to be considered when making a decision to use ISCO and ISCR approaches for a specific site. These may include the following, which will be discussed as part of this presentation: Targeted treatment area (source removal, plume control or both); Contaminant characteristics, concentrations and goals; Presence of free product or product residuals; Desired clean-up time; Aquifer geochemistry (aerobic to anaerobic); Soil oxidant demand; Hydrogeology and groundwater flow velocity; and Application method (soil blending, direct injection, injection through wells, etc.)

11:30 Case Study: Enhanced Bioremediation of Acetone, Isopropanol and Methyl-Isobutyl Ketone at levels Toxic to Microorganisms
Gordon L. Walters Jr., PE, Environmental Department Manager
HSA Engineers & Scientists, Fort Myers

Acetone, isopropyl alcohol and methyl-isobutyl ketone are not chemicals that very many environmental professionals get an opportunity to work with because of their high volatility and high rate of biodegradation. However, at high concentrations, acetone, IPA and MIBK can be very toxic to the microorganisms that typically use them for energy and biomass. These chemicals are also very difficult to separate from water, despite the volatility of the pure phase. This presentation will cover the challenges associated with remediating a high concentration acetone/IPA plume and how a unique use of ex-situ bioremediation was used to remediate a toxic acetone/IPA plume in-situ.

12:00 Conference adjourns

Calendar

May

MAY 2-4 – Conference: 2013 Florida Ground Water Association Annual Convention and Trade Show, Orlando, FL. Call (850) 295-5641 or visit www.fgwa.org.

MAY 3 – Course: Waste Screening Refresher, West Palm Beach, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAY 3 – 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.

MAY 3 – 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.

MAY 4 – 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.

MAY 4 – 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.

MAY 6-10 – 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.

MAY 6-10 – 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.

MAY 6 – Course: Asbestos Refresher: Project Design, Dania Beach, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAY 7-9 – Course: Activated Sludge Process Control & Troubleshooting, Tampa, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAY 7 – Course: Asbestos Refresher: Inspector, Dania Beach, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAY 7 – Course: Asbestos Refresher: Management Planner, Dania Beach, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAY 8-9 – Course: Initial Training Course for Transfer Station Operators and Material Recovery Facilities – 16 Hour, Winter Haven, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAY 8 – Course: 4 Hour Refresher Course for Spotters at Landfills, C&D Sites and Transfer Stations, Winter Haven, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

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

MAY 8 – Course: Asbestos Refresher: Contractor/Supervisor, Dania Beach, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAY 9 – Course: Personal Protection Equipment (PPE) and Safety Procedures, Lakeland, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAY 9 – Course: Heavy Equipment Safety, Lakeland, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAY 9-10 – 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.

MAY 9-10 – Conference: 2013 Florida Remediation Conference-South, Ft. Lauderdale, FL. Presented by NTCC Inc. and the Florida Specifier. Call 1-800-881-6822 or visit www.enviro-net.com.

MAY 11 – 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.

MAY 13-17 – Course: Backflow Prevention Assembly Tester Training and Certification, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAY 14-15 – Course: Florida Water Conservation Coordinator Training, Pompano Beach, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAY 14-16 – Course: Activated Sludge Process Control & Troubleshooting, Tampa, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAY 16-25 – Course: Backflow Prevention Assembly Tester Training and Certification, West Palm Beach, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAY 17-25 – Course: Backflow Prevention Assembly Tester Training and Certification, Fort Myers, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570.

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

MAY 19 – Course:Backflow Prevention Recertification Exam, Tampa, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570.

MAY 20-22 – Course:Backflow Prevention Assembly Repair & Maintenance Training and Certification, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAY 21-23 – Course: Activated Sludge Process Control & Troubleshooting, Tampa, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

MAY 22 – Meeting: Monthly meeting of the Central Florida Association of Environmental Professionals, Orlando, FL. Contact Amy Guilfoyle at (407) 240-1127 or aguilfoyle@ppmco.com.

MAY 22-23 – Conference: 2013 FICE Transportation Conference, Orlando, FL. Presented by the Florida Institute of Consulting Engineers. Call (850) 224-7121 or visit www.fleng.org.

MAY 22-24 – Meeting: 2013 Florida Society of Environmental Analysts Spring Meeting, Clearwater, FL. Call (386) 441-3111 or visit www.fsea.net.

MAY 30-31 – Course: Green Globes Professional (GGP) Certification Course, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

June

JUNE 1-9 – Course: Backflow Prevention Assembly Tester Training and Certification, Jacksonville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

JUNE 3 – 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.

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

JUNE 5-7 – Course: Train the Trainer: How to Design & Deliver Effective Training, Orlando, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

JUNE 5-7 – Course: Backflow Prevention Assembly Repair and Maintenance Training and Certification, Lake Buena Vista, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit www.treeo.ufl.edu.

JUNE 6 – 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.

JUNE 7 – 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.

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

JUNE 8 – 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.

JUNE 10-12 – Course: Asbestos: Inspector, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570.

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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.

Solar firm seeks county variance for project near Paynes Prairie

By DAN MILLOTT

A $6 million, 1.5 megawatt solar project on land near the Paynes Prairie Preserve State Park has raised opposition from nearby residents.

The company plans to sell electricity produced under the Gainesville Regional Utilities' Fee in Tariff program.

FIT is unique among Florida utilities. Under FIT, producers of solar electricity can sell the energy produced to GRU at a set price for a period of 20 years.

Rachel Meek, GRU's business efficiency program coordinator, said the utility is now buying about 14 megawatts of power daily from 215 solar power sources in the Gainesville area.

Some residents near the proposed Paynes Prairie solar array site object to the project. They see it as a threat to wildlife in the preserve and they oppose the introduction of a commercial enterprise so close to the preserve.

Objections to the solar project were voiced at a public meeting in late March.

At the time, Sybac Solar president Artur Madej said the plan for the project would include a buffer zone of trees concealing the solar panels from public view.

Also, it was noted by Sybac that the land purchased for the project would revert to the Alachua County Conservation Trust after the 20-year period. In fact, Madej told the *Specifier* that he was agreeable to some arrangement whereby title for the property could go to the trust immediately.

Building the solar unit in the proposed location requires an exception from Alachua County. Mehdi Benkhatar, AICP, development services planner with the county's Growth Management Department, said the exception would likely go before the county's planning and zoning board in mid-May and wouldn't go to the county commission before mid-June.

Meek said the FIT program was initially started to encourage commercial building owners to build solar panels on their roofs. It seemed like a good idea, but Meek said GRU discovered an immediate problem.

"The building was typically owned by one party and leased to a second party."

Meek described the FIT concept in terms of an investment opportunity. "They (solar energy producers) would be getting a rate of return from their panel and at the same time would not have to pay the utility company for their electricity."

WATCH

From Page 4

appointed.

Sanchez, the owner and operator of Sanchez Farms LLC, succeeds Carl Meese.

Johns, president of John Hipp Construction, is a licensed underground and excavation contractor, and a qualified stormwater inspector.

Both appointments are pending approval by the Florida Senate.

SFWMD appointments. At the South Florida Water Management District, Frederick "Rick" Barber of Bonita Springs and Mitchell A. Hutchcraft of Fort Myers were appointed to fill vacant seats on the district's governing board.

In addition, Kevin P. Powers of Indiantown was reappointed to the board. Former board member Dan Delisi resigned in February to take a chief of staff position at the district.

Barber, chief executive officer of Agnoli, Barber & Brundage, also serves as a member of the Big Cypress Basin, a non-regulatory branch of the district.

Hutchcraft works for King Ranch, the largest orange juice producer in the state. Hutchcraft said that his primary concern for South Florida is the polluted flow of water from Lake Okeechobee. He's also concerned about the Caloosahatchee reservoir, a SFWMD project designed to store 170,000 acre-feet of water.

The appointments are pending approval by the Florida Senate.

NWFWMD appointments. Gary Clark of Chipley was appointed to the governing board of the Northwest Florida Water Management District. In addition, Jerome "Jerry" Pate of Pensacola, was reappointed.

Clark, vice president of West Florida Electric Cooperative Association Inc., is a member of the Washington County Chamber of Commerce and also the former chairman for Opportunity Florida. Clark succeeds Joyce Estes.

Pate, the owner of Jerry Pate Turf and Irrigation, is a member of the Golf Course Superintendents Association of America Foundation and the Environmental Institute of Golf.

The appointments pending the approval of the Florida Senate.

Progressions. The Suwanee River Water Management District hired Dr. Marc Minno and Thomas Kiger.

Minno, an environmental scientist, will work in the Water Resources Division analyzing water quality data for trends and hydrologic relationships, particularly related to ecosystem status and restoration.

Prior to his employment at SRWMD, he worked for more than 20 years as an environmental scientist at the St. Johns River Water Management District.

Kiger, a professional hydrologist, will work in the Water Supply Division evaluating hydrologic and hydrogeologic data; processing the analysis of data, including aquifer performance tests and groundwater modeling input data; and will assist in evaluating irrigation and pumping schedules, computer modeling of groundwater systems and calculations of effects of withdrawals on water levels.

Prior to SJRWMD, Kiger worked for SCS Engineers as an environmental engineer.

DEP moves forward with restoration plans for Rainbow Springs, other basins

By BLANCHE HARDY, PG

After an excruciating hiatus—from the perspective of many environmental advocates—Florida springshed restoration is in the state's regulatory spotlight, if not on the state Legislature's mind.

Things began to roll last November with the U.S. Environmental Protection Agency's approval of Florida's numeric nutrient criteria for state surface waters.

Following Florida Department of Environmental Protection Secretary Herschel Vinyard Jr.'s announcement that the department would make springs restoration a statewide priority, the restoration process for Silver Springs basin began early this year.

The determination of total maximum daily loads for the Silver Springs basin has been followed up by the establishment of TMDLs for Rainbow Springs and the Rainbow River basin.

The department has also established four pollution reduction goals applicable to roughly 250 springs and is in the process of finalizing five additional reduction goals, slated for adoption this year, to allow restoration planning to move forward on an additional 65 springs.

DEP Spokesman Patrick Gillespie said that the Rainbow Springs basin restoration "will follow a schedule that tracks a little behind the one for the Silver Springs basin management action plan, since that shares a boundary and has many of the same stakeholders."

Rainbow Springs is a first magnitude spring and the fourth most prolific freshwater-producing spring in the state yielding between 400 and 600 gallons per day.

The spring system, located in Marion County near Dunnellon, has been functioning for roughly 10,000 years according to archeological evidence.

Rainbow River was designated as an Aquatic Preserve in 1986 and as an Outstanding Florida Water in 1987. The springs were purchased by the state in 1990 and have been part of the 1,459-acre Rainbow Springs State Park since 1995.

In 1987, at the time of designation of the system as an OFW, nitrate levels in the river were 0.5 mg/L. In 2010 the concentration of nitrate detected in samples of surface water, now considered "impaired," had increased to 2.03 mg/L and were trending upward.

"An 82 percent reduction in nitrate, which was determined to be a cause of the impairment of Rainbow Springs Group and Rainbow Springs Group Run within the Withlachoochee Basin, is the goal set by the TMDL," said Gillespie. That will be implemented through a basin management action plan.

"The BMAP will include information on the stakeholder actions that will be taken toward that end, a schedule for their implementation and a monitoring plan by which progress can be measured," he said.

BMAPs are the methods by which TMDLs are implemented, and once developed, may address restoration of a single or several related water bodies. The plans are stakeholder-driven to assure cost effectiveness and technical feasibility.

The stakeholders for Rainbow Springs include agricultural interests; Marion, Levy and Alachua counties; the city of Dunnellon; SWFWMD; the Florida Department of Agriculture and Consumer Services; other local governments and businesses; environmental groups and private citizens. Additional stakeholders may be identified and added as the BMAP develops.

The Rainbow Springs BMAP will propose a restoration plan that considers both current and historic "legacy" sources of nitrogen in the basin's water contribution area and how those sources interact with the aquifer system conveying the pollutants to the impaired waters. Once adopted, the BMAP is enforced through stormwater and wastewater permitting for point sources and best management practices for non-point sources of pollution.

"The department follows an adaptive management approach as stakeholders implement projects and track the progress of restoring impaired waterbodies," said Gillespie. "The department will continue to update the BMAP and formally document changes in the BMAP as new projects come on line and new information is incorporated into the decision-making process."

DEP tries to identify financial resources to help pay for water quality improvement projects and activities as one major function of the BMAP.

Funding is not automatically provided for stakeholder activities under a BMAP, but the DEP has several ways to support worthy projects: the TMDL grant program, the federal Section 319 grant program and the state revolving fund loan program. Other funding sources include the SWFWMD, USDA and the Florida Legislature.

FEDFILE

From Page 2

higher than any other prior year.

Los Angeles has held onto the top spot between 2008 and 2012 with 528 buildings. Miami, in contrast, has 104 buildings meeting Energy Star compliance criteria.

In Miami, the EPA estimates a savings of more than $19 million per year in energy costs for buildings meeting Energy Star standards.

The Energy Star program recognizes buildings that achieve energy efficiency performance in the top 25 percent of similar buildings nationwide as verified by a professional engineer or registered architect.

The agency said that Energy Star-compliant buildings average 35 percent less energy use, and therefore contribute 35 percent less greenhouse gas emissions than the average buildings to which they are compared.

The ranking system includes 15 types of commercial buildings that could be evaluated for Energy Star certification.

Proposed regs for sulfur in auto emissions. The EPA is proposing a new standard, the Tier 3 standard, for sulfur in gasoline.

By Jan. 1, 2017, the agency is proposing a federal gasoline standard of 10 parts per million, on an annual average.

Reductions in sulfur content in gasoline to achieve Tier 3 standards are part of a broader effort to reduce automobile tail pipe emissions.

Reducing sulfur in gasoline is seen as an essential prerequisite for changes in engine design and operating parameters that would reduce non-methane organic gases, or NMOG, and nitrogen oxides, NOX, by an expected 80 percent compared to 2013 fleet averages.

A 70 percent reduction in per vehicle particulate matter emissions is another target standard that reducing sulfur in gasoline will help meet.

The EPA plans to phase in the proposed changes between model years 2017 and 2025 based on vehicle class. Some phase-in schedules will have flexibilities such as credits for early compliance and an option to offset the use of higher emitting vehicles with extra clean models.

The proposed sulfur standard will have provisions for averaging, banking and trading. This allows refiners to phase in investments in refinery upgrades that depend on nationwide averaging towards meeting the new standards.

The primary benefit of the new standards is improvements in human health. Annually, lower sulfur content in gasoline and coincident improvement in other tail pipe emissions would prevent between 820 and 2400 premature deaths.

Instances of asthma attacks would be reduced by more than 22,000, and loss of up to 1.8 million school days or work days would be eliminated through improved health.

The EPA also noted that better fuel economy—and therefore lower greenhouse gas emissions—could also result from lower sulfur fuel.

The agency estimated that meeting Tier 3 standards would add an additional $130 to the cost of the new car, and approximately a penny to the cost of a gallon of gasoline.

But a report by the American Petroleum Institute suggested that the new sulfur standards could increase gasoline costs by 6-9 cents per gallon. The report noted that American refiners have spent approximately $10 billion to meet Tier 2 standards, which reduced sulfur content by up to 95 percent, and might likely have to spend another $10 billion to meet the proposed Tier 3 standards.

Perhaps anticipating the usual crescendo of criticism, EPA noted that these proposed standards are already in effect in California. If the standards are accepted, automobile manufacturers will in the future make one engine for all states.

Countering criticisms and warnings of adverse effects on U.S. refineries, the EPA noted that its Tier 2 program was a success and resulted in gasoline sulfur reductions of up to 90 percent and enabled the use of new emission control technologies with no serious negative impacts on the refining industry.

The new rule as proposed will be comprehensive, addressing at least three different classes of air emissions, fuel economy and engineering.

Plans remain uncertain for troubled wastewater plant in West Palm

By PRAKASH GANDHI

The outlook for the city of West Palm Beach's seven-year-old advanced wastewater treatment plant remains uncertain with no sure plan in place for the troubled facility's future.

The $37 million system has experienced a series of problems since it was built. It has not run since September.

The city has been looking for ways to convert it to another use, but so far, nothing has been decided.

"There are currently no concrete plans being discussed for the future of the plant," said Eliot Cohen, director of communications for the city.

The plant opened in 2006 at a base cost of $37 million. The facility's goal was to convert sewage into ten million gallons a day of water to help replenish the city's drinking water supply.

The treatment plant has been shut down half the time since 2009 and has been plagued by both design flaws as well as operator error.

An analysis by the *Palm Beach Post* found that the plant has produced no water at all on 49 percent of days since 2009.

Plant production averaged 14 percent of promised levels, an important factor because the city is allowed to draw only as much water from the wellfield as the plant sends to it.

West Palm Beach Utilities Director David Hanks said one option under consideration is to convert the plant to produce reclaim water for irrigation. But the city would have to lay pipelines to distribute that water to customers, which would be expensive.

"Helping to conserve potable water would be a good use for the plant, "said Hanks.

He said that the plant could be restarted but that the city does not plan to do so. The seven city employees at the plant have been reassigned but will continue to maintain the facility.

The city would have to apply to the Florida Department of Environmental Protection to repurpose the plant.

Cohen agreed that the plant could play an important role in meeting the city's future water needs

"If we can use it for irrigation, that would help relieve demand on our drinking water supply," he said. "But our water levels have been high enough that there has been no need to run it."

Neighborhood leaders said their lake levels are dropping as Palm Beach County continues to draw nearly half a billion gallons of water a month from their nearby wellfield.

The lake levels have dropped to 12.4 feet above sea level from a high of 18.5 feet following Tropical Storm Isaac last year.

The money for the plant comes from West Palm Beach sewage customers whose rates have soared in recent years.

Swiftmud study indicates Tampa Bay seagrass thriving

BY DAN MILLOTT

Reports predicting the demise of seagrass in places like Tampa Bay were apparently ill-founded. In fact seagrass, a necessary companion for healthy sea life, seems to be thriving.

A study just released by the Southwest Florida Water Management District showed that since 2008, seagrass acreage jumped by 16.9 percent. In the two-year period of 2010-2012 alone, it climbed by 5.3 percent.

Kris Kaufman, a staff scientist with the district, said the agency began the practice of mapping seagrass acreage in 2006. The mapping covered waters in Pinellas, Hillsborough, Manatee, Sarasota and Charlotte counties.

Mapping is conducted every two years. Kaufman said that the district has conducted observations of seagrass growth since 1988, prompted by concerns of decreases in seagrasses and overall water quality in Tampa Bay in the 70s and 80s.

"We have used aerial photography techniques to delineate the seagrasses in bodies of water," she said. "Technology has advanced over the years. Now we are using digital aerial imagery as well GIS technology to do the mapping."

The mapping permits the district to calculate the acreage of seagrass in each area. For Tampa Bay, seagrass acreage has climbed to 34,642 acres. It has increased by 1,745 acres since the 2010 mapping.

The district divides Tampa Bay into seven segments: Boca Ciega Bay, Hillsborough Bay, Lower Tampa Bay, Manatee River, Middle Tampa Bay, Old Tampa Bay and Terra Ceia Bay. All areas except Manatee River gained seagrass in the last two years.

One area of note was Hillsborough Bay where there was a 73.2 percent jump in seagrass acreage in two years. Hillsborough Bay is home to the Port of Tampa and heavy industrial activity.

While the Tampa Bay increases in seagrass acreage were significant, in other areas mapped by the district, the level of acreage growth was smaller or remained flat.

Charlotte Harbor Bay segments showed an improvement of 4.4 percent over the last two years with 18,811 acres of seagrass identified. Lemon Bay in Charlotte County showed a 2.2 percent increase with 3,106 acres.

In two other areas, Sarasota Bay and Clearwater/St. Joseph Sound, there were small declines in seagrass acreage identified in 2012: 105 acres in Sarasota Bay and 391 acres in Clearwater.

The Tampa Bay changes stood out when compared to other areas.

"We've taken the numbers and done statistical correlations on water quality data and water clarity as well as rainfall data to try to understand and find a cause," said Kaufman.

She said the review of the 2012 study is not completed yet, but the district has confirmed an improvement in water quality in Tampa Bay. "With improved water clarity, the amount of light that can reach the bottom —and reach the seagrass—permits it to grow."

There is an oddity in the Tampa Bay improvement, Kaufman said. Normally in years when there is less rainfall, including drought years, bay waters become clearer because there is less runoff and less pollution in the system.

But in Hillsborough and Pinellas counties in 2012, there was above average rainfall. Despite that, there was improvement in water quality and clarity, and increases in seagrass acreage.

New RO plant will fulfill Tarpon Springs' drinking water needs for decades

By PRAKASH GANDHI

Tarpon Springs is well on the way toward achieving water independence. Currently, the city buys its water from Pinellas County, but that will change in early 2015 thanks to a new water treatment plant being constructed.

The $35 million project will enable the city to generate its own drinking water.

City Public Services Director Paul Smith said the project will also help diversify the water supply in the region. He said the plant will allow the city to produce softer water with fewer minerals and ensure that water quality is consistent.

The plant will treat water through reverse osmosis, filtering groundwater pumped from wells, pushing the brackish water through membranes to separate impurities.

The plant will have an average flow of five million gallons a day and a peak capacity of 6.5 mgd, Smith said.

"Right now, we are not in control of rates and capital projects," he said. "This plant is really something that will put us in control of the planning of our future water supply.

"The plant is also drought resistant and therefore a much better alternative than relying on surface water."

Smith said the RO plant will help to reduce the pressures on regional water suppliers to meet the city's water needs.

"Every bit that we can produce is that much less that (regional provider) Tampa Bay Water has to provide to meet future growth demands," he said.

"In the near term, our growth projections are pretty flat. But this plant is designed to meet more than 20 years of growth. "

TARPON
Continued on Page 16

Madeira Beach officials mull over options for improving stormwater management

By BLANCHE HARDY, PG

The final results of a study of the city of Madeira Beach's stormwater management system were presented to the city's commissioners in February.

Preliminary results from Cribbs Philbeck Weaver Group's comprehensive evaluation of the flood-prone system that had been issued back in October, 2012, indicated that better than half the system's outfall structures were clogged with oyster colonies.

This final report confirmed that 78 percent of the system's structures have some flow restriction due to beach buildup, insufficient pipe sizing, oysters or other constraints.

Comprehensive correction of the identified deficiencies is estimated to cost between $13 and $20 million, depending on the nature of solutions selected. Options range from the installation of flap gates to prevent seawater intrusion at between $10,000 and $50,000 per unit depending on capacity to the construction of a pump station at approximately half a million dollars.

Flooding impacts are particularly significant in the city comprised of high density residential and beach-front commercial development.

"The city commission will consider two plans of attack at an upcoming meeting," said City Manager Shane Crawford. "We are going to bid out the cleaning and maintenance of all of the city's outfalls as they are severely plugged up. Also, we are portioning out the city and triaging the sections based on need. We've identified two sections that need the most immediate attention."

Initially, the city plans to address deficiencies in Crystal Island and a section identified as Boca Ciega Drive. According to Crawford, areas will be targeted for improvement according to critical need and budget.

The system improvements will be phased in over time and performed by outside contractors rather than city staff. Roadway improvements will be coordinated with the stormwater projects to prevent subsequent impacts to newly improved roads.

"The city commission will be authorizing the engineer to initialize documents for fixing the stormwater utility and repaving the roads in these sections of city," said Crawford. "Although identifying two sections in town may sound minimal, these are major sections of a city that is only two miles long. One section is estimated to have a $4-million price tag and the other about $2.8 million."

Although the city has funds in reserve from Pinellas County's 2007 purchase of their sanitary sewer system, Madeira Beach will be pursuing partnerships and grant opportunities to assist with improvement of the stormwater system.

The city has successfully partnered with the Southwest Florida Water Management District in the past on water quality and flood improvement projects.

The city recently partnered with the water management district on a multiphase project to reduce flooding and provide drainage and filtration in John's Pass Village, a collection of restaurants and shops north of John's Pass Bridge, during the city's renovation of the village complex.

Through historic maintenance of stormwater facilities and regulation of discharge, Madeira Beach qualifies as a Class 8 community under the FEMA national flood insurance program rating system granting insurance applicants a 10 percent premium discount within the city's special flood hazard areas.

City commissioners will be meeting soon to discuss the schedule and work plan for initiating system repairs.

DEP releases Wekiva River BMAP draft

By SUSAN TELFORD

Plans are finally underway for the restoration of the Wekiva River, Rock Springs Run and the Little Wekiva Canal, the Florida Department of Environmental Protection announced earlier this year.

The first draft of the basin management action plan addresses water quality and nutrient reduction that will support a healthy biological community in the Central Florida river and spring systems.

The document assigns various responsibilities to stakeholders and includes a monitoring plan that will track improvements in water quality over a five-year restoration period.

Closely resembling plans created by DEP in 2004 and MACTEC in 2007 and 2010, the draft document outlines the proposed methods that will be used to reduce nutrients including: stormwater treatment projects, agricultural best management practices, projects that convert wastewater discharges to reuse, repairing sewer lines, upgrading lift stations and extending sewer lines to areas currently on septic tanks.

Reducing nutrients in waterbodies is paramount. The required nutrient reductions are 47 to 81 percent for nitrate, and

WEKIVA
Continued on Page 16

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Director – Utilities
Manatee County Government, Bradenton FL

GENERAL INFORMATION
Serving in a Department Director capacity this classification is accountable for professional, administrative, creative and supervisory direction of the Utilities Department. Reporting directly to this position are the Water, Wastewater, Solid Waste Divisions and the Business Operating Divisions. Within these divisions are Water Treatment, Distribution, Wastewater Treatment, Lift Stations, Fiscal Operations, Water Billing/Collections Customer Service sections, along with Utilities Records, Water Conservation, Underground Maintenance and Solid Waste (Landfill & Biosolids Sludge Dryer).

The Director is responsible for technical advice and assistance to the County Administrator and the Board in the long range planning, construction, improvement, capacity management, environmental compliance, citizen and intergovernmental relations, and maintenance of water and environmental resources with broad impact and scope. This position oversees rate making for the water, wastewater and solid waste functions. This incumbent represents the County to a wide variety of citizens, developers, other local officials, state and federal regulatory officials, etc.

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Graduation from an accredited college or university with a Bachelor's degree in business, public administration, environmental sciences, engineering, or other related field. Minimum of ten (10) years water, wastewater or solid waste utilities experience. Minimum of eight (8) years progressive managerial experience in a medium to large governmental agency or private company. Government experience highly desired. Valid driver's license with valid Florida driver's license within 30 days of hire. Equivalent combinations of education and experience may be considered.

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AA/EEO/M/F/H/Vet Pref/DFWP

ACoE, SFWMD consider proposals to protect Miami-Dade water supply, prevent flooding

By DAN MILLOTT

Concerns about urban flooding on the one hand and intruding on the aquifer that supplies drinking water to Miami-Dade County on the other are being addressed by the U.S. Army Corps of Engineers.

Tom Teets, federal policy chief in the Office of Everglades Policy & Coordination at the South Florida Water Management District, said the future calls for pumping more water from Conservation Areas 3A and 3B into the Everglades.

"With more water being raised to the west, the natural flow will be to the east, so we have to be concerned about flood protection for Miami-Dade County," Teets said.

He said there are a couple of measures that could be put into place that could help solve the problem. The first would be the placement of a pump system along the eastern side of Everglades National Park near the Tamiami Trail.

"If the water levels were to get too high, the pumps would return water to the Everglades," he said.

Kim Taplin, chief of the corps' Central Everglades Branch, said the pumps would draw water from the L-30 canal north of the Tamiami Trail and from the L-31 canal to the south, and return that water to Everglades National Park.

The second option would be to construct an underground dike structure made of a clay-like material that would block much of the groundwater from flowing west to east.

Teets said the challenge is not to cut off too much of the water from the west because that water recharges the aquifer to the east.

Taplin said that initial modeling included features that limited adequate seepage to the east. "We were a little too aggressive in the operation of those (models) and we captured too much of the existing seepage that recharges the groundwater levels to the east."

Once Taplin and her staff reviewed the results of that model, they revised their operations to relax it a bit.

Susan Markley, Miami-Dade County's water resource coordinator, expressed concerns when the early model came out in February, but revisions since then have addressed some of her concerns.

"There needed to be measures that will prevent flooding. We have to make sure that whatever is proposed will work," she said.

A one-mile bridge on the Tamiami Trail that will open water flow below the roadway was almost complete in March. Two additional miles of bridge are proposed by the U.S. Department of Interior west of the new structure.

SURVEY

From Page 1

use recycled wastewater to irrigate their lawn or landscape although only 20.3 percent reported that recycled wastewater was available for them to use.

Nearly 53 percent said they have low-flow shower heads, nearly 52 percent have water efficient toilets and nearly 19 percent use rain barrels to collect water for gardening and yard use.

"Water is one of Florida's most abundant natural resources," Lamm said in the executive summary of the report. "To avoid water conflicts between users, it is important to understand what the public thinks about water issues."

Researchers hope to conduct the survey annually. Another one is being planned for December, Lamm said.

Their goal is not to shape public policy on water but simply to find out what the public thinks about Florida's most precious asset.

"We do not have any kind of advocacy perspective," she said. "We simply want to find out how the public feels about water."

WEKIVA

From Page 15

23 to 78 percent for phosphorous, depending on the area of the waterbody. The Little Wekiva Canal has a target nitrogen reduction of 45 percent to meet the goals.

In an effort to slow pollution, 14 projects have been completed that expand wastewater collection systems and take septic tanks out of service in Altamonte Springs, Orlando, Apopka and Mt. Dora.

Besides enhanced water quality and quantity, the plan will provide 4.5 million gallons of alternative water supply through stormwater capture and reclaimed water expansion, reducing the strain on groundwater pumping.

TARPON

From Page 14

Bob Robertson, the city's public services program manager, said the plant will serve the needs of about 30,000 customers.

"It gives us a dependable water supply and helps us decide what capital projects we want to undertake and when we want to do them," he said.

The project is partially funded through a $20.1 million grant from the Southwest Florida Water Management District. The city will use the grant to help pay for the project with the balance of funding coming from city utility bonds.

The Southwest district and the Florida Department of Environmental Protection have issued permits for the project.

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